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Water Administration Ministerial Corporation

Maximum prices for water management services from 1 October 2021

Final Determination

September 2021

Water >>

Tribunal Members

The Tribunal members for this review are:

Ms Carmel Donnelly, Chair
Ms Deborah Cope
Ms Sandra Gamble

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Preliminary

1 Application of this determination

1.1 This determination applies to Monopoly Services

This determination fixes maximum prices for the following services provided by the Water Administration Ministerial Corporation (**WAMC**):

- (a) the making available of water;
- (b) the making available of WAMC's water supply facilities; or
- (c) the supplying of water, whether by means of WAMC's water supply facilities or otherwise,

(together, the **Monopoly Services**).

1.2 Some services are excluded from the scope of this determination

For the avoidance of any doubt, this determination does not apply to any miscellaneous or ancillary Monopoly Services for which there is no maximum price specified in this determination.

[Note: The effect of clause 1.2 is there is no determined maximum price for any such Monopoly Service and WAMC and its customers are at liberty to negotiate a price until and unless IPART determines a maximum price.]

1.3 Nil price for Aboriginal Cultural Licences

Despite anything in this determination, the maximum price for Monopoly Services provided by WAMC in respect of an Aboriginal Cultural Licence is nil.

[Note: For the avoidance of doubt, clause 1.3 applies to the services in Schedule 4 and Schedule 5.]

2 Commencement and term of this determination

(a) This determination commences on the later of:

- (1) 1 October 2021; and
 - (2) the date that it is published in the NSW Government Gazette,
- (Commencement Date).**

(b) The maximum prices set out in this determination apply from the Commencement Date to 30 June 2025. The maximum prices prevailing at 30 June 2025 continue to apply beyond 30 June 2025 until this determination is revoked or replaced.

3 Replacement of the 2016 Determination

- (a) This determination replaces the 2016 Determination.
- (b) This replacement does not affect anything done or omitted to be done, or rights or obligations accrued, under the 2016 Determination prior to its replacement.

4 Pricing Schedules

The Schedules listed in Table P.1 below set out the maximum prices for supplying the Monopoly Services.

Table P.1 Pricing Schedules

| Schedule | Monopoly Services / fees and charges to which the Schedule applies |
|------------|---|
| Schedule 1 | The Monopoly Services provided in respect of a Water Licence that authorises the taking of water from Regulated Rivers |
| Schedule 2 | The Monopoly Services provided in respect of a Water Licence that authorises the taking of water from Unregulated Rivers |
| Schedule 3 | The Monopoly Services provided in respect of a Water Licence that authorises the taking of Groundwater |
| Schedule 4 | The service fees and charges for miscellaneous services that form part of the Monopoly Services relating to Regulated Rivers, Unregulated Rivers or Groundwater (as applicable) |
| Schedule 5 | The New Metering Charges for metering services that form part of the Monopoly Services relating to any Water Licence or Water Supply Work Approval, other than a Water Licence or Water Supply Work Approval that authorises the taking of water from a Regulated River (as applicable) |
| Schedule 6 | MDBA and BRC components of prices set under Schedules 1-3 |

5 Legislative background

- (a) Section 11(1)(a) of the IPART Act provides IPART with a standing reference for the determination of maximum prices for government monopoly services supplied by a government agency specified in Schedule 1 to the IPART Act.
- (b) The Monopoly Services are government monopoly services because they fall within the scope of the Order.
- (c) WAMC is a government agency for which IPART has a standing reference to set maximum prices for government monopoly services because it is included in Schedule 1 to the IPART Act.

Schedule 1 Regulated Rivers

1 Application

1.1 This Schedule sets the maximum prices that may be charged for the Monopoly Services provided in respect of a Water Licence that authorises the taking of water from a Regulated River.

1.2 Certain charges set out in Schedule 4 also apply to Monopoly Services provided in respect of a Water Licence that authorises the taking of water from a Regulated River.

[Note: For the avoidance of doubt, the New Metering Charges in Schedule 5 do not apply in any circumstances under this determination in respect of a Water Licence that authorises the taking of water from a Regulated River.]

[Note: see clause 2.9 of Schedule 7 for a description of the river valleys referred to in this Schedule.]

2 Maximum prices

2.1 The maximum annual price that may be charged for the Monopoly Services provided in respect of a Water Licence referred to in clause 1.1 (other than a Water Licence specified in clause 2.2 or clause 2.3) is the sum of:

- (a) the higher of:
 - (1) the minimum annual charge set out in Table 1 for the relevant year; and
 - (2) the sum of:
 - (A) the entitlement charge calculated in accordance with clause 3; and
 - (B) the water take charge calculated in accordance with clause 4;
- (b) for an MDBA Customer, the applicable MDBA entitlement charge and MDBA water take charge under Schedule 6 for the relevant water source and relevant year; and
- (c) for a BRC Customer, the applicable BRC entitlement charge and BRC water take charge under Schedule 6 for the relevant water source and relevant year.

2.2 The maximum annual price that may be levied for the Monopoly Services provided in respect of a Supplementary Water Access Licence or a Floodplain Harvesting Access Licence that authorises the taking of water from a Regulated River is the sum of:

- (a) the higher of:
 - (1) the minimum annual charge set out in Table 1 for the relevant year; and
 - (2) the water take charge calculated in accordance with clause 4;
- (b) for an MDBA Customer, the applicable MDBA entitlement charge and MDBA water take charge under Schedule 6 for the relevant water source and relevant year; and
- (c) for a BRC Customer, the applicable BRC entitlement charge and BRC water take charge under Schedule 6 for the relevant water source and relevant year.

- 2.3 The maximum annual price that may be levied for the Monopoly Services provided in respect of a Major Utility (Barnard) Access Licence that authorises the taking of water from a Regulated River is the sum of:
- (a) the minimum annual charge set out in Table 1 for the relevant year;
 - (b) for an MDBA Customer, the applicable MDBA entitlement charge and MDBA water take charge under Schedule 6 for the relevant water source and relevant year; and
 - (c) for a BRC Customer, the applicable BRC entitlement charge and BRC water take charge under Schedule 6 for the relevant water source and relevant year.

[Note: For the avoidance of doubt, the licences referred to in clauses 2.2 and 2.3 are not subject to the maximum price in clause 2.1.]

3 Entitlement charge

The entitlement charge is calculated as follows:

$$EC \times E$$

where:

- (a) **EC** is the entitlement charge expressed in dollars per megalitre of Entitlement or in dollars per unit share in Table 2 (if a Floodplain Harvesting Regulation has not been made in respect of the relevant river valley) or Table 2(a) (if a Floodplain Harvesting Regulation has been made in respect of the relevant river valley) for the relevant river valley and relevant year; and
- (b) **E** is the Licence Holder's Entitlement or unit share for that year.

4 Water take charge

- (a) The water take charge is calculated as follows:

$$WTC \times WT$$

where:

- (1) **WTC** is the water take charge expressed in dollars per megalitre of water taken in either Table 3 (if a Floodplain Harvesting Regulation has not been made in respect of the relevant river valley) or Table 3(a) (if a Floodplain Harvesting Regulation has been made in respect of the relevant river valley) for the relevant year and:
 - (A) **in the case of a Tagged Water Entitlement:** the relevant river valley as set out in the Licence Register; and
 - (B) **in any other case:** the relevant river valley from which the water is taken; and
 - (2) **WT** is the Licence Holder's water take for that year.
- (b) WAMC must not recover more than one water take charge in respect of any water taken.

Tables 1-3(a)

Table 1 Minimum annual charge for Regulated Rivers^a (\$)

| Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| 221.50 | 227.03 x CPI ₁ | 232.71 x CPI ₂ | 238.53 x CPI ₃ |

^a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination that is less than a full financial year.

Table 2 Entitlement charges for Regulated Rivers where no Floodplain Harvesting Regulation has been made in respect of the relevant river valley^a (\$/ML of Entitlement or \$/unit share)

| River valley | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Border | 1.76 | 1.80 x CPI ₁ | 1.85 x CPI ₂ | 1.90 x CPI ₃ |
| Gwydir | 1.19 | 1.22 x CPI ₁ | 1.25 x CPI ₂ | 1.29 x CPI ₃ |
| Namoi | 1.92 | 1.92 x CPI ₁ | 1.92 x CPI ₂ | 1.92 x CPI ₃ |
| Peel | 2.99 | 3.06 x CPI ₁ | 3.14 x CPI ₂ | 3.14 x CPI ₃ |
| Lachlan | 1.11 | 1.14 x CPI ₁ | 1.16 x CPI ₂ | 1.19 x CPI ₃ |
| Macquarie | 1.34 | 1.38 x CPI ₁ | 1.41 x CPI ₂ | 1.45 x CPI ₃ |
| Murray | 1.12 | 1.14 x CPI ₁ | 1.17 x CPI ₂ | 1.20 x CPI ₃ |
| Murrumbidgee | 0.95 | 0.98 x CPI ₁ | 1.00 x CPI ₂ | 1.03 x CPI ₃ |
| North Coast | 4.60 | 4.71 x CPI ₁ | 4.83 x CPI ₂ | 4.95 x CPI ₃ |
| Hunter | 3.24 | 3.32 x CPI ₁ | 3.40 x CPI ₂ | 3.49 x CPI ₃ |
| South Coast | 3.59 | 3.68 x CPI ₁ | 3.77 x CPI ₂ | 3.86 x CPI ₃ |

^a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination that is less than a full financial year.

Table 2(a) Entitlement charges for Regulated Rivers where a Floodplain Harvesting Regulation has been made in respect of the relevant river valley^a (\$/ML of Entitlement or \$/unit share)

| River valley | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Border | 1.76 | 1.80 x CPI ₁ | 1.85 x CPI ₂ | 1.90 x CPI ₃ |
| Gwydir | 1.19 | 1.22 x CPI ₁ | 1.25 x CPI ₂ | 1.29 x CPI ₃ |
| Namoi | 1.92 | 1.92 x CPI ₁ | 1.92 x CPI ₂ | 1.92 x CPI ₃ |
| Macquarie | 1.34 | 1.38 x CPI ₁ | 1.41 x CPI ₂ | 1.45 x CPI ₃ |

^a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination that is less than a full financial year.

Table 3 Water take charges for Regulated Rivers where no Floodplain Harvesting Regulation has been made in respect of the relevant river valley (\$/ML)

| River valley | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Border | 1.41 | 1.45 x CPI ₁ | 1.48 x CPI ₂ | 1.52 x CPI ₃ |
| Gwydir | 1.24 | 1.27 x CPI ₁ | 1.30 x CPI ₂ | 1.33 x CPI ₃ |
| Namoi | 1.54 | 1.54 x CPI ₁ | 1.54 x CPI ₂ | 1.54 x CPI ₃ |
| Peel | 4.67 | 4.79 x CPI ₁ | 4.90 x CPI ₂ | 4.90 x CPI ₃ |
| Lachlan | 1.76 | 1.81 x CPI ₁ | 1.85 x CPI ₂ | 1.90 x CPI ₃ |
| Macquarie | 1.63 | 1.67 x CPI ₁ | 1.71 x CPI ₂ | 1.75 x CPI ₃ |
| Murray | 0.81 | 0.83 x CPI ₁ | 0.85 x CPI ₂ | 0.87 x CPI ₃ |
| Murrumbidgee | 0.70 | 0.72 x CPI ₁ | 0.74 x CPI ₂ | 0.76 x CPI ₃ |
| North Coast | 5.85 | 6.00 x CPI ₁ | 6.15 x CPI ₂ | 6.30 x CPI ₃ |
| Hunter | 2.21 | 2.27 x CPI ₁ | 2.33 x CPI ₂ | 2.38 x CPI ₃ |
| South Coast | 5.39 | 5.52 x CPI ₁ | 5.66 x CPI ₂ | 5.80 x CPI ₃ |

Table 3(a) Water take charges for Regulated Rivers where a Floodplain Harvesting Regulation has been made in respect of the relevant river valley (\$/ML)

| River valley | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Border | 1.11 | 1.13 x CPI ₁ | 1.16 x CPI ₂ | 1.19 x CPI ₃ |
| Gwydir | 0.87 | 0.89 x CPI ₁ | 0.91 x CPI ₂ | 0.94 x CPI ₃ |
| Namoi | 1.17 | 1.17 x CPI ₁ | 1.17 x CPI ₂ | 1.17 x CPI ₃ |
| Macquarie | 1.40 | 1.44 x CPI ₁ | 1.47 x CPI ₂ | 1.51 x CPI ₃ |

Schedule 2 Unregulated Rivers

1 Application

- 1.1 This Schedule sets the maximum prices that may be charged for the Monopoly Services provided in respect of a Water Licence that authorises the taking of water from an Unregulated River.
- 1.2 Certain charges set out in Schedule 4 and Schedule 5 also apply to Monopoly Services provided in respect of a Water Licence that authorises the taking of water from an Unregulated River.

[Note: see clause 2.9 of Schedule 7 for a description of the river valleys referred to in this Schedule.]

2 Maximum prices

- 2.1 The maximum annual price that may be charged for the Monopoly Services provided in respect of a Water Licence referred to in clause 1.1 (other than a licence specified in clause 2.2 or clause 2.3) is the sum of:

- (a) the higher of:
- (1) the minimum annual charge set out in Table 4 for the relevant year; and
 - (2) **where the Licence Holder has a Meter:** the sum of the following:
 - (A) an entitlement charge calculated in accordance with clause 3; and
 - (B) the water take charge calculated in accordance with clause 4;
 - (3) **where the Licence Holder does not have a Meter and does have a mechanism for extracting water:** the entitlement charge calculated in accordance with clause 3; and
 - (4) **where the Licence Holder does not have a Meter and does not have a mechanism for extracting water:** the entitlement charge calculated in accordance with clause 3, as though the Licence Holder had a Meter; and
- (b) for an MDBA Customer, the applicable MDBA entitlement charge and MDBA water take charge under Schedule 6 for the relevant water source and relevant year; and
- (c) for a BRC Customer, the applicable BRC entitlement charge and BRC water take charge under Schedule 6 for the relevant water source and relevant year.

- 2.2 The maximum annual charge that may be levied for the Monopoly Services provided in respect of a Supplementary Water Access Licence, supplementary Aboriginal environmental water access licence (Unregulated River), Unregulated River (Special Additional High Flow) Access Licence or a Floodplain Harvesting Access Licence that authorises the taking of water from an Unregulated River is the sum of:

- (a) the higher of:

- (1) the minimum annual charge set out in Table 4 for the relevant year; and
 - (2) the water take charge calculated in accordance with clause 4;
- (b) for an MDBA Customer, the applicable MDBA entitlement charge and MDBA water take charge under Schedule 6 for the relevant water source and relevant year; and
- (c) for a BRC Customer, the applicable BRC entitlement charge and BRC water take charge under Schedule 6 for the relevant water source and relevant year.
- 2.3 The maximum annual charge that may be levied for the Monopoly Services provided in respect of an Unregulated River (Regulated Supply) Access Licence, Unregulated River (Regulated Supply – Local Water Utility) Access Licence or a Major Utility (Grahamstown) Access Licence that authorises the taking of water from an Unregulated River is the sum of:
- (a) the minimum annual charge set out in Table 4 for the relevant year;
 - (b) for an MDBA Customer, the applicable MDBA entitlement charge and MDBA water take charge under Schedule 6 for the relevant water source and relevant year; and
 - (c) for a BRC Customer, the applicable BRC entitlement charge and BRC water take charge under Schedule 6 for the relevant water source and relevant year.

[Note: For the avoidance of doubt, the licences referred to in clauses 2.2 and 2.3 are not subject to the maximum price in clause 2.1.]

3 Entitlement Charge

- 3.1 Subject to clause 3.2, the entitlement charge is calculated as follows:

$$EC \times E$$

where:

- (a) **EC** is the entitlement charge expressed in dollars per megalitre of Entitlement or in dollars per unit share for the relevant river valley and relevant year in:
- (1) **if the Licence Holder has a Meter and a Floodplain Harvesting Regulation has not been made in respect of the relevant river valley:** Table 5;
 - (2) **if the Licence Holder has a Meter and a Floodplain Harvesting Regulation has been made in respect of the relevant river valley:** Table 5(a);
 - (3) **if the Licence Holder does not have a Meter and a Floodplain Harvesting Regulation has not been made in respect of the relevant river valley:** Table 7; and
 - (4) **if the Licence Holder does not have a Meter and a Floodplain Harvesting Regulation has been made in respect of the relevant river valley:** Table 7(a); and
- (b) **E** is the Licence Holder's Entitlement or unit share for that year.

- 3.2 Where the Licence Holder is Water NSW, the entitlement charge is calculated in accordance with clause 3.1, except that EC is the sum of:
- (a) the relevant entitlement charge specified in clause 3.1(a) for the relevant river valley and relevant year; and
 - (b) the entitlement charge for the relevant river valley and relevant year set out in Table 5(b).

4 Water take charge

- (a) The water take charge is calculated as follows:

$$WTC \times WT$$

where:

- (1) **WTC** is the water take charge expressed in dollars per megalitre of water taken in either Table 6 (if a Floodplain Harvesting Regulation has not been made in respect of the relevant river valley) or Table 6(a) (if a Floodplain Harvesting Regulation has been made in respect of the relevant river valley) for the relevant year and:
 - (A) **in the case of a Tagged Water Entitlement:** the relevant river valley as set out in the Licence Register; and
 - (B) **in any other case:** the relevant river valley from which the water is taken; and
 - (2) **WT** is the Licence Holder's water take for that year.
- (b) WAMC must not recover more than one water take charge in respect of any water taken.

Tables 4-7(a)

Table 4 Minimum annual charge for Unregulated Rivers^a (\$)

| Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| 221.50 | 227.03 x CPI ₁ | 232.71 x CPI ₂ | 238.53 x CPI ₃ |

^a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination that is less than a full financial year.

Table 5 Entitlement charges for Unregulated Rivers where the Licence Holder has a Meter and no Floodplain Harvesting Regulation has been made in respect of the relevant river valley^a (\$/ML of Entitlement or \$/unit share)

| River valley | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Border | 0.77 | 0.79 x CPI ₁ | 0.81 x CPI ₂ | 0.83 x CPI ₃ |
| Gwydir | 0.77 | 0.79 x CPI ₁ | 0.81 x CPI ₂ | 0.83 x CPI ₃ |
| Namoi | 0.77 | 0.79 x CPI ₁ | 0.81 x CPI ₂ | 0.83 x CPI ₃ |
| Peel | 0.77 | 0.79 x CPI ₁ | 0.81 x CPI ₂ | 0.83 x CPI ₃ |
| Lachlan | 1.94 | 1.98 x CPI ₁ | 2.03 x CPI ₂ | 2.08 x CPI ₃ |
| Macquarie | 1.94 | 1.98 x CPI ₁ | 2.03 x CPI ₂ | 2.08 x CPI ₃ |
| Far West | 2.94 | 2.94 x CPI ₁ | 2.94 x CPI ₂ | 2.94 x CPI ₃ |
| Murray | 1.62 | 1.66 x CPI ₁ | 1.70 x CPI ₂ | 1.74 x CPI ₃ |
| Murrumbidgee | 2.83 | 2.90 x CPI ₁ | 2.98 x CPI ₂ | 3.05 x CPI ₃ |
| North Coast | 4.39 | 4.50 x CPI ₁ | 4.62 x CPI ₂ | 4.73 x CPI ₃ |
| Hunter | 1.27 | 1.30 x CPI ₁ | 1.33 x CPI ₂ | 1.36 x CPI ₃ |
| South Coast | 1.58 | 1.58 x CPI ₁ | 1.58 x CPI ₂ | 1.58 x CPI ₃ |

^a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination that is less than a full financial year.

Table 5(a) Entitlement charges for Unregulated Rivers where the Licence Holder has a Meter and a Floodplain Harvesting Regulation has been made in respect of the relevant river valley^a (\$/ML of Entitlement or \$/unit share)

| River valley | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Border | 1.42 | 1.45 x CPI ₁ | 1.49 x CPI ₂ | 1.53 x CPI ₃ |
| Gwydir | 1.42 | 1.45 x CPI ₁ | 1.49 x CPI ₂ | 1.53 x CPI ₃ |
| Namoi | 1.42 | 1.45 x CPI ₁ | 1.49 x CPI ₂ | 1.53 x CPI ₃ |
| Peel | 1.42 | 1.45 x CPI ₁ | 1.49 x CPI ₂ | 1.53 x CPI ₃ |
| Far West | 3.01 | 3.01 x CPI ₁ | 3.01 x CPI ₂ | 3.01 x CPI ₃ |

a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination that is less than a full financial year.

Table 5(b) Entitlement charges for Unregulated Rivers where the Licence Holder is Water NSW^a (\$/ML of Entitlement or \$/unit share)

| River valley | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| South Coast | 0.41 | 0.41 x CPI ₁ | 0.41 x CPI ₂ | 0.41 x CPI ₃ |

a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination that is less than a full financial year.

[Note: The charge is payable in addition to standard entitlement charges for South Coast Unregulated Rivers.]

Table 6 Water take charges for Unregulated Rivers where the Licence Holder has a Meter and no Floodplain Harvesting Regulation has been made in respect of the relevant river valley (\$/ML)

| River valley | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Border | 3.57 | 3.66 x CPI ₁ | 3.75 x CPI ₂ | 3.85 x CPI ₃ |
| Gwydir | 3.57 | 3.66 x CPI ₁ | 3.75 x CPI ₂ | 3.85 x CPI ₃ |
| Namoi | 3.57 | 3.66 x CPI ₁ | 3.75 x CPI ₂ | 3.85 x CPI ₃ |
| Peel | 3.57 | 3.66 x CPI ₁ | 3.75 x CPI ₂ | 3.85 x CPI ₃ |
| Lachlan | 3.59 | 3.68 x CPI ₁ | 3.77 x CPI ₂ | 3.87 x CPI ₃ |
| Macquarie | 3.59 | 3.68 x CPI ₁ | 3.77 x CPI ₂ | 3.87 x CPI ₃ |
| Far West | 2.17 | 2.17 x CPI ₁ | 2.17 x CPI ₂ | 2.17 x CPI ₃ |
| Murray | 5.21 | 5.34 x CPI ₁ | 5.48 x CPI ₂ | 5.61 x CPI ₃ |
| Murrumbidgee | 6.36 | 6.52 x CPI ₁ | 6.68 x CPI ₂ | 6.85 x CPI ₃ |
| North Coast | 5.47 | 5.61 x CPI ₁ | 5.75 x CPI ₂ | 5.89 x CPI ₃ |
| Hunter | 2.29 | 2.34 x CPI ₁ | 2.40 x CPI ₂ | 2.46 x CPI ₃ |
| South Coast | 1.18 | 1.18 x CPI ₁ | 1.18 x CPI ₂ | 1.18 x CPI ₃ |

Table 6(a) Water take charges for Unregulated Rivers where the Licence Holder has a Meter and a Floodplain Harvesting Regulation has been made in respect of the relevant river valley (\$/ML)

| River valley | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Border | 1.96 | 2.01 x CPI ₁ | 2.06 x CPI ₂ | 2.11 x CPI ₃ |
| Gwydir | 1.96 | 2.01 x CPI ₁ | 2.06 x CPI ₂ | 2.11 x CPI ₃ |
| Namoi | 1.96 | 2.01 x CPI ₁ | 2.06 x CPI ₂ | 2.11 x CPI ₃ |
| Peel | 1.96 | 2.01 x CPI ₁ | 2.06 x CPI ₂ | 2.11 x CPI ₃ |
| Far West | 1.87 | 1.87 x CPI ₁ | 1.87 x CPI ₂ | 1.87 x CPI ₃ |

Table 7 Entitlement charges for Unregulated Rivers where the Licence Holder does not have a Meter and no Floodplain Harvesting Regulation has been made in respect of the relevant river valley^a (\$/ML of Entitlement or \$/unit share)

| River valley | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--------------|-----------------------------------|---|---|---|
| Border | 4.34 | $(0.79 \times \text{CPI}_1) + (3.66 \times \text{CPI}_1)$ | $(0.81 \times \text{CPI}_2) + (3.75 \times \text{CPI}_2)$ | $(0.83 \times \text{CPI}_3) + (3.85 \times \text{CPI}_3)$ |
| Gwydir | 4.34 | $(0.79 \times \text{CPI}_1) + (3.66 \times \text{CPI}_1)$ | $(0.81 \times \text{CPI}_2) + (3.75 \times \text{CPI}_2)$ | $(0.83 \times \text{CPI}_3) + (3.85 \times \text{CPI}_3)$ |
| Namoi | 4.34 | $(0.79 \times \text{CPI}_1) + (3.66 \times \text{CPI}_1)$ | $(0.81 \times \text{CPI}_2) + (3.75 \times \text{CPI}_2)$ | $(0.83 \times \text{CPI}_3) + (3.85 \times \text{CPI}_3)$ |
| Peel | 4.34 | $(0.79 \times \text{CPI}_1) + (3.66 \times \text{CPI}_1)$ | $(0.81 \times \text{CPI}_2) + (3.75 \times \text{CPI}_2)$ | $(0.83 \times \text{CPI}_3) + (3.85 \times \text{CPI}_3)$ |
| Lachlan | 5.53 | $(1.98 \times \text{CPI}_1) + (3.68 \times \text{CPI}_1)$ | $(2.03 \times \text{CPI}_2) + (3.77 \times \text{CPI}_2)$ | $(2.08 \times \text{CPI}_3) + (3.87 \times \text{CPI}_3)$ |
| Macquarie | 5.53 | $(1.98 \times \text{CPI}_1) + (3.68 \times \text{CPI}_1)$ | $(2.03 \times \text{CPI}_2) + (3.77 \times \text{CPI}_2)$ | $(2.08 \times \text{CPI}_3) + (3.87 \times \text{CPI}_3)$ |
| Far West | 5.11 | $(2.94 \times \text{CPI}_1) + (2.17 \times \text{CPI}_1)$ | $(2.94 \times \text{CPI}_2) + (2.17 \times \text{CPI}_2)$ | $(2.94 \times \text{CPI}_3) + (2.17 \times \text{CPI}_3)$ |
| Murray | 6.83 | $(1.66 \times \text{CPI}_1) + (5.34 \times \text{CPI}_1)$ | $(1.70 \times \text{CPI}_2) + (5.48 \times \text{CPI}_2)$ | $(1.74 \times \text{CPI}_3) + (5.61 \times \text{CPI}_3)$ |
| Murrumbidgee | 9.19 | $(2.90 \times \text{CPI}_1) + (6.52 \times \text{CPI}_1)$ | $(2.98 \times \text{CPI}_2) + (6.68 \times \text{CPI}_2)$ | $(3.05 \times \text{CPI}_3) + (6.85 \times \text{CPI}_3)$ |
| North Coast | 9.86 | $(4.50 \times \text{CPI}_1) + (5.61 \times \text{CPI}_1)$ | $(4.62 \times \text{CPI}_2) + (5.75 \times \text{CPI}_2)$ | $(4.73 \times \text{CPI}_3) + (5.89 \times \text{CPI}_3)$ |
| Hunter | 3.56 | $(1.30 \times \text{CPI}_1) + (2.34 \times \text{CPI}_1)$ | $(1.33 \times \text{CPI}_2) + (2.40 \times \text{CPI}_2)$ | $(1.36 \times \text{CPI}_3) + (2.46 \times \text{CPI}_3)$ |
| South Coast | 2.76 | $(1.58 \times \text{CPI}_1) + (1.18 \times \text{CPI}_1)$ | $(1.58 \times \text{CPI}_2) + (1.18 \times \text{CPI}_2)$ | $(1.58 \times \text{CPI}_3) + (1.18 \times \text{CPI}_3)$ |

^a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination that is less than a full financial year.

Table 7(a) Entitlement charges for Unregulated Rivers where the Licence Holder does not have a Meter and where a Floodplain Harvesting Regulation has been made in respect of the relevant river valley^a (\$/ML of Entitlement or \$/unit share)

| River valley | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--------------|-----------------------------------|---|---|---|
| Border | 3.38 | $(1.45 \times \text{CPI}_1) + (2.01 \times \text{CPI}_1)$ | $(1.49 \times \text{CPI}_2) + (2.06 \times \text{CPI}_2)$ | $(1.53 \times \text{CPI}_3) + (2.11 \times \text{CPI}_3)$ |
| Gwydir | 3.38 | $(1.45 \times \text{CPI}_1) + (2.01 \times \text{CPI}_1)$ | $(1.49 \times \text{CPI}_2) + (2.06 \times \text{CPI}_2)$ | $(1.53 \times \text{CPI}_3) + (2.11 \times \text{CPI}_3)$ |
| Namoi | 3.38 | $(1.45 \times \text{CPI}_1) + (2.01 \times \text{CPI}_1)$ | $(1.49 \times \text{CPI}_2) + (2.06 \times \text{CPI}_2)$ | $(1.53 \times \text{CPI}_3) + (2.11 \times \text{CPI}_3)$ |
| Peel | 3.38 | $(1.45 \times \text{CPI}_1) + (2.01 \times \text{CPI}_1)$ | $(1.49 \times \text{CPI}_2) + (2.06 \times \text{CPI}_2)$ | $(1.53 \times \text{CPI}_3) + (2.11 \times \text{CPI}_3)$ |
| Far West | 4.88 | $(3.01 \times \text{CPI}_1) + (1.87 \times \text{CPI}_1)$ | $(3.01 \times \text{CPI}_2) + (1.87 \times \text{CPI}_2)$ | $(3.01 \times \text{CPI}_3) + (1.87 \times \text{CPI}_3)$ |

Unregulated Rivers

a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination that is less than a full financial year.

Schedule 3 Groundwater

1 Application

- 1.1 This Schedule sets the maximum prices that may be charged for the Monopoly Services provided in respect of a Water Licence that authorises the taking of Groundwater.
- 1.2 Certain charges set out in Schedule 4 and Schedule 5 also apply to Monopoly Services provided in respect of a Water Licence that authorises the taking of Groundwater.

[Note: see clause 2.9 of Schedule 7 for a description of the river valleys referred to in this Schedule.]

2 Maximum prices

- 2.1 The maximum annual price that may be charged for the Monopoly Services provided in respect of a Water Licence referred to in clause 1.1 (other than a licence specified in clause 2.2) is the sum of:

(a) the higher of:

- (1) the minimum annual charge set out in Table 8 for the relevant year;
- (2) **where the Licence Holder has a Meter**: the sum of the following:

(A) an entitlement charge calculated as follows:

$$EC \times E$$

where:

- (i) **EC** is an entitlement charge expressed in dollars per megalitre of Entitlement or in dollars per unit share in Table 9 for the relevant water source and relevant year; and
- (ii) **E** is a Licence Holder's Entitlement or unit share for that year; and

(B) a water take charge expressed in dollars per megalitre of water taken in Table 10 for the relevant year and relevant water source, multiplied by the Licence Holder's water take for that year;

- (3) **where the Licence Holder does not have a Meter and does have a mechanism for extracting water**: an entitlement charge calculated as follows:

$$EC \times E$$

where:

- (A) **EC** is an entitlement charge expressed in dollars per megalitre of Entitlement or in dollars per unit share in Table 11 for the relevant water source and relevant year; and
- (B) **E** is a Licence Holder's Entitlement or unit share for that year; and

- (4) **where the Licence Holder does not have a Meter and does not have a mechanism for extracting water:** the entitlement charge calculated as follows:

$$EC \times E$$

where:

- (A) **EC** is an entitlement charge expressed in dollars per megalitre of Entitlement or in dollars per unit share in Table 9 for the relevant water source and relevant year; and
- (B) **E** is a Licence Holder's Entitlement or unit share for that year; and
- (b) for an MDBA Customer, the applicable MDBA entitlement charge and MDBA water take charge under Schedule 6 for the relevant water source and relevant year; and
- (c) for a BRC Customer, the applicable BRC entitlement charge and BRC water take charge under Schedule 6 for the relevant water source and relevant year.
- 2.2 The maximum annual charge that WAMC may levy for the Monopoly Services provided under a Salinity and Water Table Management Access Licence that authorises the taking of Groundwater is the annual charge set out in Table 8 for the relevant year.
- 2.3 WAMC must not recover more than one water take charge in respect of any water taken.
[Note: For the avoidance of doubt, the licence referred to in clause 2.2 is not subject to the maximum price in clause 2.1.]

Tables 8 - 11

Table 8 Minimum annual charge for Groundwater^a (\$)

| Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| 221.50 | 227.03 x CPI ₁ | 232.71 x CPI ₂ | 238.53 x CPI ₃ |

^a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination that is less than a full financial year.

Table 9 Entitlement charges for Groundwater where the Licence Holder has a Meter (or does not have a Meter and does not have a mechanism for extracting water)^a (\$/ML of Entitlement or \$/unit share)

| Water source | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Inland | 3.73 | 3.73 x CPI ₁ | 3.73 x CPI ₂ | 3.73 x CPI ₃ |
| Murrumbidgee | 2.99 | 3.07 x CPI ₁ | 3.14 x CPI ₂ | 3.22 x CPI ₃ |
| Coastal | 1.80 | 1.84 x CPI ₁ | 1.89 x CPI ₂ | 1.94 x CPI ₃ |

^a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination that is less than a full financial year.

Table 10 Water take charges for Groundwater where the Licence Holder has a Meter (\$/ML)

| Water source | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Inland | 2.24 | 2.24 x CPI ₁ | 2.24 x CPI ₂ | 2.24 x CPI ₃ |
| Murrumbidgee | 1.79 | 1.84 x CPI ₁ | 1.89 x CPI ₂ | 1.93 x CPI ₃ |
| Coastal | 3.44 | 3.52 x CPI ₁ | 3.61 x CPI ₂ | 3.70 x CPI ₃ |

Table 11 Entitlement charges for Groundwater where the Licence Holder does not have a Meter^a (\$/ML of Entitlement or \$/unit share)

| Water source | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--------------|-----------------------------------|---|---|---|
| Inland | 5.97 | (3.73 x CPI ₁) + (2.24 x CPI ₁) | (3.73 x CPI ₂) + (2.24 x CPI ₂) | (3.73 x CPI ₃) + (2.24 x CPI ₃) |
| Murrumbidgee | 4.78 | (3.07 x CPI ₁) + (1.84 x CPI ₁) | (3.14 x CPI ₂) + (1.89 x CPI ₂) | (3.22 x CPI ₃) + (1.93 x CPI ₃) |
| Coastal | 5.24 | (1.84 x CPI ₁) + (3.52 x CPI ₁) | (1.89 x CPI ₂) + (3.61 x CPI ₂) | (1.94 x CPI ₃) + (3.70 x CPI ₃) |

^a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination that is less than a full financial year.

Schedule 4 Service fees and charges

1 Application

- (a) This Schedule sets the maximum service fees and charges that may be charged with respect to:
 - (1) the administration of applications, renewals, permanent transfers and temporary transfers of WMA Licences administered by or on behalf of WAMC under the Water Management Act; and
 - (2) the services provided by or on behalf of WAMC in relation to WAMC Meters, User Meters and Approved Meter Equivalents in respect of Unregulated Rivers and Groundwater.
- (b) For a Government-Owned Meter to which Schedule 5 applies, on and from the New Government Meter Charge Trigger Day for that meter, the:
 - (1) meter service charge in clause 3.1(a) of this Schedule will cease to apply; and
 - (2) charges in clauses 3 and 4 of Schedule 5 will instead apply.
- (c) For a Privately-Owned Meter to which Schedule 5 applies, on and from the New Private Meter Charge Trigger Day for that meter, the:
 - (1) reading/assessment charge in clause 3.3 of this Schedule will cease to apply; and
 - (2) charges in clause 4 of Schedule 5 will instead apply.

2 Maximum charges for Consent Transactions

The maximum service fees and charges that may be levied for the Consent Transactions are set out in Tables 12 and 13 for the relevant transaction type and relevant year.

3 Maximum meter service and other charges

- 3.1 The maximum meter service and reading charge that may be levied on the holder of a Water Supply Work Approval with an installed WAMC Meter or the holder of a WA Licence with an installed WAMC Meter is:
 - (a) subject to replacement by clauses 3 and 4 of Schedule 5 in respect of relevant Government-Owned Meters, the relevant meter service charge being a charge expressed in dollars per WAMC meter per annum set out in:
 - (1) Table 14 for telemetered or agency read sites; or
 - (2) Table 15 for non-telemetered sites with customer reading and reporting,for the relevant year and meter size, to be charged from the beginning of the financial year after installation; and

- (b) any relevant deposit in respect of an assessment of a WAMC Meter set out in Table 17 for the relevant year (as applicable); and
- (c) any relevant charge for validation of a relocated WAMC Meter set out in Table 17 for the relevant year (as applicable); and
- (d) any relevant charge for resetting a WAMC Meter after suspension of maintenance for a year or more (with the suspension having been requested by the customer) set out in Table 17 for the relevant year (as applicable).

[Note: On and from the New Government Meter Charge Trigger Day for a Government-Owned Meter, the charge in clause 3.1(a) of this Schedule ceases to apply and the charges in clauses 3 and 4 of Schedule 5 will instead apply. The two sets of charges cannot apply simultaneously to a Government-Owned Meter.]

3.2 A deposit for assessment of a disputed WAMC Meter will be refunded by WAMC if the assessment shows that WAMC Meter is not within the standard set by WAMC.

3.3 Subject to replacement by clause 4 of Schedule 5 in respect of relevant Privately-Owned Meters, the maximum water take reading/assessment charge that may be charged on the holder of:

- (a) a Water Supply Work Approval; or
- (b) a WA Licence;

with an installed User Meter or Approved Meter Equivalent, is the relevant meter reading charge set out in Table 16 for the relevant year (being a charge expressed in dollars per User Meter or Approved Meter Equivalent per annum) for each User Meter or Approved Meter Equivalent.

[Note: On and from the New Private Meter Charge Trigger Day for a Privately-Owned Meter, the charge in clause 3.3 of this Schedule ceases to apply and the charges in clause 4 of Schedule 5 will instead apply. The two sets of charges cannot apply simultaneously to a Privately-Owned Meter.]

Tables 12-17

Table 12 Consent Transaction charges (\$)

| Type of transaction | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|---|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Type A Consent Transactions | | | | |
| New water access licences | | | | |
| Zero Share | 1,158.71 | 1,158.71 x CPI ₁ | 1,158.71 x CPI ₂ | 1,158.71 x CPI ₃ |
| Controlled allocation | 1,518.99 | 1,518.99 x CPI ₁ | 1,518.99 x CPI ₂ | 1,518.99 x CPI ₃ |
| Specific purpose – Groundwater assessment required | 5,139.77 | 5,139.77 x CPI ₁ | 5,139.77 x CPI ₂ | 5,139.77 x CPI ₃ |
| Specific purpose – No Groundwater assessment required | 2,593.97 | 2,593.97 x CPI ₁ | 2,593.97 x CPI ₂ | 2,593.97 x CPI ₃ |
| Water allocation assignments | | | | |
| Unregulated Rivers and Groundwater | 143.80 | 143.80 x CPI ₁ | 143.80 x CPI ₂ | 143.80 x CPI ₃ |
| Approvals | | | | |
| Application for a new approval regarding a pump where no advertising is required | 2,416.96 | 2,416.96 x CPI ₁ | 2,416.96 x CPI ₂ | 2,416.96 x CPI ₃ |
| Application for a new approval regarding a pump where advertising is required | 2,956.62 | 2,956.62 x CPI ₁ | 2,956.62 x CPI ₂ | 2,956.62 x CPI ₃ |
| Application for a new approval regarding a dam where no advertising is required | 2,391.60 | 2,391.60 x CPI ₁ | 2,391.60 x CPI ₂ | 2,391.60 x CPI ₃ |
| Application for a new approval regarding a dam where advertising is required | 3,015.20 | 3,015.20 x CPI ₁ | 3,015.20 x CPI ₂ | 3,015.20 x CPI ₃ |
| Application for a new approval regarding Groundwater where neither advertising nor a Groundwater assessment is required | 1,952.95 | 1,952.95 x CPI ₁ | 1,952.95 x CPI ₂ | 1,952.95 x CPI ₃ |
| Application for a new approval regarding Groundwater where advertising is required but a Groundwater assessment is not | 2,300.68 | 2,300.68 x CPI ₁ | 2,300.68 x CPI ₂ | 2,300.68 x CPI ₃ |
| Application for a new approval regarding Groundwater where a Groundwater assessment is required but advertising is not | 4,498.75 | 4,498.75 x CPI ₁ | 4,498.75 x CPI ₂ | 4,498.75 x CPI ₃ |

Service fees and charges

| Type of transaction | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Application for a new approval regarding Groundwater where both a Groundwater assessment and advertising are required | 4,846.47 | 4,846.47 x CPI ₁ | 4,846.47 x CPI ₂ | 4,846.47 x CPI ₃ |
| Amended approval – Add and change water supply works, add and change water use or changes to conditions – Groundwater assessment required | 4,043.17 | 4,043.17 x CPI ₁ | 4,043.17 x CPI ₂ | 4,043.17 x CPI ₃ |
| Amended approval – Add and change water supply works, add and change water use or changes to conditions – Groundwater assessment not required | 1,497.38 | 1,497.38 x CPI ₁ | 1,497.38 x CPI ₂ | 1,497.38 x CPI ₃ |
| Amended approval – administrative – Groundwater assessment required | 2,723.67 | 2,723.67 x CPI ₁ | 2,723.67 x CPI ₂ | 2,723.67 x CPI ₃ |
| Amended approval – administrative – Groundwater assessment not required | 177.88 | 177.88 x CPI ₁ | 177.88 x CPI ₂ | 177.88 x CPI ₃ |
| Extension of approval – lodged before expiry date | 354.32 | 354.32 x CPI ₁ | 354.32 x CPI ₂ | 354.32 x CPI ₃ |
| Extension of approval – lodged after expiry date | 654.83 | 654.83 x CPI ₁ | 654.83 x CPI ₂ | 654.83 x CPI ₃ |
| Water access licence dealings | | | | |
| Dealings – Regulated Rivers | 758.18 | 758.18 x CPI ₁ | 758.18 x CPI ₂ | 758.18 x CPI ₃ |
| Dealings – Unregulated Rivers and Groundwater (All applications except those considered by the processing agency to be low risk or administrative) – Groundwater assessment required | 4,968.24 | 4,968.24 x CPI ₁ | 4,968.24 x CPI ₂ | 4,968.24 x CPI ₃ |
| Dealings – Unregulated Rivers and Groundwater (All applications except those considered by the processing agency to be low risk or administrative) – Groundwater assessment not required | 2,422.45 | 2,422.45 x CPI ₁ | 2,422.45 x CPI ₂ | 2,422.45 x CPI ₃ |
| Dealings – Unregulated Rivers and Groundwater with low risk | 1,097.71 | 1,097.71 x CPI ₁ | 1,097.71 x CPI ₂ | 1,097.71 x CPI ₃ |
| Dealings – Unregulated Rivers and Groundwater – administrative | 484.88 | 484.88 x CPI ₁ | 484.88 x CPI ₂ | 484.88 x CPI ₃ |
| Type B Consent Transactions | | | | |
| New water access licences | | | | |
| Zero Share | 716.37 | 716.37 x CPI ₁ | 716.37 x CPI ₂ | 716.37 x CPI ₃ |
| Controlled allocation | 696.95 | 696.95 x CPI ₁ | 696.95 x CPI ₂ | 696.95 x CPI ₃ |

Service fees and charges

| Type of transaction | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Specific purpose – Groundwater assessment required | 3,272.68 | 3,272.68 x CPI ₁ | 3,272.68 x CPI ₂ | 3,272.68 x CPI ₃ |
| Specific purpose – No Groundwater assessment required | 726.89 | 726.89 x CPI ₁ | 726.89 x CPI ₂ | 726.89 x CPI ₃ |
| Water access licence dealings | | | | |
| Dealings – Regulated Rivers | 758.18 | 758.18 x CPI ₁ | 758.18 x CPI ₂ | 758.18 x CPI ₃ |
| Dealings – Unregulated Rivers and Groundwater (All applications except those considered by the processing agency to be low risk or administrative) – Groundwater assessment required | 4,968.24 | 4,968.24 x CPI ₁ | 4,968.24 x CPI ₂ | 4,968.24 x CPI ₃ |
| Dealings – Unregulated Rivers and Groundwater (All applications except those considered by the processing agency to be low risk or administrative) – Groundwater assessment not required | 2,422.45 | 2,422.45 x CPI ₁ | 2,422.45 x CPI ₂ | 2,422.45 x CPI ₃ |
| Dealings – Unregulated Rivers and Groundwater with low risk | 1,097.71 | 1,097.71 x CPI ₁ | 1,097.71 x CPI ₂ | 1,097.71 x CPI ₃ |
| Dealings – Unregulated Rivers and Groundwater – administrative | 484.88 | 484.88 x CPI ₁ | 484.88 x CPI ₂ | 484.88 x CPI ₃ |
| Water allocation assignments | | | | |
| Unregulated Rivers and Groundwater | 50.55 | 50.55 x CPI ₁ | 50.55 x CPI ₂ | 50.55 x CPI ₃ |
| Approvals | | | | |
| New or amended works and/or use approval (Except those considered by the processing agency to be low risk or administrative) – Groundwater assessment required | 7,044.48 | 7,044.48 x CPI ₁ | 7,044.48 x CPI ₂ | 7,044.48 x CPI ₃ |
| New or amended works and/or use approval (Except those considered by the processing agency to be low risk or administrative) – Groundwater assessment not required | 4,498.68 | 4,498.68 x CPI ₁ | 4,498.68 x CPI ₂ | 4,498.68 x CPI ₃ |
| New or amended works and/or use approval – low risk – Groundwater assessment required | 4,983.31 | 4,983.31 x CPI ₁ | 4,983.31 x CPI ₂ | 4,983.31 x CPI ₃ |
| New or amended works and/or use approval – low risk – Groundwater assessment not required | 2,437.52 | 2,437.52 x CPI ₁ | 2,437.52 x CPI ₂ | 2,437.52 x CPI ₃ |

| Type of transaction | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|---|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| New basic rights bore approval – Groundwater assessment required | 1,037.24 | 1,037.24 x CPI ₁ | 1,037.24 x CPI ₂ | 1,037.24 x CPI ₃ |
| New basic rights bore approval – Groundwater assessment not required | 893.27 | 893.27 x CPI ₁ | 893.27 x CPI ₂ | 893.27 x CPI ₃ |
| Amended approval – administrative – Groundwater assessment required | 3,082.24 | 3,082.24 x CPI ₁ | 3,082.24 x CPI ₂ | 3,082.24 x CPI ₃ |
| Amended approval – administrative – Groundwater assessment not required | 536.44 | 536.44 x CPI ₁ | 536.44 x CPI ₂ | 536.44 x CPI ₃ |
| Extension of approval – lodged before expiry date | 515.97 | 515.97 x CPI ₁ | 515.97 x CPI ₂ | 515.97 x CPI ₃ |
| Extension of approval – lodged after expiry date | 953.62 | 953.62 x CPI ₁ | 953.62 x CPI ₂ | 953.62 x CPI ₃ |

Table 13 Consent Transaction charges – Water Supply (Critical Needs) Authorisation Assessments (\$)

| Type of transaction | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--|-----------------------------------|------------------------------|------------------------------|------------------------------|
| Stage 1 Water Supply (Critical Needs) Authorisation Assessment | 42,770.36 | 42,770.36 x CPI ₁ | 42,770.36 x CPI ₂ | 42,770.36 x CPI ₃ |
| Stage 2 Water Supply (Critical Needs) Authorisation Assessment | 73,629.11 | 73,629.11 x CPI ₁ | 73,629.11 x CPI ₂ | 73,629.11 x CPI ₃ |

Table 14 Meter service charges – Telemetered or agency read sites^a (annual charge) (\$/WAMC Meter)

| Meter size (mm) | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|-----------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| 50-300 | 519.97 | 519.97 x CPI ₁ | 519.97 x CPI ₂ | 519.97 x CPI ₃ |
| 350-700 | 540.29 | 540.29 x CPI ₁ | 540.29 x CPI ₂ | 540.29 x CPI ₃ |
| 750-1000 | 587.36 | 587.36 x CPI ₁ | 587.36 x CPI ₂ | 587.36 x CPI ₃ |

^a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination that is less than a full financial year.

Table 15 Meter service charges – Non-telemetered sites with customer reading and reporting^a (annual charge) (\$/WAMC Meter)

| Meter size (mm) | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|-----------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| 50-300 | 407.91 | 407.91 x CPI ₁ | 407.91 x CPI ₂ | 407.91 x CPI ₃ |
| 350-700 | 423.85 | 423.85 x CPI ₁ | 423.85 x CPI ₂ | 423.85 x CPI ₃ |
| 750-1000 | 460.78 | 460.78 x CPI ₁ | 460.78 x CPI ₂ | 460.78 x CPI ₃ |

Service fees and charges

a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination that is less than a full financial year.

Table 16 Water take reading/assessment charge^a (annual charge) (\$/User Meter or Approved Meter Equivalent)

| Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| 209.36 | 209.36 x CPI ₁ | 209.36 x CPI ₂ | 209.36 x CPI ₃ |

^a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination that is less than a full financial year.

Table 17 Ancillary service charges (\$)

| Ancillary service | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Refundable Meter accuracy deposit | 1,769.25 | 1,769.25 x CPI ₁ | 1,769.25 x CPI ₂ | 1,769.25 x CPI ₃ |
| Meter laboratory verification at request of customer (refundable deposit if meter is tested to be outside the accuracy standard) | 6,999.03 | 6,999.03 x CPI ₁ | 6,999.03 x CPI ₂ | 6,999.03 x CPI ₃ |
| Meter in-situ validation charge – where a meter is relocated or disturbed | 4,677.28 | 4,677.28 x CPI ₁ | 4,677.28 x CPI ₂ | 4,677.28 x CPI ₃ |
| Meter reset fee after suspension of maintenance for a year or more, at customer request | 259.31 | 259.31 x CPI ₁ | 259.31 x CPI ₂ | 259.31 x CPI ₃ |

Schedule 5 New Metering Charges

1 Application

- (a) This schedule sets out the maximum annual price that WAMC may levy on a:
- (1) Licence Holder; and
 - (2) holder of a Water Supply Work Approval,
- for supplying various metering services, other than in relation to a Water Licence or Water Supply Work Approval that authorises the taking of water from a Regulated River.

[Note: The exception in respect of Regulated Rivers is intended to avoid double charging, as these charges will apply to relevant customers authorised to take water from Regulated Rivers under IPART's determination titled 'Water NSW – Prices for bulk water services from 1 October 2021'.]

- (b) For a Government-Owned Meter, on and from the New Government Meter Charge Trigger Day for that meter, the charges set out in clause 3.1(a) of Schedule 4 will cease to apply and the charges in clauses 3 and 4 of this Schedule will instead apply.
- (c) For a Privately-Owned Meter that is subject to the Metering Requirements, on and from the New Private Meter Charge Trigger Day for that meter, the charge set out in clause 3.3 of Schedule 4 will cease to apply and the charge in clause 4 of this Schedule will instead apply.

2 Scheme management charge

WAMC may levy on a person referred to in clause 1(a) the annual scheme management charge set out in Table 18 for the relevant year, and relevant Proportion of Voluntary Telemetry Uptake for that year.

[Note: For the avoidance of doubt, the scheme management charge set out in clause 2 applies regardless of whether a relevant person has a Meter or not, and applies from the Commencement Date. Where a person referred to in clause 1(a) holds more than one Water Licence and/or is the holder of more than one Water Supply Work Approval, then the scheme management charge may be levied in respect of each such Water Licence or Water Supply Work Approval.]

3 Government-Owned Meter service charges

- (a) On and from the New Government Meter Charge Trigger Day for the relevant Government-Owned Meter, WAMC may levy on a person referred to in clause 1(a) with a Government-Owned Meter installed:
- (1) the meter service charge – operating costs; and
 - (2) the meter service charge – capital costs,
- set out in Table 19 for the relevant year and expressed in dollars per Government-Owned Meter per annum.

[Note: On and from the New Government Meter Charge Trigger Day for a Government-Owned Meter, the charges in clause 3 of this Schedule apply and the charges in clause 3.1(a) of Schedule 4 cease to apply. The two sets of charges cannot apply simultaneously to a Government-Owned Meter.]

4 Telemetry and non-telemetry service charges

- (a) The charges in clause 4 apply on and from:
- (1) for a Government-Owned Meter, the New Government Meter Charge Trigger Day; and
 - (2) for a Privately-Owned Meter that is subject to the Metering Requirements, the New Private Meter Charge Trigger Day.
- (b) WAMC may levy on a person referred to in clause 1(a) the telemetry service charge expressed in dollars per meter in Table 20 for the relevant year and relevant Proportion of Voluntary Telemetry Uptake for that year, if:
- (1) the Metering Requirements require the relevant meter to use telemetry; or
 - (2) the Metering Requirements do not require the relevant meter to use telemetry and the Proportion of Voluntary Telemetry Uptake is:
 - (A) less than 25%, regardless of whether or not the relevant meter is read using telemetry; or
 - (B) equal to or greater than 25% and the relevant meter is read using telemetry.
- (c) WAMC may levy on a person referred to in clause 1(a) the non-telemetry service charge expressed in dollars per meter in Table 21 for the relevant year and relevant Proportion of Voluntary Telemetry Uptake for that year, if:
- (1) the Proportion of Voluntary Telemetry Uptake is equal to or greater than 25%; and
 - (2) the Metering Requirements do not require the relevant meter to use telemetry; and
 - (3) the relevant meter is not read using telemetry.

[Note: On and from the New Government Meter Charge Trigger Day for a Government-Owned Meter, the charges in clause 4 of this Schedule apply and the charges in clause 3.1(a) of Schedule 4 cease to apply. The two sets of charges cannot apply simultaneously to a Government-Owned Meter. On and from the New Private Meter Charge Trigger Day for a Privately-Owned Meter that is subject to the Metering Requirements, the charges in clause 4 of this Schedule apply and the charges in clause 3.3 of Schedule 4 cease to apply. The two sets of charges cannot apply simultaneously to a Privately-Owned Meter.]

5 Exit fee

WAMC may levy on a person referred to in clause 1(a) who provides notice that they no longer require services in respect of a Government-Owned Meter, an exit fee calculated as follows:

$$CX - (DD \times N)$$

where:

- (a) **CX** is WAMC's average capital expenditure on each Government-Owned Meter expressed in dollars per meter in Table 22 for the relevant year;
- (b) **DD** is the daily depreciation of that capital expenditure expressed in dollars per meter in Table 22 for the relevant year; and
- (c) **N** is the number of days between, but not including, the dates that:

- (1) the Government-Owned Meter became compliant with the Metering Requirements; and
- (2) the person provides notice to WAMC that they no longer require services in respect of the Government-Owned Meter.

6 Proportion of Voluntary Telemetry Uptake

- (a) The Proportion of Voluntary Telemetry Uptake for the period from the Commencement Date to 30 June 2022 is taken to be in the 0 - <25% Percentage Band.
- (b) Subject to clause 6(c), the Proportion of Voluntary Telemetry Uptake for each subsequent year of this determination is the proportion calculated as follows:

$$\frac{A}{B}$$

where:

- (1) **A** is WAMC's estimate based on the best available information, of the total number of Voluntary Telemetric Meters that will operate by the end of that year, as notified by or on behalf of WAMC to IPART before the beginning of that year, for publication on IPART's website; and
 - (2) **B** is WAMC's estimate based on the best available information, of the total number of Potential Voluntary Telemetric Meters that will operate by the end of that year, as notified by or on behalf of WAMC to IPART before the beginning of the year, for publication on IPART's website.
- (c) If, in respect of a relevant year, the value of 'B' in clause 6(b)(2) is 0, then the Proportion of Voluntary Telemetry Uptake for that year will be taken to be in the '75% or more' Percentage Band.
 - (d) If notification is not made by or on behalf of WAMC in respect of a relevant year in accordance with clauses 6(b)(1) and/or 6(b)(2), then the Proportion of Voluntary Telemetry Uptake for that year will be taken to be:
 - (1) if the Proportion of Voluntary Telemetry Uptake for the previous year was less than 75%, in the next Percentage Band up from the previous year; and
 - (2) if the Proportion of Voluntary Telemetry Uptake for the previous year was equal to or greater than 75%, in the '75% or more' Percentage Band.

[Note: For example, if WAMC fails to notify in accordance with clause 6(b)(1) in respect of a relevant year, and the Proportion of Voluntary Telemetry Uptake in the previous year was 35%, then the Proportion of Voluntary Telemetry Uptake in the relevant year will be taken to be in the 50%-<75% Percentage Band.]

Tables 18-22

Table 18 Annual scheme management charge ^a (\$)

| Proportion of Voluntary Telemetry Uptake | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| 0% - <25% | 73.26 | 73.26 x CPI ₁ | 73.26 x CPI ₂ | 73.26 x CPI ₃ |
| 25% - <50% | 66.01 | 66.01 x CPI ₁ | 66.01 x CPI ₂ | 66.01 x CPI ₃ |
| 50% - <75% | 58.75 | 58.75 x CPI ₁ | 58.75 x CPI ₂ | 58.75 x CPI ₃ |
| 75% or more | 51.49 | 51.49 x CPI ₁ | 51.49 x CPI ₂ | 51.49 x CPI ₃ |

^a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination to which this charge applies, and that is less than a full financial year.

Table 19 Annual Government-Owned Meter service charges ^a (\$ per Government-Owned Meter)

| Charge | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Meter service charge - operating costs | 898.85 | 898.85 x CPI ₁ | 898.85 x CPI ₂ | 898.85 x CPI ₃ |
| Meter service charge - capital costs | 0.00 | 0.00 x CPI ₁ | 0.00 x CPI ₂ | 0.00 x CPI ₃ |

^a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination to which this charge applies, and that is less than a full financial year.

Table 20 Annual telemetry service charge ^a (\$ per meter)

| Proportion of Voluntary Telemetry Uptake | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| 0% - <25% | 226.49 | 226.49 x CPI ₁ | 226.49 x CPI ₂ | 226.49 x CPI ₃ |
| 25% - <50% | 208.74 | 208.74 x CPI ₁ | 208.74 x CPI ₂ | 208.74 x CPI ₃ |
| 50% - <75% | 191.41 | 191.41 x CPI ₁ | 191.41 x CPI ₂ | 191.41 x CPI ₃ |
| 75% or more | 182.11 | 182.11 x CPI ₁ | 182.11 x CPI ₂ | 182.11 x CPI ₃ |

^a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination to which this charge applies, and that is less than a full financial year.

Table 21 Annual non-telemetry service charge^a (\$ per meter)

| Proportion of Voluntary Telemetry Uptake | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| 25% - <50% | 218.57 | 218.57 x CPI ₁ | 218.57 x CPI ₂ | 218.57 x CPI ₃ |
| 50% - <75% | 218.57 | 218.57 x CPI ₁ | 218.57 x CPI ₂ | 218.57 x CPI ₃ |
| 75% or more | 218.57 | 218.57 x CPI ₁ | 218.57 x CPI ₂ | 218.57 x CPI ₃ |

a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination to which this charge applies, and that is less than a full financial year.

[Note: WAMC may levy either a telemetry service charge or a non-telemetry service charge (not both) on a person to whom clause 4 applies, in accordance with that clause. Where the Proportion of Voluntary Telemetry Uptake is less than 25%, WAMC may levy the telemetry service charge (not the non-telemetry service charge), even if the relevant meter is not read using telemetry.]

Table 22 Exit fee (\$ per meter)

| Input | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|-----------------------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Average capital expenditure | 0.00 | 0.00 x CPI ₁ | 0.00 x CPI ₂ | 0.00 x CPI ₃ |
| Daily depreciation | 0.00 | 0.00 x CPI ₁ | 0.00 x CPI ₂ | 0.00 x CPI ₃ |

Schedule 6 MDBA and BRC charges

1 MDBA entitlement charge

The MDBA entitlement charge is calculated as follows:

$$MDBAEC \times E$$

where:

(a) **MDBAEC** is:

- (1) where the MDBA Customer has a Meter, the charge expressed in dollars per megalitre of Entitlement or dollars per unit share in either Table 23 (if a Floodplain Harvesting Regulation has not been made in respect of the relevant water source) or Table 23(a) (if a Floodplain Harvesting Regulation has been made in respect of the relevant water source) for the relevant water source and relevant year; and
- (2) where the MDBA Customer does not have a Meter, the charge expressed in dollars per megalitre of Entitlement or dollars per unit share in either Table 24 (if a Floodplain Harvesting Regulation has not been made in respect of the relevant water source) or Table 24(a) (if a Floodplain Harvesting Regulation has been made in respect of the relevant water source) for the relevant water source and relevant year; and

(b) **E** is the Licence Holder's Entitlement or unit share for that year.

2 MDBA water take charge

(a) Subject to clause 2(b), the MDBA water take charge is calculated as follows:

$$MDBAWTC \times WT$$

where:

- (1) **MDBAWTC** is the water take charge expressed in dollars per megalitre of water taken in either Table 25 (if a Floodplain Harvesting Regulation has not been made in respect of the relevant water source) or Table 25(a) (if a Floodplain Harvesting Regulation has been made in respect of the relevant water source) for the relevant year and:
 - (A) **in the case of a Tagged Water Entitlement:** the relevant water source as set out in the Licence Register; and
 - (B) **in any other case:** the relevant water source from which the water is taken.
- (2) **WT** is the Licence Holder's water take for that year.

(b) In respect of a Schedule 2 Service or Schedule 3 Service where the MDBA Customer does not have a Meter, the MDBA water take charge is nil.

- (c) WAMC must not recover more than one MDBA water take charge in respect of any water taken.

3 BRC entitlement charge

The BRC entitlement charge is calculated as follows:

$$BRCEC \times E$$

where:

- (a) **BRCEC** is:
- (1) where the BRC Customer has a Meter, the charge expressed in dollars per megalitre of Entitlement or dollars per unit share in either Table 26 (if a Floodplain Harvesting Regulation has not been made in respect of the relevant water source) or Table 26(a) (if a Floodplain Harvesting Regulation has been made in respect of the relevant water source) for the relevant water source and relevant year; and
 - (2) where the BRC Customer does not have a Meter, the charge expressed in dollars per megalitre of Entitlement or dollars per unit share in either Table 27 (if a Floodplain Harvesting Regulation has not been made in respect of the relevant water source) or Table 27(a) (if a Floodplain Harvesting Regulation has been made in respect of the relevant water source) for the relevant water source and relevant year; and
- (b) **E** is the Licence Holder's Entitlement or unit share for that year.

4 BRC water take charge

- (a) Subject to clause 4(b), the BRC water take charge is calculated as follows:

$$BRCWTC \times WT$$

where:

- (1) **BRCWTC** is the water take charge expressed in dollars per megalitre of water taken in either Table 28 (if a Floodplain Harvesting Regulation has not been made in respect of the relevant water source) or Table 28(a) (if a Floodplain Harvesting Regulation has been made in respect of the relevant water source) for the relevant year and:
 - (A) **in the case of a Tagged Water Entitlement:** the relevant water source as set out in the Licence Register; and
 - (B) **in any other case:** the relevant water source from which the water is taken.
 - (2) **WT** is the Licence Holder's water take for that year.
- (b) In respect of a Schedule 2 Service or Schedule 3 Service where the BRC Customer does not have a Meter, the BRC water take charge is nil.

- (c) WAMC must not recover more than one BRC water take charge in respect of any water taken.

[Note: MDBA charges apply only to MDBA Customers and, similarly, BRC charges apply only to BRC Customers. See Schedule 7 for the definitions of MDBA Customers and BRC Customers. It is possible for a customer to simultaneously be an MDBA Customer and a BRC Customer, in which case their maximum prices would include both MDBA charges and BRC charges.]

Tables 23-28(a)

Table 23 MDBA entitlement charges where the MDBA Customer has a Meter, and where no Floodplain Harvesting Regulation has been made in respect of the relevant water source^a (\$/ML of Entitlement or \$/unit share)

| Water source | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|---------------------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Regulated River | | | | |
| Border | 0.54 | 0.54 x CPI ₁ | 0.54 x CPI ₂ | 0.54 x CPI ₃ |
| Gwydir | 0.72 | 0.72 x CPI ₁ | 0.72 x CPI ₂ | 0.72 x CPI ₃ |
| Namoi | 0.82 | 0.82 x CPI ₁ | 0.82 x CPI ₂ | 0.82 x CPI ₃ |
| Peel | 0.25 | 0.25 x CPI ₁ | 0.25 x CPI ₂ | 0.25 x CPI ₃ |
| Lachlan | 0.33 | 0.33 x CPI ₁ | 0.33 x CPI ₂ | 0.33 x CPI ₃ |
| Macquarie | 0.45 | 0.45 x CPI ₁ | 0.45 x CPI ₂ | 0.45 x CPI ₃ |
| Murray | 0.63 | 0.63 x CPI ₁ | 0.63 x CPI ₂ | 0.63 x CPI ₃ |
| Murrumbidgee | 0.65 | 0.65 x CPI ₁ | 0.65 x CPI ₂ | 0.65 x CPI ₃ |
| Unregulated River | | | | |
| Border | 0.09 | 0.09 x CPI ₁ | 0.09 x CPI ₂ | 0.09 x CPI ₃ |
| Gwydir | 0.09 | 0.09 x CPI ₁ | 0.09 x CPI ₂ | 0.09 x CPI ₃ |
| Namoi | 0.09 | 0.09 x CPI ₁ | 0.09 x CPI ₂ | 0.09 x CPI ₃ |
| Peel | 0.09 | 0.09 x CPI ₁ | 0.09 x CPI ₂ | 0.09 x CPI ₃ |
| Lachlan | 0.13 | 0.13 x CPI ₁ | 0.13 x CPI ₂ | 0.13 x CPI ₃ |
| Macquarie | 0.13 | 0.13 x CPI ₁ | 0.13 x CPI ₂ | 0.13 x CPI ₃ |
| Far West | 0.79 | 0.79 x CPI ₁ | 0.79 x CPI ₂ | 0.79 x CPI ₃ |
| Murray | 0.16 | 0.16 x CPI ₁ | 0.16 x CPI ₂ | 0.16 x CPI ₃ |
| Murrumbidgee | 0.12 | 0.12 x CPI ₁ | 0.12 x CPI ₂ | 0.12 x CPI ₃ |
| Groundwater source | | | | |
| Inland | 0.19 | 0.19 x CPI ₁ | 0.19 x CPI ₂ | 0.19 x CPI ₃ |
| Murrumbidgee | 0.19 | 0.19 x CPI ₁ | 0.19 x CPI ₂ | 0.19 x CPI ₃ |

^a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination to which this charge applies, and that is less than a full financial year.

Table 23(a) MDBA entitlement charges where the MDBA Customer has a Meter, and where a Floodplain Harvesting Regulation has been made in respect of the relevant water source^a (\$/ML of Entitlement or \$/unit share)

| Water source | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|------------------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Regulated River | | | | |
| Border | 0.54 | 0.54 x CPI ₁ | 0.54 x CPI ₂ | 0.54 x CPI ₃ |
| Gwydir | 0.72 | 0.72 x CPI ₁ | 0.72 x CPI ₂ | 0.72 x CPI ₃ |
| Namoi | 0.82 | 0.82 x CPI ₁ | 0.82 x CPI ₂ | 0.82 x CPI ₃ |

| | | | | |
|--------------------------|------|----------------------------|----------------------------|----------------------------|
| Macquarie | 0.45 | $0.45 \times \text{CPI}_1$ | $0.45 \times \text{CPI}_2$ | $0.45 \times \text{CPI}_3$ |
| Unregulated River | | | | |
| Border | 0.15 | $0.15 \times \text{CPI}_1$ | $0.15 \times \text{CPI}_2$ | $0.15 \times \text{CPI}_3$ |
| Gwydir | 0.15 | $0.15 \times \text{CPI}_1$ | $0.15 \times \text{CPI}_2$ | $0.15 \times \text{CPI}_3$ |
| Namoi | 0.15 | $0.15 \times \text{CPI}_1$ | $0.15 \times \text{CPI}_2$ | $0.15 \times \text{CPI}_3$ |
| Peel | 0.15 | $0.15 \times \text{CPI}_1$ | $0.15 \times \text{CPI}_2$ | $0.15 \times \text{CPI}_3$ |
| Far West | 0.81 | $0.81 \times \text{CPI}_1$ | $0.81 \times \text{CPI}_2$ | $0.81 \times \text{CPI}_3$ |

a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination to which this charge applies, and that is less than a full financial year.

Table 24 MDBA entitlement charges where the MDBA Customer does not have a Meter, and where no Floodplain Harvesting Regulation has been made in respect of the relevant water source^a (\$/ML of Entitlement or \$/unit share)

| Water source | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|---------------------------|-----------------------------------|---|---|---|
| Unregulated River | | | | |
| Border | 0.34 | $(0.09 \times \text{CPI}_1) + (0.25 \times \text{CPI}_1)$ | $(0.09 \times \text{CPI}_2) + (0.25 \times \text{CPI}_2)$ | $(0.09 \times \text{CPI}_3) + (0.25 \times \text{CPI}_3)$ |
| Gwydir | 0.34 | $(0.09 \times \text{CPI}_1) + (0.25 \times \text{CPI}_1)$ | $(0.09 \times \text{CPI}_2) + (0.25 \times \text{CPI}_2)$ | $(0.09 \times \text{CPI}_3) + (0.25 \times \text{CPI}_3)$ |
| Namoi | 0.34 | $(0.09 \times \text{CPI}_1) + (0.25 \times \text{CPI}_1)$ | $(0.09 \times \text{CPI}_2) + (0.25 \times \text{CPI}_2)$ | $(0.09 \times \text{CPI}_3) + (0.25 \times \text{CPI}_3)$ |
| Peel | 0.34 | $(0.09 \times \text{CPI}_1) + (0.25 \times \text{CPI}_1)$ | $(0.09 \times \text{CPI}_2) + (0.25 \times \text{CPI}_2)$ | $(0.09 \times \text{CPI}_3) + (0.25 \times \text{CPI}_3)$ |
| Lachlan | 0.27 | $(0.13 \times \text{CPI}_1) + (0.14 \times \text{CPI}_1)$ | $(0.13 \times \text{CPI}_2) + (0.14 \times \text{CPI}_2)$ | $(0.13 \times \text{CPI}_3) + (0.14 \times \text{CPI}_3)$ |
| Macquarie | 0.27 | $(0.13 \times \text{CPI}_1) + (0.14 \times \text{CPI}_1)$ | $(0.13 \times \text{CPI}_2) + (0.14 \times \text{CPI}_2)$ | $(0.13 \times \text{CPI}_3) + (0.14 \times \text{CPI}_3)$ |
| Far West | 1.13 | $(0.79 \times \text{CPI}_1) + (0.34 \times \text{CPI}_1)$ | $(0.79 \times \text{CPI}_2) + (0.34 \times \text{CPI}_2)$ | $(0.79 \times \text{CPI}_3) + (0.34 \times \text{CPI}_3)$ |
| Murray | 0.46 | $(0.16 \times \text{CPI}_1) + (0.30 \times \text{CPI}_1)$ | $(0.16 \times \text{CPI}_2) + (0.30 \times \text{CPI}_2)$ | $(0.16 \times \text{CPI}_3) + (0.30 \times \text{CPI}_3)$ |
| Murrumbidgee | 0.28 | $(0.12 \times \text{CPI}_1) + (0.16 \times \text{CPI}_1)$ | $(0.12 \times \text{CPI}_2) + (0.16 \times \text{CPI}_2)$ | $(0.12 \times \text{CPI}_3) + (0.16 \times \text{CPI}_3)$ |
| Groundwater source | | | | |
| Inland | 0.26 | $(0.19 \times \text{CPI}_1) + (0.07 \times \text{CPI}_1)$ | $(0.19 \times \text{CPI}_2) + (0.07 \times \text{CPI}_2)$ | $(0.19 \times \text{CPI}_3) + (0.07 \times \text{CPI}_3)$ |
| Murrumbidgee | 0.26 | $(0.19 \times \text{CPI}_1) + (0.07 \times \text{CPI}_1)$ | $(0.19 \times \text{CPI}_2) + (0.07 \times \text{CPI}_2)$ | $(0.19 \times \text{CPI}_3) + (0.07 \times \text{CPI}_3)$ |

a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination to which this charge applies, and that is less than a full financial year.

Table 24(a) MDBA entitlement charges where the MDBA Customer does not have a Meter, and where a Floodplain Harvesting Regulation has been made in respect of the relevant water source^a (\$/ML of Entitlement or \$/unit share)

| Water source | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--------------------------|-----------------------------------|---|---|---|
| Unregulated River | | | | |
| Border | 0.27 | $(0.15 \times \text{CPI}_1) + (0.12 \times \text{CPI}_1)$ | $(0.15 \times \text{CPI}_2) + (0.12 \times \text{CPI}_2)$ | $(0.15 \times \text{CPI}_3) + (0.12 \times \text{CPI}_3)$ |
| Gwydir | 0.27 | $(0.15 \times \text{CPI}_1) + (0.12 \times \text{CPI}_1)$ | $(0.15 \times \text{CPI}_2) + (0.12 \times \text{CPI}_2)$ | $(0.15 \times \text{CPI}_3) + (0.12 \times \text{CPI}_3)$ |
| Namoi | 0.27 | $(0.15 \times \text{CPI}_1) + (0.12 \times \text{CPI}_1)$ | $(0.15 \times \text{CPI}_2) + (0.12 \times \text{CPI}_2)$ | $(0.15 \times \text{CPI}_3) + (0.12 \times \text{CPI}_3)$ |
| Peel | 0.27 | $(0.15 \times \text{CPI}_1) + (0.12 \times \text{CPI}_1)$ | $(0.15 \times \text{CPI}_2) + (0.12 \times \text{CPI}_2)$ | $(0.15 \times \text{CPI}_3) + (0.12 \times \text{CPI}_3)$ |
| Far West | 1.10 | $(0.81 \times \text{CPI}_1) + (0.29 \times \text{CPI}_1)$ | $(0.81 \times \text{CPI}_2) + (0.29 \times \text{CPI}_2)$ | $(0.81 \times \text{CPI}_3) + (0.29 \times \text{CPI}_3)$ |

^a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination to which this charge applies, and that is less than a full financial year.

Table 25 MDBA water take charges where no Floodplain Harvesting Regulation has been made in respect of the relevant water source (\$/ML)

| Water source | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|---------------------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Regulated River | | | | |
| Border | 0.26 | $0.26 \times \text{CPI}_1$ | $0.26 \times \text{CPI}_2$ | $0.26 \times \text{CPI}_3$ |
| Gwydir | 0.44 | $0.44 \times \text{CPI}_1$ | $0.44 \times \text{CPI}_2$ | $0.44 \times \text{CPI}_3$ |
| Namoi | 0.39 | $0.39 \times \text{CPI}_1$ | $0.39 \times \text{CPI}_2$ | $0.39 \times \text{CPI}_3$ |
| Peel | 0.23 | $0.23 \times \text{CPI}_1$ | $0.23 \times \text{CPI}_2$ | $0.23 \times \text{CPI}_3$ |
| Lachlan | 0.31 | $0.31 \times \text{CPI}_1$ | $0.31 \times \text{CPI}_2$ | $0.31 \times \text{CPI}_3$ |
| Macquarie | 0.32 | $0.32 \times \text{CPI}_1$ | $0.32 \times \text{CPI}_2$ | $0.32 \times \text{CPI}_3$ |
| Murray | 0.27 | $0.27 \times \text{CPI}_1$ | $0.27 \times \text{CPI}_2$ | $0.27 \times \text{CPI}_3$ |
| Murrumbidgee | 0.28 | $0.28 \times \text{CPI}_1$ | $0.28 \times \text{CPI}_2$ | $0.28 \times \text{CPI}_3$ |
| Unregulated River | | | | |
| Border | 0.25 | $0.25 \times \text{CPI}_1$ | $0.25 \times \text{CPI}_2$ | $0.25 \times \text{CPI}_3$ |
| Gwydir | 0.25 | $0.25 \times \text{CPI}_1$ | $0.25 \times \text{CPI}_2$ | $0.25 \times \text{CPI}_3$ |
| Namoi | 0.25 | $0.25 \times \text{CPI}_1$ | $0.25 \times \text{CPI}_2$ | $0.25 \times \text{CPI}_3$ |
| Peel | 0.25 | $0.25 \times \text{CPI}_1$ | $0.25 \times \text{CPI}_2$ | $0.25 \times \text{CPI}_3$ |
| Lachlan | 0.14 | $0.14 \times \text{CPI}_1$ | $0.14 \times \text{CPI}_2$ | $0.14 \times \text{CPI}_3$ |
| Macquarie | 0.14 | $0.14 \times \text{CPI}_1$ | $0.14 \times \text{CPI}_2$ | $0.14 \times \text{CPI}_3$ |
| Far West | 0.34 | $0.34 \times \text{CPI}_1$ | $0.34 \times \text{CPI}_2$ | $0.34 \times \text{CPI}_3$ |
| Murray | 0.30 | $0.30 \times \text{CPI}_1$ | $0.30 \times \text{CPI}_2$ | $0.30 \times \text{CPI}_3$ |
| Murrumbidgee | 0.16 | $0.16 \times \text{CPI}_1$ | $0.16 \times \text{CPI}_2$ | $0.16 \times \text{CPI}_3$ |
| Groundwater source | | | | |
| Inland | 0.07 | $0.07 \times \text{CPI}_1$ | $0.07 \times \text{CPI}_2$ | $0.07 \times \text{CPI}_3$ |

| Water source | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|---------------------|--|------------------------------------|------------------------------------|------------------------------------|
| Murrumbidgee | 0.07 | 0.07 x CPI ₁ | 0.07 x CPI ₂ | 0.07 x CPI ₃ |

Table 25(a) MDBA water take charges where a Floodplain Harvesting Regulation has been made in respect of the relevant water source (\$/ML)

| Water source | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--------------------------|--|------------------------------------|------------------------------------|------------------------------------|
| Regulated River | | | | |
| Border | 0.20 | 0.20 x CPI ₁ | 0.20 x CPI ₂ | 0.20 x CPI ₃ |
| Gwydir | 0.31 | 0.31 x CPI ₁ | 0.31 x CPI ₂ | 0.31 x CPI ₃ |
| Namoi | 0.30 | 0.30 x CPI ₁ | 0.30 x CPI ₂ | 0.30 x CPI ₃ |
| Macquarie | 0.28 | 0.28 x CPI ₁ | 0.28 x CPI ₂ | 0.28 x CPI ₃ |
| Unregulated River | | | | |
| Border | 0.12 | 0.12 x CPI ₁ | 0.12 x CPI ₂ | 0.12 x CPI ₃ |
| Gwydir | 0.12 | 0.12 x CPI ₁ | 0.12 x CPI ₂ | 0.12 x CPI ₃ |
| Namoi | 0.12 | 0.12 x CPI ₁ | 0.12 x CPI ₂ | 0.12 x CPI ₃ |
| Peel | 0.12 | 0.12 x CPI ₁ | 0.12 x CPI ₂ | 0.12 x CPI ₃ |
| Far West | 0.29 | 0.29 x CPI ₁ | 0.29 x CPI ₂ | 0.29 x CPI ₃ |

Table 26 BRC entitlement charges where the BRC Customer has a Meter, and where no Floodplain Harvesting Regulation has been made in respect of the relevant water source^a (\$/ML of Entitlement or \$/unit share)

| Water source | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--|--|------------------------------------|------------------------------------|------------------------------------|
| Regulated River | | | | |
| Border | 1.30 | 1.30 x CPI ₁ | 1.30 x CPI ₂ | 1.30 x CPI ₃ |
| Unregulated River | | | | |
| Far West | 1.29 | 1.29 x CPI ₁ | 1.29 x CPI ₂ | 1.29 x CPI ₃ |
| Groundwater source | | | | |
| Macintyre Alluvial Groundwater Source | 0.30 | 0.30 x CPI ₁ | 0.30 x CPI ₂ | 0.30 x CPI ₃ |
| NSW Border Rivers Upstream Keetah Bridge Alluvial Groundwater Source | 0.30 | 0.30 x CPI ₁ | 0.30 x CPI ₂ | 0.30 x CPI ₃ |
| NSW Border Rivers Downstream Keetah Bridge Alluvial Groundwater Source | 0.30 | 0.30 x CPI ₁ | 0.30 x CPI ₂ | 0.30 x CPI ₃ |
| Ottleys Creek Alluvial Groundwater Source | 0.30 | 0.30 x CPI ₁ | 0.30 x CPI ₂ | 0.30 x CPI ₃ |

^a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination to which this charge applies, and that is less than a full financial year.

Table 26(a) BRC entitlement charges where the BRC Customer has a Meter, and where a Floodplain Harvesting Regulation has been made in respect of the relevant water source^a (\$/ML of Entitlement or \$/unit share)

| Water source | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--------------------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Regulated River | | | | |
| Border | 1.30 | 1.30 x CPI ₁ | 1.30 x CPI ₂ | 1.30 x CPI ₃ |
| Unregulated River | | | | |
| Far West | 1.31 | 1.31 x CPI ₁ | 1.31 x CPI ₂ | 1.31 x CPI ₃ |

^a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination to which this charge applies, and that is less than a full financial year.

Table 27 BRC entitlement charges where the BRC Customer does not have a Meter, and where no Floodplain Harvesting Regulation has been made in respect of the relevant water source^a (\$/ML of Entitlement or \$/unit share)

| Water source | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--|-----------------------------------|---|---|---|
| Unregulated River | | | | |
| Far West | 1.85 | (1.29 x CPI ₁) + (0.56 x CPI ₁) | (1.29 x CPI ₂) + (0.56 x CPI ₂) | (1.29 x CPI ₃) + (0.56 x CPI ₃) |
| Groundwater source | | | | |
| Macintyre Alluvial Groundwater Source | 0.43 | (0.30 x CPI ₁) + (0.13 x CPI ₁) | (0.30 x CPI ₂) + (0.13 x CPI ₂) | (0.30 x CPI ₃) + (0.13 x CPI ₃) |
| NSW Border Rivers Upstream Keetah Bridge Alluvial Groundwater Source | 0.43 | (0.30 x CPI ₁) + (0.13 x CPI ₁) | (0.30 x CPI ₂) + (0.13 x CPI ₂) | (0.30 x CPI ₃) + (0.13 x CPI ₃) |
| NSW Border Rivers Downstream Keetah Bridge Alluvial Groundwater Source | 0.43 | (0.30 x CPI ₁) + (0.13 x CPI ₁) | (0.30 x CPI ₂) + (0.13 x CPI ₂) | (0.30 x CPI ₃) + (0.13 x CPI ₃) |
| Ottleys Creek Alluvial Groundwater Source | 0.43 | (0.30 x CPI ₁) + (0.13 x CPI ₁) | (0.30 x CPI ₂) + (0.13 x CPI ₂) | (0.30 x CPI ₃) + (0.13 x CPI ₃) |

^a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination to which this charge applies, and that is less than a full financial year.

Table 27(a) BRC entitlement charges where the BRC Customer does not have a Meter, and where a Floodplain Harvesting Regulation has been made in respect of the relevant water source^a (\$/ML of Entitlement or \$/unit share)

| Water source | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--------------------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Unregulated River | | | | |
| Far West | 1.79 | 1.79 x CPI ₁ | 1.79 x CPI ₂ | 1.79 x CPI ₃ |

^a The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.6(b) of Schedule 7 for any period under this determination to which this charge applies, and that is less than a full financial year.

Table 28 BRC water take charges where no Floodplain Harvesting Regulation has been made in respect of the relevant water source (\$/ML)

| Water source | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Regulated River | | | | |
| Border | 0.62 | 0.62 x CPI ₁ | 0.62 x CPI ₂ | 0.62 x CPI ₃ |
| Unregulated River | | | | |
| Far West | 0.56 | 0.56 x CPI ₁ | 0.56 x CPI ₂ | 0.56 x CPI ₃ |
| Groundwater source | | | | |
| Macintyre Alluvial Groundwater Source | 0.13 | 0.13 x CPI ₁ | 0.13 x CPI ₂ | 0.13 x CPI ₃ |
| NSW Border Rivers Upstream Keetah Bridge Alluvial Groundwater Source | 0.13 | 0.13 x CPI ₁ | 0.13 x CPI ₂ | 0.13 x CPI ₃ |
| NSW Border Rivers Downstream Keetah Bridge Alluvial Groundwater Source | 0.13 | 0.13 x CPI ₁ | 0.13 x CPI ₂ | 0.13 x CPI ₃ |
| Ottleys Creek Alluvial Groundwater Source | 0.13 | 0.13 x CPI ₁ | 0.13 x CPI ₂ | 0.13 x CPI ₃ |

Table 28(a) BRC water take charges where a Floodplain Harvesting Regulation has been made in respect of the relevant water source (\$/ML)

| Water source | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--------------------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Regulated River | | | | |
| Border | 0.49 | 0.49 x CPI ₁ | 0.49 x CPI ₂ | 0.49 x CPI ₃ |
| Unregulated River | | | | |
| Far West | 0.48 | 0.48 x CPI ₁ | 0.48 x CPI ₂ | 0.48 x CPI ₃ |

Schedule 7 Definitions and interpretation

1 Definitions

1.1 General definitions

In this determination:

2016 Determination means IPART's determination No. 2 of 2016 titled 'Water Administration Ministerial Corporation – Maximum prices for water management services from 1 July 2016'.

Aboriginal Cultural Licence means any of the following categories of access licence referred to in Schedule 3 of the Water Management Regulation:

- (a) regulated river (high security) Aboriginal cultural licence;
- (b) unregulated river Aboriginal cultural licence; and
- (c) aquifer Aboriginal cultural licence.

Approved Meter Equivalent means an apparatus or a methodology for the quantification of the volume of water taken or to be taken from Unregulated Rivers or Groundwater by reference to factors other than direct measurement of water taken, that is approved by WAMC or the Minister.

BRC means the Dumaresq-Barwon Border Rivers Commission constituted under the New South Wales–Queensland Border Rivers Agreement made in 1946 and ratified under section 5 of the *New South Wales–Queensland Border Rivers Act 1947* (NSW).

BRC Customer means a holder of a Water Licence that authorises the taking of water from:

- (a) Regulated Rivers in the Border valley;
- (b) Unregulated Rivers in the Far West valley; or
- (c) Groundwater from the Macintyre Alluvial Groundwater Source, NSW Border Rivers Upstream Keetah Bridge Alluvial Groundwater Source, NSW Border Rivers Downstream Keetah Bridge Alluvial Groundwater Source and Ottleys Creek Alluvial Groundwater Source.

Coastal means the Hunter, North Coast and South Coast river valleys.

Commencement Date is defined in clause 2(a) of the Preliminary section of this determination.

Consent Transactions means those types of transaction set out in Tables 12 and 13.

CPI₁, CPI₂ and CPI₃ have the meanings given in clause 1.2 of Schedule 7.

Entitlement means the maximum quantity of water that a Licence Holder has a right to take and use by means of a Water Licence.

Floodplain Harvesting Access Licence means a floodplain harvesting access licence referred to in section 57A of the Water Management Act.

Floodplain Harvesting Regulation means a regulation made under section 57A of the Water Management Act to establish Floodplain Harvesting Access Licences in respect of the relevant river valley.

Government-Owned Meter means a meter that is owned by the NSW Government and installed in connection with a Water Supply Work, including any such meter owned by Water NSW, WAMC or any other NSW government agency or state owned corporation.

Groundwater means water accessed from an aquifer or other below-ground water source.

Inland means the Border, Far West, Gwydir, Lachlan, Macquarie, Murray, Namoi and Peel River valleys (but does not include the Murrumbidgee river valley for the purposes of this determination).

IPART means the Independent Pricing and Regulatory Tribunal of New South Wales, established under the IPART Act.

IPART Act means the Independent Pricing and Regulatory Tribunal Act 1992 (NSW).

Irrigation Corporation has the meaning given to that term under the Water Management Act.

Licence Holder means the holder of a Water Licence.

Licence Register means the Water Licence register and/or water accounting register maintained by or on behalf of WAMC.

Major Utility (Barnard) Access Licence means a licence issued by the Minister as a major utility (Barnard) access licence.

Major Utility (Grahamstown) Access Licence means a licence issued by the Minister as a major utility (Grahamstown) access licence.

MDBA means the Murray-Darling Basin Authority, being the authority established under section 171 of the *Water Act 2007* (Cth).

MDBA Customer means a holder of a Water Licence that authorises the taking of water from:

- (a) Regulated Rivers in the Border, Gwydir, Namoi, Peel, Lachlan, Macquarie, Murray and Murrumbidgee valleys;
- (b) Unregulated Rivers in the Border, Gwydir, Namoi, Peel, Lachlan, Macquarie, Far West, Murray and Murrumbidgee valleys; or
- (c) Groundwater in the Inland and Murrumbidgee valleys.

Meter means:

- (a) a WAMC Meter;
- (b) an Approved Meter Equivalent;
- (c) a Government-Owned Meter;

- (d) a Privately-Owned Meter;
- (e) where a Licence Holder has a single off-take point from Unregulated Rivers or Groundwater, the User Meter installed on or near that off-take point; or
- (f) where a Licence Holder has multiple off-take points from Unregulated Rivers or Groundwater and has a User Meter on all off-take points, each of the User Meters installed on or near those off-take points.

Metering Requirements means the metering equipment requirements set out in the Water Management Regulation.

Minister means the Minister administering the Water Management Act (or, where relevant, the Water Act).

ML means megalitre or one million litres.

Monopoly Services means the services referred to in clause 1.1 of the Preliminary section of this determination.

National Water Initiative means the initiative which is the subject of the Intergovernmental Agreement on a National Water Initiative, dated 25 June 2004.

New Government Meter Charge Trigger Day means, in respect of a Government-Owned Meter, the later of:

- (a) the day the meter becomes compliant with the Metering Requirements; and
- (b) if there is a date specified in the Water Management Regulation from which a temporary exemption from the Metering Requirements would cease to have effect in respect of the meter, that date.

New Metering Charge means any charge included in Schedule 5.

New Private Meter Charge Trigger Day means, in respect of a Privately-Owned Meter:

- (a) where a person is directed by the Minister under the Water Management Act to have a meter installed, the date by which that person is required to have an operational meter as specified in that direction; and
- (b) in all other circumstances, the date specified in the Water Management Regulation from which a temporary exemption from the Metering Requirements would cease to have effect in respect of the meter or if no such date exists in respect of the meter, then the Commencement Date.

Order means the Independent Pricing and Regulatory Tribunal (Water Services) Order 2004 published in New South Wales Government Gazette, No. 144 of 10 September 2004, p 7519.

Percentage Band means, as the case may be:

- (a) 0-<25%;
- (b) 25%-<50%;
- (c) 50%-<75%; or
- (d) '75% or more'.

Potential Voluntary Telemetric Meter means a meter that operates (whether by telemetry or not) in respect of a person to whom Schedule 5 applies, that is not required under the Metering Requirements to use telemetry but could, in WAMC's opinion based on the best available information, be practically read using telemetry and includes Voluntary Telemetric Meters.

[Note: For the avoidance of doubt, a meter that is subject to a temporary exemption from the Metering Requirements under the Water Management Regulation is not a Potential Voluntary Telemetric Meter.]

Privately-Owned Meter means a meter that is not a Government-Owned Meter.

Proportion of Voluntary Telemetry Uptake means the proportion of voluntary telemetry uptake calculated in accordance with clause 6 of Schedule 5.

Regulated River has the meaning given to that term under the Water Management Act.

River has the meaning given to that term under the Water Management Act.

Salinity and Water Table Management Access Licence means a licence referred to in clause 4(1)(j) of the Water Management Regulation.

Schedule 2 Service means a service for which a maximum price is set under Schedule 2.

Schedule 3 Service means a service for which a maximum price is set under Schedule 3.

Supplementary Water Access Licence means an access licence referred to in section 57(1)(h) of the Water Management Act and includes, for the avoidance of any doubt, a supplementary water access (environmental) licence and a supplementary water access (Lowbidgee) licence.

Tagged Water Entitlement means a water Entitlement which has been permanently transferred by a Licence Holder in a river valley or state to a Licence Holder in another river valley or state.

Type A Consent Transactions means Consent Transactions of a type set out in Table 12 that relate to:

- (a) a major utility;
- (b) a water supply authority;
- (c) a local water utility;
- (d) an irrigation corporation;
- (e) the Commonwealth, a State or Territory, a NSW Government agency or a state owned corporation under the *State Owned Corporations Act 1989* (NSW);
- (f) an activity where the applicant has been required to obtain any authority, lease or licence under the *Mining Act 1992* (NSW), the *Offshore Minerals Act 1999* (NSW), or the *Petroleum (Onshore) Act 1991* (NSW) or any permit or licence under the *Petroleum (Offshore) Act 1982* (NSW);
- (g) a development which has been:
 - (1) declared a State Significant Development section 4.36 of the *Environmental Planning and Assessment Act 1979* (NSW) or under a State environmental planning policy;

- (2) declared State Significant Infrastructure under section 5.12 of the *Environmental Planning and Assessment Act 1979* (NSW) or under a State environmental planning policy; or
- (3) approved under the now repealed Part 3A of the *Environmental Planning and Assessment Act 1979* (NSW); or
- (h) a controlled activity approval;
- (i) an aquifer interference approval;
- (j) a floodplain harvesting licence and associated works approval; or
- (k) an Aboriginal commercial, Aboriginal community development, Aboriginal cultural or Aboriginal environmental subcategory of access licence.

Type B Consent Transactions means Consent Transactions of a type set out in Table 12 other than Type A Consent Transactions.

Unregulated River means a River that is not a Regulated River.

Unregulated River (Regulated Supply) Access Licence means a licence referred to in clauses 4(1)(l) or 4(1)(m) of the Water Management Regulation.

Unregulated River (Regulated Supply – Local Water Utility) Access Licence means a licence referred to in clause 4(1)(k) of the Water Management Regulation.

Unregulated River (Special Additional High Flow) Access Licence means a licence referred to in clause 4(1)(h) of the Water Management Regulation.

User Meter means a mechanical, electromagnetic or similar apparatus where:

- (a) the apparatus is not a WAMC Meter; and
- (b) one of the following applies:
 - (1) the apparatus complies with the national water meter standards developed under the National Water Initiative; or
 - (2) the apparatus complies with the NSW Government metering standards applicable to it from time to time; or
 - (3) the apparatus:
 - (A) accurately measures and records the amount of water taken by a Licence Holder and is manufactured for that purpose; and
 - (B) is installed appropriately on or near a Licence Holder's off-take point or points from an Unregulated River or Groundwater; and
- (c) WAMC is notified in writing, prior to the commencement of the year for which an annual charge is calculated, of:
 - (1) the existence and specifications of the apparatus;
 - (2) the manufacturer and model of the apparatus; and
 - (3) a description of the location and installation of the apparatus.

Voluntary Telemetric Meter means a meter that operates in respect of a person to whom Schedule 5 applies that uses telemetry and is not required under the Metering Requirements to use telemetry.

[Note: For the avoidance of doubt, a meter that is subject to a temporary exemption from the Metering Requirements under the Water Management Regulation is not a Voluntary Telemetric Meter.]

WA Licence means any licence, permit or authority under Part 2 or Part 9 of the Water Act, to the extent that it authorises the taking of water.

WAMC means the Water Administration Ministerial Corporation established under section 371 of the Water Management Act, and which is a continuation of, and the same legal entity as, WAMC of that name constituted by the *Water Administration Act 1986* (NSW) (by virtue of clause 17 of Schedule 9 of the Water Management Act).

WAMC Meter means a meter that is installed by or on behalf of WAMC.

Water Act means the *Water Act 1912* (NSW).

Water Licence means a WMA Licence or a WA Licence.

Water Management Act means the *Water Management Act 2000* (NSW).

Water Management Regulation means the *Water Management (General) Regulation 2018* (NSW).

Water NSW means the statutory corporation constituted under the *Water NSW Act 2014* (NSW).

Water Sharing Plan means the water sharing provisions of a management plan for a water management area or water source under the Water Management Act.

Water Supply (Critical Needs) Authorisation Assessment means an assessment of an application under section 8(2) of the *Water Supply (Critical Needs) Act 2019* (NSW).

Water Supply Work has the meaning given to that term in the Water Management Act.

Water Supply Work Approval has the meaning given to that term in section 90 of the Water Management Act.

WMA Licence means an access licence referred to in section 57 of the Water Management Act.

1.2 Consumer Price Index

(a) **CPI** means the consumer price index All Groups index number for the weighted average of eight capital cities, published by the Australian Bureau of Statistics, or if the Australian Bureau of Statistics does not or ceases to publish the index, then CPI will mean an index determined by IPART.

(b) In this determination:

$$CPI_1 = \frac{CPI_{March2022}}{CPI_{March2021}}$$

$$CPI_2 = \frac{CPI_{March2023}}{CPI_{March2021}}$$

$$CPI_3 = \frac{CPI_{March2024}}{CPI_{March2021}}$$

where:

$CPI_{March2021}$ means CPI for the March quarter of 2021;

CPI_{March2022} means CPI for the March quarter of 2022;

CPI_{March2023} means CPI for the March quarter of 2023; and

CPI_{March2024} means CPI for the March quarter of 2024.

2 Interpretation

2.1 General provisions

In this determination, unless the contrary intention appears:

- (a) headings are for convenience only and do not affect the interpretation of this determination;
- (b) a reference to a Schedule, clause, paragraph or table is a reference to a Schedule, clause, paragraph or table of, or to, this determination unless otherwise indicated;
- (c) a construction that would promote the purpose or object expressly or impliedly underlying the IPART Act is to be preferred to a construction that would not promote that purpose or object;
- (d) words importing the singular include the plural and vice versa;
- (e) a reference to a law or statute includes regulations, rules, codes and other instruments under it and consolidations, amendments, re-enactments or replacements of them;
- (f) a reference to a Licence Holder's water take includes use, extraction, trade, sale or gift by that Licence Holder;
- (g) where a word is defined, other grammatical forms of that word have a corresponding meaning;
- (h) a reference to a day is to a calendar day;
- (i) a reference to a year is to a period beginning on 1 July and ending on the following 30 June;
- (j) a reference to a person includes a reference to the person's executors, administrators, successors, substitutes (including, but not limited to, persons taking by novation), replacements and assigns;
- (k) a reference to an officer includes a reference to the officer who replaces him or her, or who substantially succeeds to his or her powers or functions; and
- (l) a reference to a body, whether statutory or not:
 - (1) which ceases to exist; or
 - (2) whose powers or functions are transferred to another body,is a reference to the body which replaces it or which substantially succeeds to its powers or functions.

2.2 Explanatory notes, examples and clarification notice

- (a) Explanatory notes, examples and alternate text do not form part of this determination, but in the case of uncertainty may be relied on for interpretation purposes.
- (b) IPART may publish a clarification notice in the NSW Government Gazette to correct any manifest error in or to clarify any part of this determination. Such a clarification notice, on publication, is taken to form part of this determination.

2.3 Maximum prices exclusive of GST

Maximum prices set out in this determination do not include GST.

For the avoidance of doubt, where GST is lawfully applied to maximum prices set out in this determination, the resulting GST inclusive price is consistent with this determination.

2.4 Rounding rule

- (a) Subject to paragraph 2.4(b) and 2.4(c), each component of a maximum price calculated in accordance with this determination is to be rounded to the nearest whole cent.

[Note: For example, if a maximum price for a customer for a service of Schedule 1 consisted of an entitlement charge, a water take charge, an MDBA entitlement charge and a MDBA water take charge, each of those four charges would be rounded separately.]
- (b) For the avoidance of any doubt, charges which under this determination are multiplied by entitlements or water take are to be rounded first, before that multiplication is done.
- (c) A charge set out in any of Tables 7, 7(a), 11, 19 and 19(a) for the years 1 July 2022 to 30 June 2023, 1 July 2023 to 30 June 2024 or 1 July 2024 to 30 June 2025 is to be rounded as follows:
 - (1) Step 1: Round the result of the first multiplication;
 - (2) Step 2: Round the result of the second multiplication; and
 - (3) Step 3: Add the results of step 1 and step 2 together.

[Note: For example, take the charge in Table 7 for the Border Valley for the year 1 July 2022 to 30 June 2023: $(0.79 \times CPI_1) + (3.66 \times CPI_1)$. Under Step 1, multiply 0.79 by CPI_1 , then round the result. Under Step 2, multiply 3.66 by CPI_1 , then round the result. Under step 3, add the results of Steps 1 and 2 together, but do not round any further.]

- (d) For the purposes of rounding a number under clauses 2.4(a), (b) and (c) any amount that is a multiple of 0.5 cents (but not a multiple of 1 cent) is to be rounded up to the nearest whole cent.
- (e) CPI_1 , CPI_2 and CPI_3 calculated under clause 1.2(b) are to be rounded to three decimal places before adjusting a maximum price for inflation.

- (f) For the purposes of rounding CPI_1 , CPI_2 and CPI_3 under clause 2.4(d), any amount that is a multiple of 0.0005 (but not a multiple of 0.001) is to be rounded up to three decimal places.

2.5 Billing cycle

For the avoidance of doubt, nothing in this determination affects when WAMC may issue a bill to a customer for prices or charges under this determination.

2.6 Annual charges and pro-rating

- (a) The annual charges in this determination apply to each year (1 July to 30 June inclusive) or part of a year from the Commencement Date and to 30 June 2025 or the date that this determination is replaced (including where the determination applies beyond 30 June 2025).
- (b) In respect of any period after the Commencement Date that is less than a full year, the annual charges in this determination (other than those calculated by reference to water take) will be pro-rated for that period, based on the proportion that the number of days in that period bears to the number of days in the year.

[Note: For example, if this determination commences on 1 October 2021 the annual charges in this determination will be pro-rated based on the number of days in the period from 1 October 2021 to 30 June 2022 as a proportion of the total number of days in the financial year from 1 July 2021 to 30 June 2022. The annual charges for the period from 1 July 2021 to 30 September 2021, will be determined under the 2016 Determination and pro-rated in accordance with that determination.]

- (c) Different annual charges apply to Government-Owned Meters and Privately-Owned Meters. Where a person switches from a Government-Owned Meter to a Privately-Owned Meter (or vice versa), the annual charges will be pro-rated based on the proportion of days in the year that the person had a:
 - (1) Government-Owned Meter installed; and
 - (2) Privately-Owned Meter installed.
- (d) Different annual charges apply to meters that are read using telemetry and meters that are not read using telemetry. Where a person switches from a meter read using telemetry to one that is not read using telemetry (or vice versa), the annual charges will be pro-rated based on the proportion of days in the year that the person had a meter installed that was:
 - (1) read using telemetry; and
 - (2) not read using telemetry.

[Note: Clause 2.6 is not intended to prohibit WAMC from issuing a bill for any period before the Commencement Date.]

2.7 Entitlement charges

- (a) A reference to an entitlement charge is a reference to an entitlement charge specified in a Water Licence without regard to any part of the Entitlement that may be carried over from a previous year.

- (b) A reference to an entitlement charge:
- (1) expressed in dollars per megalitre of Entitlement is a reference to a charge expressed in dollars per megalitre in respect of an Entitlement that a WA Licence or a WMA Licence confers on the Licence Holder in a year; and
 - (2) expressed in dollars per unit share is a reference to a charge so expressed in respect of a WMA Licence that has a share component that is expressed in unit shares.

2.8 Metering of water take charges for Irrigation Corporations

For the avoidance of doubt, the metering of water take charges for the supply of water to an Irrigation Corporation from a Regulated River is to be determined at the point or points of off-take from the Regulated River or as set out in that Irrigation Corporation's Water Supply Work Approval.

2.9 River valleys

- (a) In this determination, a reference to a river valley is a reference to the relevant river valley more fully described in the following table, and for the avoidance of any doubt includes any associated floodplains.

| River Valley | Description |
|-------------------------|--|
| Regulated Rivers | |
| Border | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Border Rivers including the Severn, the Macintyre and Dumaresq rivers down to Mungindi. |
| Gwydir | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Gwydir River and Gwydir Wetlands, Mehi river, Gil Creek and Moomin Creek to the junction with the Barwon River. |
| Namoi | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Namoi River to Peel River and Pian Creek to Barwon River. |
| Peel | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Peel River to junction with Namoi River. |
| Lachlan | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Lachlan and Belubula River to the Murrumbidgee River junction. |
| Macquarie | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Macquarie River, the Cudgegong and Bogan rivers to junction with Darling River. |
| Murray | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Murray River including the Darling River below Menindee. |
| Murrumbidgee | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Murrumbidgee River to junction with Murray River, including Yanco, Colombo and Billabong Creeks and Tumut River. |
| North Coast | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Regulated flows for Iron Pot and Eden Creeks. |

| River Valley | Description |
|--------------|--|
| Hunter | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Hunter River, including Paterson River and Glennies Creek. |
| South Coast | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Brogo and Bega River Catchments. |

Unregulated Rivers

| | |
|--------------|--|
| Border | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Unregulated Rivers in the Border Rivers Catchment. |
| Gwydir | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Unregulated Rivers in the Gwydir River Catchment. |
| Namoi | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Unregulated Rivers in the Namoi River Catchment. |
| Peel | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Unregulated Rivers in the Peel River Catchment. |
| Lachlan | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Unregulated Rivers in the Lachlan River Catchment. |
| Macquarie | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Unregulated Rivers in the Macquarie, Castlereagh and Bogan River Catchments including the Bogan River above Murrawombie Road. |
| Far West | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Barwon-Darling from Mungindi to Menindee including Bogan River below Murrawombie Road, and those rivers west of Barwon-Darling River which originate in Queensland and minor Unregulated Rivers in the Western Division not in other valleys. |
| Murray | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Unregulated Rivers in the Murray River Catchment, including Billabong Creek. |
| Murrumbidgee | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Unregulated Rivers in the Murrumbidgee River Catchment. |
| North Coast | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Unregulated Rivers east of the Great Dividing Range from Queensland to the Hastings River Catchment. |
| Hunter | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Unregulated Rivers in the Hunter Region, including the Manning, Karuah and Williams Rivers. |
| South Coast | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Shoalhaven, Woronora, Warragamba and Hawkesbury/Nepean River Catchments, Lake Illawarra, Sydney City including Georges River and Port Jackson, Clyde, Moruya, Tuross, Towamba and Bega River Catchments, NSW portions of Genoa and Snowy River Catchments. |

Groundwater

| | |
|--------|---|
| Border | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Largely riverine aquifers in the Border Rivers Catchments including the Border Rivers Alluvium, the Inverell Basalt and the Great Artesian Basin. |
|--------|---|

| River Valley | Description |
|--------------|---|
| Gwydir | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Largely riverine aquifers in the Gwydir River Catchment including the Lower Gwydir Alluvium and the Great Artesian Basin. |
| Namoi | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Largely riverine aquifers in the Namoi River Catchment including the Upper and Lower Namoi Alluvium, the Great Artesian Basin and the Gunnedah Basin. |
| Peel | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Largely riverine aquifers in the Peel River Catchment including the Peel Valley Alluvium and Fractured Rock. |
| Lachlan | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Largely riverine aquifers in the Lachlan River Catchment including the Upper and Lower Lachlan Alluvium, Belubula Valley Alluvium, the Great Artesian Basin, Young Granite, Orange Basalt and the Central West Fractured Rocks. |
| Macquarie | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Largely riverine aquifers in the Macquarie, Castlereagh and Bogan River Catchments including the Upper and Lower Macquarie Alluvium, the Cudgegong Valley Alluvium, the Collaburrangundry Talbragar Valley, the Great Artesian Basin, Mudgee and Molong Limestone. |
| Far West | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: The Great Artesian Basin Aquifer and minor aquifers in the Western Division. |
| Murray | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Aquifers in the Murray River Catchment. |
| Murrumbidgee | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Aquifers in the Murrumbidgee River Catchment including the Lower Murrumbidgee Alluvium, Mid Murrumbidgee Alluvium and the Billabong Creek Alluvium. |
| North Coast | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Aquifers east of the Great Dividing Range from Queensland to the Hastings River Catchment including the Richmond River Alluvium, Richmond Coastal Sandbeds, Coffs Harbour Coastal Sands and Alluvium, Alstonville Basalt, Dorrigo Basalt, Clarence Moreton Basin, Hastings Coastal Sands, Hastings River Alluvium, Macleay River Alluvium, Bellingen Coastal Sandbeds and Viney Creek Alluvium. |
| Hunter | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Aquifers in the Hunter Region, including the Manning and Karuah River Catchments including Tomago-Tomaree Sandbeds, Stuarts Points and Tributaries Alluvium, the Pages River Alluvium, Goulburn River Alluvium, Mangrove Mountain Sandstone and Wollombi Brook Alluvium. |
| South Coast | If a Water Sharing Plan under the Water Management Act is in place, then the water sources as defined in that plan. In any other case: Aquifers east of the Great Dividing Range from the NSW central coast to Victoria including Botany Sandbeds, Bega River Alluvium, Sydney Basin, Coxs River Sandstone and Fractured Rock, Blue Mountains Richmond Sandstone, Araluen Alluvium and Maroota Tertiary Sands. |

- (b) A reference in this determination to the 'relevant river valley' (other than in the case of the water take component of a licence) is a reference to the river valley for a Licence Holder as set out in the Licence Register. In the case of the water take component of a licence, the 'relevant river valley' is the river valley from which water is taken unless the water take component relates to a Tagged Water Entitlement (in which case, the

relevant river valley is the river valley for a Licence Holder as set out in the Licence Register).



Review of prices for the Water
Administration Ministerial Corporation
from 1 October 2021 to 30 June 2025

Final Report

September 2021

Water >>

Tribunal Members

The Tribunal members for this review are:

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The Independent Pricing and Regulatory Tribunal (IPART)

We make the people of NSW better off through independent decisions and advice. IPART's independence is underpinned by an Act of Parliament. Further information on IPART can be obtained from [IPART's website](#).

Acknowledgment of country

IPART acknowledges the Traditional Custodians of the lands where we work and live. We pay respect to Elders, past, present and emerging. We recognise the unique cultural and spiritual relationship and celebrate the contributions of First Nations peoples.

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Chapter 1 >>

Executive Summary

01

The Independent Pricing and Regulatory Tribunal of NSW (IPART) has completed its review of the maximum prices the Water Administration Ministerial Corporation (WAMC) can charge holders of water access licences in NSW regulated river, unregulated river and groundwater systems (water users).

WAMC is the entity responsible for water resource management in NSW. This includes developing plans for sharing water between users and the environment, administering water licences and allocations, and ensuring compliance with water laws and licences.

Effective management of water is important to ensure this scarce resource is used sustainably, and thus continues to support the health of the environment, the wellbeing of communities, and the security, reliability and value of water users' entitlements in NSW. Effective management will become increasingly critical and challenging in the coming decades, as the climate continues to change.

The prices WAMC charges water users aim to recover a share of the costs incurred in providing its water management functions and monopoly services. The remaining share of these costs is funded by the NSW Government on behalf of the community. WAMC's charges include:

- **Water management charges**, which aim to recover water users' share of the costs of WAMC's water planning, regulation, licensing, compliance, enforcement, customer service and other activities. They also aim to recover users' share of the funds NSW contributes to the cross-jurisdictional water management agencies, the Murray–Darling Basin Authority (MDBA) and the Dumaresq–Barwon Border Rivers Commission (BRC).
- **Consent transaction charges**, which are fee-for-service charges set to recover the administrative costs of issuing or amending water access licences, water allocation assignments and works approvals.
- **Metering charges**, including metering service charges, water take assessment charges, and meter testing and verification charges. These fee-for-service charges are set to recover the cost of maintaining and reading water meters, and of testing or verifying the accuracy of meters.

We completed our review of these prices and made decisions on the prices to apply from 1 October 2021 to 30 June 2025 (2021 determination period). This report outlines these decisions and explains how and why we reached them.

1.1 Price rises are necessary to support sustainable improvements in water management services

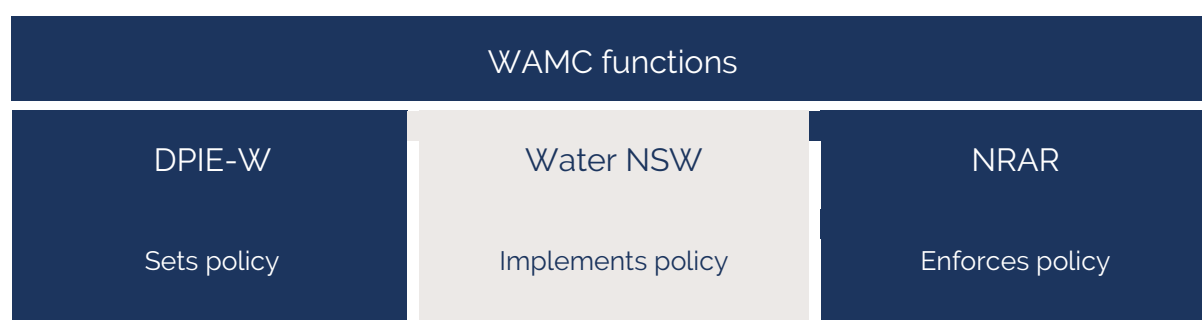
Since the 2016 review of WAMC's prices, the NSW Government has changed the legislative framework and structure of the water regulator and government agencies to improve water management arrangements across the state. The reforms respond to the recommendations of several independent inquiries. The inquiries identified historical underperformance in key areas including in the compliance and enforcement of water laws, management of environmental water, measurement of water take, and strategic water planning.¹

WAMC has already taken several steps to respond to the reforms and lift its performance in these areas, including establishing the Natural Resources Access Regulator (NRAR) in late 2017. WAMC's June 2020 pricing proposal outlined its plans to further improve its performance, transparency and accountability in response to feedback from water users.

Our review found additional investment in key areas is necessary to enable WAMC to lift its performance and provide a more sustainable, reliable water resource management system going forward. In particular, it is critical for WAMC to undertake comprehensive long-term planning and implement a robust compliance and enforcement framework. We expect WAMC to use this additional investment to achieve these outcomes over the 2021 determination period.

This investment will be largely funded by the NSW Government. However, as the efficient costs of providing WAMC services are increasing, water users will need to make a greater contribution through higher prices. WAMC's prices will transition towards the levels required to fully recover users' share of efficient costs over time.

Under the new water management arrangements, WAMC's functions are delivered by 2 NSW Government agencies and a utility: the Department of Planning, Industry and Environment – Water (DPIE), NRAR, and Water NSW.



1.2 Prices are more transparent and more cost reflective

In setting prices, we:

- constrained the increase in WAMC's water management component charges to a maximum of 2.5% per year and a total of 10.4% from 2020–21 to 2024–25 (before inflation) for affordability reasons
- set separate MDBA and BRC charges to enhance transparency and ensure all water users pay their fair share of these costs

- set consent transaction and miscellaneous charges to recover the costs of providing these services.

1.2.1 WAMC's water management charges increase by 2.5% per year plus inflation

We set WAMC's water management component charges to transition towards the level required to fully recover water users' share of the efficient costs of WAMC's water management services. Some water sources will achieve full cost recovery over the 2021 determination period, while others will achieve full cost recovery over a number of determination periods.

This means we are constraining the increase in WAMC's water management component charges of bills to a 2.5% increase per year, or 10.4% from 2020–21 to 2024–25 (before inflation and excluding the MDBA and BRC charges).

However, water users' actual price and bill increases will vary, depending on their water source. This is because:

- We decided to increase WAMC's efficient costs since the 2016 Determination (which is driven by higher investment in its water management activities and its corporate support systems, discussed in section 1.4). Under the WAMC proposal, water management charges would have risen by around 5% per year.²
- We decided to generally maintain the cost shares set by our 2019 review of rural water cost shares.³ During this review we examined each of WAMC's 33 activities to understand who was creating the need for the activities (and therefore who should incur the costs through revised cost shares). As a result, 77.9% of the total notional revenue requirement (NRR) is being allocated to water users, compared with 72.3% in the 2016 review of WAMC prices.
- We largely accepted WAMC's proposal to change some of the cost drivers since the 2016 Determination. We are moving to using volume of entitlements as a cost driver for several WAMC activities, as we consider it is more cost reflective than the existing drivers or alternative options.
- We accepted changes to forecasts of entitlements and water take volumes since the 2016 Determination as proposed by WAMC. Some water sources are forecast to have similar entitlements and water take volumes, which means prices will increase where the efficient costs allocated to these sources are higher. However, some water sources are forecast to have higher entitlements and water take volume, which partially offset the impact of these cost increases on prices.
- The level of current cost recovery varies for each water source. Current prices in some water sources are already close to the updated full cost recovery prices calculated in this review. This means prices in these water sources need to increase by less (and in some cases need to decline) in order to achieve full cost recovery going forward.

In section 1.2.3, we show total charges applicable for each water source from 1 October 2021. In addition, section 1.3 provides further information on bill impacts.

1.2.2 MDBA and BRC charges set separately at full cost recovery

In previous determinations, the costs of funding MDBA and BRC activities were bundled with the costs of providing WAMC's water management services and recovered through water management charges. As a result, these costs were not transparent to water users. In addition, small water users who paid the minimum water management charge did not contribute to MDBA and BRC costs.

To improve transparency and equity, we decided to unbundle these costs and set separate MDBA and BRC charges (Chapter 10 discusses the breakdown of charges). These charges will apply to all water users in NSW's sections of the Murray-Darling Basin and Border Rivers systems. We set MDBA and BRC charges to recover water users' share of the full efficient MDBA and BRC costs from 1 October 2021.

1.2.3 Total charges will broadly increase for most water sources

Based on our decisions to transition or set prices at full cost recovery, total charges will decline by up to 15% in 3 water sources, increase by up to 10% in 5 water sources and increase by more than 10% in 19 water sources, before inflation, from 2020–21 to 2024–25 (Table 1.1).

Table 1.1 Total entitlement and water take charges (\$/ML, \$2021–22)

| Water sources | 2020–21 current (\$2020–21) | 2021–22 | 2022–23 | 2023–24 | 2024–25 | % change from current to 2024–25 |
|---------------------------|-----------------------------------|---------|---------|---------|---------|---|
| Regulated rivers | | | | | | |
| Border | 4.06 | 5.89 | 5.97 | 6.05 | 6.14 | 51% |
| Gwydir | 3.03 | 3.59 | 3.65 | 3.71 | 3.78 | 25% |
| Namoi | 4.57 | 4.67 | 4.67 | 4.67 | 4.67 | 2% |
| Peel | 7.43 | 8.14 | 8.33 | 8.52 | 8.52 | 15% |
| Lachlan | 3.35 | 3.51 | 3.59 | 3.65 | 3.73 | 11% |
| Macquarie | 3.56 | 3.74 | 3.82 | 3.89 | 3.97 | 12% |
| Murray | 2.64 | 2.83 | 2.87 | 2.92 | 2.97 | 13% |
| Murrumbidgee | 2.35 | 2.58 | 2.63 | 2.67 | 2.72 | 16% |
| North Coast | 10.09 | 10.45 | 10.71 | 10.98 | 11.25 | 12% |
| Hunter | 5.26 | 5.45 | 5.59 | 5.73 | 5.87 | 12% |
| South Coast | 8.66 | 8.98 | 9.20 | 9.43 | 9.66 | 12% |
| Unregulated rivers | | | | | | |
| Border | 4.78 | 4.68 | 4.79 | 4.90 | 5.02 | 5% |
| Gwydir | 4.78 | 4.68 | 4.79 | 4.90 | 5.02 | 5% |
| Namoi | 4.78 | 4.68 | 4.79 | 4.90 | 5.02 | 5% |
| Peel | 4.78 | 4.68 | 4.79 | 4.90 | 5.02 | 5% |
| Lachlan | 5.60 | 5.79 | 5.93 | 6.08 | 6.22 | 11% |
| Macquarie | 5.60 | 5.79 | 5.93 | 6.08 | 6.22 | 11% |
| Far West | 6.66 | 8.09 | 8.09 | 8.09 | 8.09 | 22% |
| Murray | 6.85 | 7.29 | 7.46 | 7.64 | 7.81 | 14% |

| Water sources | 2020–21 current (\$2020–21) | 2021–22 | 2022–23 | 2023–24 | 2024–25 | % change from current to 2024–25 |
|--------------------|-----------------------------------|---------|---------|---------|---------|---|
| Murrumbidgee | 9.08 | 9.47 | 9.70 | 9.94 | 10.18 | 12% |
| North Coast | 9.52 | 9.86 | 10.11 | 10.37 | 10.62 | 12% |
| Hunter | 3.43 | 3.56 | 3.64 | 3.73 | 3.82 | 11% |
| South Coast | 3.24 | 2.76 | 2.76 | 2.76 | 2.76 | -15% |
| Groundwater | | | | | | |
| Inland | 6.99 | 6.23 | 6.23 | 6.23 | 6.23 | -11% |
| Border | 6.99 | 6.66 | 6.66 | 6.66 | 6.66 | -5% |
| Murrumbidgee | 4.64 | 5.04 | 5.17 | 5.29 | 5.41 | 17% |
| Coastal | 5.05 | 5.24 | 5.36 | 5.50 | 5.64 | 12% |

Note: Total charges are the sum of entitlement and water take charges for WAMC's water management, MDBA and BRC charges for each water source. In addition, the percentage change includes the impact of inflation from 2020-21 to 2021-22. See Chapter 10 for breakdown of WAMC water management, MDBA and BRC charges.

Source: IPART analysis.

1.2.4 Consent transaction charges are set at cost-reflective levels

From 1 October 2021 most consent transaction charges are higher than the current 2020–21 charges. This increase is because the 2016 Determination was based on a lower forecast number of consent transactions and some charges did not reflect the full efficient costs required to deliver these services.

We adopted WAMC's proposed consent transaction charges subject to a 20% efficiency adjustment. This decision reflects our view that there are considerable efficiencies that can be realised over the 2021 determination period. For the next determination period we encourage WAMC to improve its stakeholder engagement to test affordability and willingness to pay and ensure its consent transaction charges represents an informed trade-off between service delivery and cost.

We also set new consent transaction charges for Water Supply (Critical Needs) assessments.

1.3 Annual bill impacts are expected to be relatively modest

The impact of our water management, MDBA and BRC charges on annual bills for typical water users^a ranges from a decrease of \$290 to an increase of \$610 in 2021–22. We consider them relatively modest in dollar terms and will depend on the water source:

- For regulated water sources, bills for most water sources will increase by up to \$250 in 2021–22. However, in Border bills rise by around \$610.
- For unregulated water sources, bills increase by up to \$460 for 4 water sources and decrease by up to \$240 for the remaining 8 water sources.

^a We defined a typical water user as one who holds 500 ML of entitlements, uses 60% of this volume per year, and are on 2-part tariffs.

- For groundwater sources, bills in the Border and Inland regions decrease by up to \$165 for those on a 2-part tariff. In the Murrumbidgee and Coastal regions, they increase by around \$185 and \$50 respectively, for those on a 2-part tariff.
- For most small water users paying the minimum annual charge (MAC), bills increase by up to \$40. For those closer to the MAC threshold and in regions where MDBA or BRC charges apply, they increase by up to \$135 because these charges are now separately levied on all users in these regions.

Table 1.2 shows the percentage change in typical water user bills for different water sources and tariff types between 2020–21 and 2024–25.

Table 1.2 Change in typical water user bills from 2020–21 to 2024–25

| Water source | Regulated water users (2-part tariff) | Unregulated water users on 2-part tariff | Groundwater users on 2-part tariff | Unregulated water users on bills 1-part tariff | Groundwater users on bills 1-part tariff |
|--------------|---------------------------------------|--|------------------------------------|--|--|
| Border | 55% | -11% | -1% | 5% | -5% |
| Gwydir | 25% | -11% | N/A | 5% | N/A |
| Namoi | 2% | -11% | N/A | 5% | N/A |
| Peel | 17% | -11% | N/A | 5% | N/A |
| Lachlan | 10% | 4% | N/A | 11% | N/A |
| Macquarie | 12% | 4% | N/A | 11% | N/A |
| Far West | N/A | 22% | N/A | 22% | N/A |
| Murray | 14% | 5% | N/A | 14% | N/A |
| Murrumbidgee | 17% | 9% | 21% | 12% | 17% |
| North Coast | 14% | 10% | N/A | 12% | N/A |
| Hunter | 12% | 10% | N/A | 11% | N/A |
| South Coast | 12% | -13% | N/A | -15% | N/A |
| Inland | N/A | N/A | -8% | N/A | -11% |
| Coastal | N/A | N/A | 11% | N/A | 12% |

Source: IPART analysis.

1.4 We made considerable reductions to proposed costs, however efficient costs are increasing

WAMC's total NRR over the 2021 determination period is \$290.4 million (inclusive of MDBA and BRC costs). We increased the total operating expenditure allowance by \$13.6 million (6.8%), and capital expenditure allowance by \$20.6 million (140.3%). The increase in operating expenditure is for WAMC to provide higher levels of service in a number of water management activities. The significant increase for capital expenditure is to provide additional investment for corporate support systems that were not previously included in the allowance for the 2016 determination period.

Although WAMC's efficient costs have increased, they are considerably lower than WAMC's proposed costs for the 2021 determination period. The efficient operating expenditure is around \$63.3 million (22.8%) lower than WAMC's proposal, and the efficient capital expenditure is around \$6.7 million (16.0%) lower than WAMC's proposal (Table 1.3).

Table 1.3 WAMC's proposal and IPART's decision on expenditure for the 2021 determination period (\$ million, \$2020–21)

| | Operating expenditure | Capital expenditure |
|-----------------|-----------------------|---------------------|
| WAMC proposal | 277.6 | 42.1 |
| IPART decision | 214.3 | 35.3 |
| Difference (\$) | -63.3 | -6.7 |
| Difference (%) | -22.8% | -16.0% |

Note: This does not include proposed expenditure for consent transactions, metering and MDBA and BRC.
Source: IPART analysis.

For operating expenditure, our efficiency adjustments are for compliance and enforcement, regional water planning, customer management and a number of other water management activities. We reduced the compliance costs that users will pay by \$38.9 million (62.0%) compared with WAMC's proposal. However, we consider these costs are required in the short term to address historical compliance issues and should be paid for by the NSW Government. For capital expenditure, our efficiency adjustments are for Water NSW's corporate capital expenditure.

We consider our decisions deliver efficiency benefits to WAMC and water users. We applied different annual catch-up efficiency adjustments ranging from 0% to 2.1% cumulative for different WAMC agencies. This approach recognises the relative improvements each agency could make to its business processes to bring it closer to how an efficient utility operates. We did not apply any catch-up efficiency on some activities to recognise the efficiency challenges proposed by the WAMC agencies. We also applied a continuing efficiency adjustment of 0.7% per year to incentivise continuous productivity improvement.

Chapters 3 and 4 identify key areas where WAMC can make material improvements to achieve our recommended efficiency savings. By improving its processes, WAMC would obtain better quality information to improve the delivery of its water management services to users. This information will also assist IPART by having a greater level of precision in assessing both the efficient levels of expenditure and the services delivered to users. It would also improve the transparency to customers of the programs, projects and assets funded through WAMC's water management charges.

We consider there is potential for WAMC to further improve its stakeholder engagement. Although WAMC consulted with water users on what levels of service they would like it to deliver, further consultation is required to understand their willingness to pay for these service levels. Effective consultation allows customers to understand and comment on the trade-off between service, cost and risk. We would like to see the outcomes of such stakeholder engagement incorporated into future price submissions to IPART.

1.5 The user share of efficient costs has increased

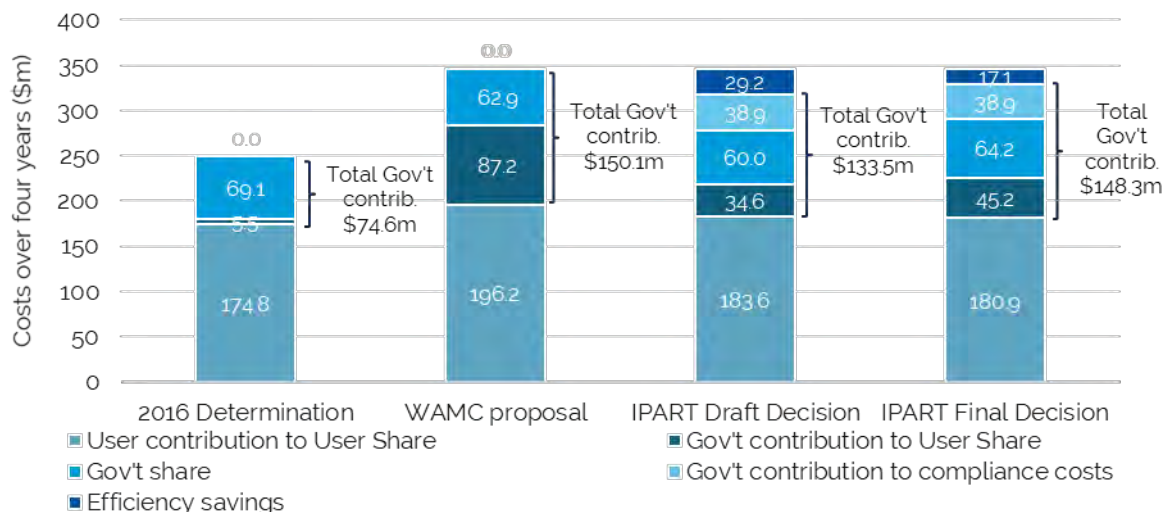
In sharing WAMC's efficient costs between water users and the NSW Government, we applied the updated cost share ratios determined in our 2019 review of rural water cost shares.⁴ The user share is 77.9%, which represents a contribution of \$226.2 million over the 2021 determination period.

1.6 The NSW Government will need to contribute \$148 million

Total prices and bills will be higher for most (but not all) water users compared with 2020–21 prices. However, while prices in some water sources will achieve full cost recovery over the 2021 determination period, the prices will not recover the full user share of efficient costs across all water sources. This is because we want to achieve a balance between setting prices that recover WAMC's efficient costs and mitigating bill impacts on water users. We achieved this balance by transitioning prices towards full cost recovery.

As a result, we expect water users' contribution to fall short of the allocated full cost recovery amount by \$45.2 million. The NSW Government will need to fund this shortfall, as well as fund the Government share of the efficient costs (i.e. \$64.2 million) and contribution to additional compliance costs (i.e. \$38.9 million). This approach results in total NSW Government contributions of \$148.3 million over the 2021 determination period (Figure 1.1).

Figure 1.1 Water user and NSW Government contributions (\$ million, \$2020–21)



Source: WAMC, Pricing proposal to IPART, June 2020; and IPART analysis.

Total NSW Government contributions over the 2021 determination period have increased by \$73.7 million since the 2016 Determination:

- \$39 million of compliance costs to address historical compliance issues will be paid for by the NSW Government.
- \$40 million of higher government contributions to fund the revenue shortfall from water users based on how we set prices over the 2021 determination period.
- These additional contributions are offset by a \$4.9 million lower government share of NRR. Since the 2016 Determination, we reviewed the government and user share of WAMC's NRR or efficient costs. Overall, this approach results in lower government share and higher user share of NRR since our last review.

1.7 Metering reforms means new metering charges are needed

In response to the Matthews review⁵ on improving water resource management, Water NSW is implementing a range of non-urban metering reforms. Improving the standard and coverage of water meters in regional and rural NSW is important. It will protect water users' entitlements and build confidence that our increasingly scarce water resources are managed in a fair and equitable way.

We decided to introduce five new charges for Water NSW to recover the efficient costs of implementing the NSW Government's non-urban metering reforms:

- A 'scheme management charge' would apply as an annual fee to all licensed customers (\$/licence).
- A 'telemetry charge' would apply as an annual fee per metering installation for customers that use telemetry (\$/meter).
- A 'non-telemetry charge' would apply as an annual fee per metering installation for customers that do not use telemetry capacity (\$/meter).
- Two additional charges would apply to customers with government owned meters – 'meter service charge – operating costs' and 'meter service charge – capital costs'. These charges would be applied as an annual fee per metering installation (\$/meter).^b

We allocate the efficient costs of Water NSW's rural bulk water services and WAMC's water management costs between water customers and the NSW Government based on whichever party created the need for an activity (and its associated costs) to be incurred. We considered the underlying driver for metering reform is to protect the rights of water customers and therefore we set the metering charges to recover 100% of the efficient costs from customers.

Our decisions on the levels of non-urban metering charges, how they compare to Water NSW's proposal, and which charges are paid by customers with privately owned and government owned meters are set out in Table 1.4.

^b Customers with privately owned meters will not pay these charges because they will need to purchase and maintain a new or replacement meter themselves at their own expense.

Table 1.4 Final decisions on non-urban metering charges compared to Water NSW's proposals (\$/year, \$2021-22)

| | Charge (\$/year) Water NSW 2021 revised proposal | Charge (\$/year) IPART final decision | Privately owned meter | Government owned meter |
|--|--|---|--------------------------|---------------------------|
| Scheme management charge ^a | 79 | 73 | ✓ | ✓ |
| Telemetry charge ^a | 257 | 226 | ✓ | ✓ |
| Non-telemetry charge ^a | 257 | 226 | ✓ | ✓ |
| Meter service charge – operating costs ^{b, c} | 934 | 899 | ✗ | ✓ |
| Meter service charge – capital costs | 608 | 0 | ✗ | ✓ |

a. The scheme management charge, telemetry charge and non-telemetry charge will vary if more customers use telemetry. See Table 1.8 for further information.

b. Cost for telemetry/non-telemetry is not included in the 'meter service charge – operating costs' for government owned meters.

c. Customers with privately owned meters will not pay these charges because they will need to purchase and maintain a new or replacement meter themselves at their own expense.

Our decisions take account of the NSW and Australian Governments' suite of programs to support the uptake of metering and telemetry equipment. The NSW Government and Australian Government will each provide \$9 million in funding to deliver a telemetry rebate program across NSW. The rebate will automatically be applied as a one-off \$975 credit on a water bill when an eligible water user with a meter connects to the NSW Government's telemetry system. This will provide a financial incentive for metered non-urban water users to use telemetry to remotely transmit their water take information.

As part of our review, we found that the efficient costs to be recovered from the scheme management charge and telemetry charge decrease as more customers use telemetry. However, at this stage, it is unclear how many customers will use telemetry under the new program. We considered it important to set a charge structure that takes account of this uncertainty as well as providing an incentive for users to opt in to telemetry.

We therefore decided that the level of these charges should vary as the proportion of users that voluntarily opt in to telemetry increases, as set out Table 1.5. For example, the scheme management charge would be \$73 a year if there is 0% voluntary opt-in. However, this charge would reduce to \$51 a year if there is 75% or more voluntary opt-in.

Table 1.5 Final decisions on scheme management, telemetry and non-telemetry charges for different telemetry opt-in proportions (\$2021-22)

| Telemetry opt-in | Up to 24% | 25-49% | 50-74% | 75% or more |
|--------------------------|-----------|--------|--------|-------------|
| Scheme management charge | 73 | 66 | 59 | 51 |
| Telemetry charge | 226 | 209 | 191 | 182 |
| Non-telemetry charge | 226 | 219 | 219 | 219 |

Source: IPART using information provided by Water NSW and Cardno

Note: Telemetry gets progressively less expensive at even higher levels of telemetry opt-in, as fixed costs – such as IT systems – are spread over a greater number of water users. Non-telemetry costs do not vary as telemetry uptake increases.

Our decisions ensure that customers' metering charges reflect only those activities that are necessary, and customers pay only for the efficient costs of implementing the non-urban metering reforms. However, we acknowledge that these new charges will increase customer's bills, particularly for customers with government owned meters and relatively smaller entitlement and usage volumes.

The NSW Government has recognised these impacts and is providing funding of \$14.6 million to Water NSW to cover the capital costs of upgrading government owned meters. The aim of the funding is to ensure that the costs of bringing these meters into compliance with the non-urban metering rules is not borne by users. We therefore decided to set a 'meter service charge – capital costs' of \$0 a year for the 2021 determination period.

In addition, the one-off telemetry rebate will apply to customers that upgrade their meters to use telemetry. This scheme will also mitigate the impact of the non-urban metering reforms on water users and accelerate the uptake of telemetry in NSW, increasing transparency of water take, supporting on-farm management, and positioning NSW to better deliver efficiencies in water management.

1.8 We consulted extensively with stakeholders

This review commenced on 30 June 2020 when WAMC submitted its pricing proposals to IPART. We conducted extensive consultation with WAMC and other stakeholders, including releasing an Issues Paper, a Draft Report and a Supplementary Report on metering, to which we invited written submissions and online feedback. In November 2020 and March 2021, we also held public hearings online. We took all stakeholder views into account in making our final decisions (Figure 1.2). WAMC's pricing proposals, our Issues Paper, Draft Report, Supplementary Report, stakeholder submissions and the public hearing transcript are available on our [website](#).

Figure 1.2 Timetable for this review



1.9 Cost and price structures can be improved in future reviews

WAMC's cost allocation methodology and price structures are complex. Prices are determined by an indirect cost allocation process (using cost drivers), rather than direct attribution of costs.

There are advantages and disadvantages of undertaking this cost allocation methodology. This allocation process could allow prices to be more cost reflective for each water source. However,

it may not be materially more cost reflective given the inherent uncertainty associated with the cost allocation methodology. It could also be unnecessarily complex and costly to administer.

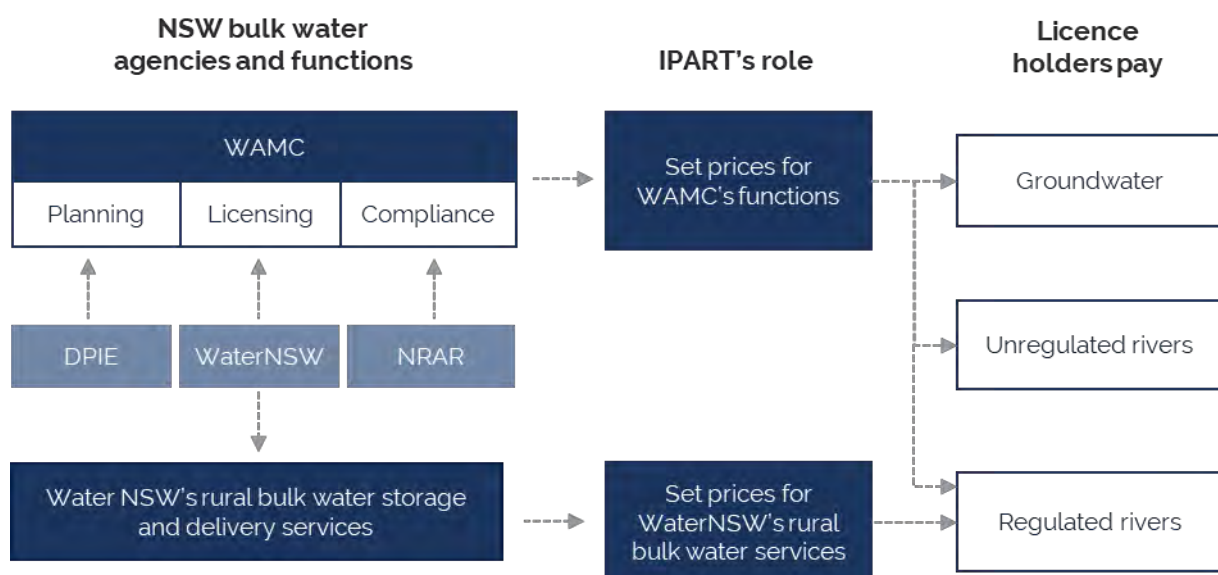
We encourage WAMC to consider this issue further over the 2021 determination period and in the lead up to the next determination. Issues to consider include whether WAMC can move towards greater direct cost attribution, whether the cost drivers used to allocate costs between water sources can be improved, and whether there would be merit in moving towards more aggregated and less complex pricing arrangements in the future. We encourage WAMC to investigate these issues and consult with stakeholders on potential options and impacts of these options on prices.

1.10 We completed our review of Water NSW's rural bulk water prices

Concurrent with this review of WAMC's prices, we completed our review of maximum prices for Water NSW's services in rural valleys. Water users in regulated water sources also pay Water NSW's rural bulk water prices. Our Final Report on Water NSW's rural bulk water prices is available on our [website](#).

Figure 1.3 illustrates how the NSW water agencies (i.e. DPIE, Water NSW and NRAR) contribute towards WAMC functions and Water NSW's services, how IPART sets prices for WAMC functions and Water NSW's services, and how WAMC prices apply to all water users (i.e. groundwater, unregulated rivers and regulated rivers), while Water NSW's rural prices apply only to water users on regulated rivers.

Figure 1.3 Overview of WAMC and Water NSW relationships and our role in setting prices



1.11 Structure of this report

The rest of this report provides more information on this review, our approach and our decisions:

Chapter

| | |
|----|--|
| 02 | discusses our decisions on the regulatory settings for the 2021 determination period, including the length of this period and our approach for price setting |
| 03 | explain our decisions on WAMC's operating expenditure allowances |
| 04 | explain our decisions on WAMC's capital expenditure which informs capital allowances |
| 05 | focuses on our decisions on MDBA and BRC costs |
| 06 | sets out our decisions on the other cost allowances and WAMC's total NRR |
| 07 | discusses our decisions on the cost share ratios and cost drivers for allocating costs across water sources |
| 08 | explains our decisions on the water entitlement and take forecasts we used to set prices |
| 09 | discusses our decisions on price structures for water management services |
| 10 | sets out the WAMC's water management charges and MDBA and BRC charges that result from our decisions on efficient costs, water entitlement and take forecasts and price structures |
| 11 | discusses how these decisions impact stakeholders, including water users, WAMC and the NSW Government |
| 12 | sets out our decisions on costs and charges for water consent transactions |
| 13 | sets out our decisions on existing metering charges. |
| 14 | sets out our decisions on non-urban metering reform charges |

1.12 List of decisions

| | | |
|-----|--|----|
| 1. | To adopt a 4-year determination period. | 28 |
| 2. | To delay the commencement of new prices until 1 October 2021. | 28 |
| 3. | To set maximum prices for WAMC services in each year of the determination period (a price cap). | 29 |
| 4. | To factor the costs of most of WAMC's proposed activities into prices for its monopoly services for the 2021 determination period. The exceptions are for: <ul style="list-style-type: none"> - W06-07 cross-border and national commitments (we excluded 25% of the intergovernmental activity costs) - coal seam gas bore monitoring (we excluded all of these costs) since they do not relate to the WAMC monopoly services which we regulate. | 32 |
| 5. | To set WAMC's total operating expenditure allowance for the 2021 determination period at \$214.3 million, as shown in Table 3.1. | 39 |
| 6. | For WAMC to report annually against the output measures and in accordance with the framework in the Output Measures Report, which will be published on IPART's website. | 51 |
| 7. | To set the efficient level of WAMC's past capital expenditure to be included in the regulatory asset base for the 2016 determination period as shown in Table 4.1. | 55 |
| 8. | To set the efficient level of WAMC's capital expenditure to be included in the regulatory asset base for the 2021 determination period as shown in Table 4.2. | 56 |
| 9. | The efficient level of WAMC's Murray–Darling Basin Authority costs for the 2021 determination period is \$34.6 million as shown in Table 5.1. | 63 |
| 10. | The efficient level of WAMC's Dumaresq–Barwon Border Rivers Commission costs for the 2021 determination period is \$3.5 million as shown in Table 5.2. | 63 |
| 11. | To use the building block approach to set efficient Murray–Darling Basin Authority and Dumaresq–Barwon Border Rivers Commission costs. | 71 |
| 12. | To set WAMC's operating and capital expenditure for Murray–Darling Basin Authority costs as shown in Table 5.5. | 73 |
| 13. | To set WAMC's operating and capital expenditure for Dumaresq–Barwon Border Rivers Commission costs as shown in Table 5.6. | 73 |
| 14. | To set WAMC's opening regulatory asset base for Murray–Darling Basin Authority and Dumaresq–Barwon Border Rivers Commission costs at 1 July 2021 to zero. | 74 |
| 15. | To set a total notional revenue requirement of \$290.4 million as shown in Table 6.1. | 78 |
| 16. | To calculate the return on assets for WAMC's water management services: <ul style="list-style-type: none"> - using an opening regulatory asset base of \$43.4 million for 2021–22, and the RAB for each year as shown in Table 6.3 - using our standard weighted average cost of capital (WACC) methodology, which produces a real post-tax WACC of 3.0% as outlined in Appendix C - applying a true-up of annual WACC adjustments in the next determination - using a sampling date of 31 March 2021 for market observations as outlined in Appendix C. | 79 |

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| 17. | To calculate the regulatory depreciation for WAMC's water management services using: | 82 |
| | <ul style="list-style-type: none"> - the asset lives set out in Table 6.5 for depreciating WAMC's regulatory asset base - the straight-line depreciation method. | |
| 18. | To calculate the working capital allowance for WAMC's water management services using WAMC's proposed parameters: | 83 |
| | <ul style="list-style-type: none"> - quarterly billing cycle for regulated water sources - annual billing cycle for unregulated water sources and groundwater - 30 days of delay between reading the meter and receiving payment - 30 days of payable - zero inventory. <p>In addition, to have zero prepayments in each year of the determination period.</p> | |
| 19. | To calculate the tax allowance for WAMC's water management services using: | 84 |
| | <ul style="list-style-type: none"> - a tax rate of 30% - IPART's standard methodology. | |
| 20. | To generally set cost shares consistent with our 2019 cost shares review and WAMC's proposal as shown in Table 7.2. | 87 |
| | <ul style="list-style-type: none"> - The exceptions are for W06-05 regional planning and management strategies (user share will decrease from 70% to 60%) and W04-01 surface water modelling (user share will decrease from 80% to 70%). - This means the user share of WAMC's efficient costs is \$226.2 million, or 77.9% of the notional revenue requirement, over the 2021 determination period as shown in Table 7.1. | |
| 21. | To largely accept WAMC's proposed cost drivers in Table 7.3 to allocate the user share of its costs across water sources as shown in Table 7.5. | 96 |
| | <ul style="list-style-type: none"> - The exceptions are for W06-05 regional planning and management strategies and W10-02 business governance and support. We decided to use volume of entitlements as a cost driver for these WAMC activities. - This decision results in the user share of WAMC's efficient costs being allocated across water sources as listed in Table 7.4. | |
| 22. | To set WAMC's water entitlements, water take and floodplain harvesting forecasts for regulated rivers as shown in Table 8.1, Table 8.2 and Table 8.3 respectively. | 107 |
| 23. | To accept WAMC's proposed approach for forecasting water entitlements, water take and floodplain harvesting volumes for unregulated rivers as shown in Table 8.4, Table 8.5 and Table 8.6 respectively. | 110 |
| 24. | To accept WAMC's proposed approach for forecasting water entitlements and water take volumes for groundwater as shown in Table 8.7 and Table 8.8 respectively. | 113 |
| 25. | To set separate charges for WAMC's water management, Murray–Darling Basin Authority and Dumaresq–Barwon Border Rivers Commission activities. | 118 |
| 26. | For the WAMC water management component, to transition prices towards full cost recovery at a capped annual real rate of 2.5% until full cost recovery is achieved. | 119 |
| 27. | For the Murray–Darling Basin Authority component, to set prices at full cost recovery from 2021–22. | 119 |
| 28. | For the Dumaresq–Barwon Border Rivers Commission component, to set prices at full cost recovery from 2021–22. | 119 |

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| 29. | For the minimum annual charge, to transition prices towards full cost recovery at a capped annual real rate of 2.5% until full cost recovery is achieved. | 119 |
| 30. | To maintain our approach of setting charges for each water source – that is, the 11 regulated rivers, 12 unregulated rivers and 4 groundwater sources. | 121 |
| 31. | To maintain setting: | 123 |
| | – 2-part tariffs, comprised of a fixed charge (\$ per ML of entitlement or unit share) and a water take charge (\$ per ML of water extracted), for regulated water, unregulated water and groundwater sources, where water take is measured, and | |
| | – 1-part tariffs, comprised of a fixed charge (\$ per ML of entitlement or unit share), for unregulated water and groundwater sources, where water take is not measured. | |
| 32. | To maintain the approach of setting 1-part tariffs as the sum of the fixed charge and water take charge set for 2-part tariffs in each water source. | 123 |
| 33. | For WAMC's water management price component, to set the tariff structure for the 2-part tariffs so that 70% of forecast revenue from the 2-part tariffs is recovered via the fixed charge and 30% of forecast revenue from the 2-part tariffs is recovered via the water take charge, except for the North Coast regulated water source where this ratio is kept at current levels of 92% fixed and 8% water take. | 123 |
| 34. | For MDBA and BRC price components, to set the tariff structure for the 2-part tariffs so that 80% of forecast revenue from the 2-part tariffs is recovered via the fixed charge and 20% of forecast revenue from the 2-part tariffs is recovered via the water take charge. | 123 |
| 35. | To maintain setting separate prices to apply during the 2021 determination period following Ministerial approval to issue all floodplain harvesting licences (as water take charge only licences) for that water source. | 125 |
| 36. | To accept WAMC's proposed special categories of licences as shown in Table 9.1. | 126 |
| 37. | To exempt Aboriginal cultural licences from all WAMC charges for the 2021 Determination while the NSW Government considers its policy position on charges associated with these licences. | 128 |
| 38. | To continue setting charges for Aboriginal Community Development and Aboriginal Commercial licences, as we have in previous determinations. | 128 |
| 39. | To apply a separate WAMC price to Water NSW, which will recover the user share of metropolitan water planning costs. The price will be an additional fixed charge (\$ per ML of entitlement or unit share) applied to the water access licences held by Water NSW in the South Coast (unregulated rivers) water source. | 129 |
| 40. | To set the maximum prices shown in Table 10.1, Table 10.2, Table 10.3 and Table 10.4 for water users in regulated water sources. | 133 |
| 41. | To set the maximum prices shown in Table 10.5, Table 10.6, Table 10.7, Table 10.8 and Table 10.9 for water users in unregulated water sources. | 136 |
| 42. | To set the maximum prices shown in Table 10.10, Table 10.11, Table 10.12, Table 10.13 and Table 10.14 for water users in groundwater sources. | 141 |
| 43. | To set the maximum prices shown in Table 10.15, Table 10.16, Table 10.17, Table 10.18, Table 10.19, Table 10.20, Table 10.21, Table 10.22 and Table 10.23 in water sources where the floodplain harvesting framework may roll out. | 144 |

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| 44. | To set the minimum annual charges shown in Table 10.24. | 149 |
| 45. | To set the separate price for Water NSW (South Coast unregulated river) shown in Table 10.25. | 150 |
| 46. | To maintain our approach of setting cost-reflective consent transaction charges as proposed by WAMC. | 174 |
| 47. | To set WAMC's consent transactions charges as listed in Table 12.1. These charges are based on a consistent schedule for two different customer types. | 174 |
| 48. | To adopt WAMC's proposed Water Supply (Critical Needs) Assessment charges subject to a 10% efficiency adjustment as shown in Table 12.2. | 178 |
| 49. | To accept WAMC's proposal and set WAMC's annual meter service charges for the 2021 determination period as shown in Table 13.1. We have set these charges based on meter size and telemetry of the meters. | 181 |
| 50. | To set WAMC's annual water take assessment charges for the 2021 determination period as shown in Table 13.2 . | 182 |
| 51. | To set WAMC's annual ancillary charges for the 2021 determination period as shown in Table 13.3 . | 182 |
| 52. | That the efficient cost of implementing the NSW Government's non-urban metering reforms under Water NSW's proposed base case is \$47.8 million over the 2021 determination period (see Table 14.1). | 186 |
| 53. | That the efficient cost of implementing the NSW Government's non-urban metering reforms varies from \$39.4 million to \$47.8 million based on the proportion of customers that voluntarily opt in to telemetry (see Table 14.2). | 187 |
| 54. | To adopt a 100% customer share of efficient costs incurred by Water NSW implementing the NSW Government's non-urban metering reforms. | 194 |
| 55. | To recover the wider costs of introducing the reform, such as recording and reporting, customer self-reporting, general enquiries and education, through a 'scheme management charge' to be applied annually to all licence holders. | 195 |
| 56. | To recover the costs of compliance activities, water take assessments, meter reading and meter data services through: <ul style="list-style-type: none"> - a telemetry charge to be applied annually to customers who use telemetry - a non-telemetry charge to be applied annually to customers who do not use telemetry. | 195 |
| 57. | To recover the costs of bringing government owned meters up to the required standard under the non-urban metering reforms through a 'meter service charge – capital costs' and maintaining these meters to ensure regulatory compliance through a 'meter service charge – operating costs'. These charges are applied annually to customers with a compliant government owned meter. | 195 |
| 58. | To set charges for Water NSW's non-urban metering reforms as set out in Table 14.6 and Table 14.7. | 200 |
| 59. | To apply the following transitional arrangements in moving from existing to new metering charges: <ul style="list-style-type: none"> - Scheme management charge to apply annually from the start of the determination period, 1 October 2021. | 202 |

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| <ul style="list-style-type: none"> - Telemetry or non-telemetry charge for customers with privately owned meters to be prorated using the number of days remaining in the financial year from the relevant compliance date set out in the <i>Water Management (General) Regulation 2018</i>. - Telemetry or non-telemetry charge and government owned 'meter service charge – operating costs' for customers with government owned meters to be prorated using the number of days remaining in the financial year from the later of the relevant compliance date set out in the <i>Water Management (General) Regulation 2018</i> or the date the meter is made compliant. | | |
| 60. | Not to provide an unders and overs mechanism to Water NSW for the rollout of the non-urban metering reforms. | 204 |
| 61. | That the Tribunal intends to consider the impact of any further deferral of the floodplain harvesting policy and potentially make an adjustment to future charges if needed at the next determination. | 204 |
| 62. | To set an exit charge for the 2021 determination period of \$0. | 204 |

Chapter 2 >>

Context and regulatory settings

02

Summary of our decisions for regulatory settings

We set prices for a 4-year determination period

We accepted WAMC's proposed determination period.

The timing of the next WAMC and Water NSW rural bulk water reviews remain aligned.

We continued to set maximum prices

We consider setting maximum prices (i.e. price caps), as proposed by WAMC, remains appropriate.

We use the building block approach to calculate WAMC's notional revenue requirement. This approach involves breaking down WAMC's costs into operating, capital allowance, tax and working capital allowances, and making separate calculations for these allowances. The sum of the building blocks represents the total efficient costs WAMC should incur in delivering its services.

We used a 3-step process to assess expenditure

This process is consistent with our approach for other recent water reviews. It involves making scope, catch-up and continuing efficiency adjustments, taking into account any efficiencies proposed by WAMC.

We included costs for most of WAMC's proposed activities in prices for monopoly services

In particular, we included the costs of recycled water and desalination planning (which are part of WAMC's metropolitan water planning activities)^a and the Nimmie–Caira project in prices for WAMC monopoly services. These costs were either not accepted or not proposed in the 2016 Determination.

However, we excluded 25% of WAMC's intergovernmental agency costs from the prices for its monopoly services. These costs should not be recovered from water users.

We also excluded the costs of coal seam gas bore monitoring, because they do not relate to water use.

Before setting prices, IPART needs to decide how long to set prices for and the 'form of regulation' to use to regulate prices.

^a The costs included for metropolitan water planning are recovered from Water NSW's Greater Sydney customers through a specific charge levied on its Greater Sydney business.

2.1 We set prices for a 4-year determination period

Our decisions are:

1. To adopt a 4-year determination period.
2. To delay the commencement of new prices until 1 October 2021.

For each water pricing review, we decide how long to set prices for (the length of the determination period) – generally between one and 5 years – and consider a range of factors (Box 2.1).

Box 2.1 Factors we consider in deciding the length of the determination

In general, we consider the following factors when deciding the length of a determination period:

- our confidence in the utility's forecasts
- the risk of structural changes in the industry
- the need for price flexibility and incentives to increase efficiency
- the need for regulatory certainty and financial stability
- timing of other relevant reviews
- views of stakeholders.

WAMC proposed a 4-year determination period to provide price stability for water users.⁶ It also considered, on balance:⁷

... the benefits of a four-year determination period in providing certainty and minimising both regulatory burden and administrative costs outweigh the costs and benefits of moving to a period shorter or longer than four years.

In our Issues Paper we sought stakeholder feedback on the length of the determination period. We also sought views on the merits of aligning the price determination periods for WAMC and our concurrent review of Water NSW's rural bulk water services.

Most stakeholders supported setting a 4-year determination period for WAMC. There was no support for shortening the determination period, while one stakeholder supported a 5-year determination period. Stakeholders also generally supported aligning the 2 rural water price determination periods.

We agree a 4-year determination period is appropriate. It provides a stable and predictable regulatory environment for WAMC and water users, while limiting regulatory costs. It would also align with the determination period for Water NSW.

We are delaying the commencement of new prices under the 2021 Determination by 3 months, until 1 October 2021. Current prices will apply from 1 July 2021 until 30 September 2021.

2.2 We continued to use price caps

Our decision is:



3. To set maximum prices for WAMC services in each year of the determination period (a price cap).

Our decision is to continue to set maximum price caps for WAMC. We consider price caps provide transparency and pricing certainty to customers. Price caps also help ensure prices reflect efficient costs, and signal the long-run cost of providing the service.

WAMC supported our approach for the 2021 determination period.⁸ No stakeholders suggested alternative forms of regulation.

2.3 We used the building block approach

We continued to use the building block approach to calculate WAMC's notional revenue requirement. We break down WAMC's costs into the following components (or building blocks):

- **operating allowance**, to cover costs such as administration costs
- **capital allowance**, comprised of:
 - return on assets that WAMC uses to provide its services
 - regulatory depreciation (or a return of the assets that WAMC uses to provide its services), which involves deciding on the appropriate asset lives and depreciation method
- **tax allowance**, which approximates the tax liability for a comparable commercial business
- **working capital allowance**, which represents the holding cost of net current assets.

The annual sum of these building blocks is the notional revenue requirement and is our assessment of the total efficient costs WAMC should incur in delivering its services.

We then convert WAMC's notional revenue requirement into prices by setting the target revenue requirement for each year – that is, the actual revenue we expect WAMC to generate from prices and charges for that year. We consider a range of factors including price levels, the rate prices would change and any other impacts on WAMC and water users.

Figure 2.1 shows our approach to calculating the notional revenue requirement and how we set prices.

Figure 2.1 The building block model



2.4 We assessed the expenditure using a 3-step process

We use a 3-step process to establish WAMC's efficient expenditure, outlined in Figure 2.2 and Chapters 3 and 4. This approach is consistent with the approach adopted by our consultant Cardno and our other recent water pricing reviews.

Step 1 – Reviewing changes in activities and costs:

- If the utility's proposed changes in activities (and associated costs) are not efficient, a **scope adjustment** is made.
- This step identifies any inefficiencies where the utility has proposed changes to its specific activities. It does not apply to the utility's base expenditure (to avoid double counting with step 2).
- These adjustments are clearly distinct from the types of efficiencies identified in step 2, because they correct for an inefficient proposed change to a utility's activities (and associated costs) rather than the business processes employed by the utility to deliver the utility's services.

Step 2 – Reviewing business processes relative to the frontier:

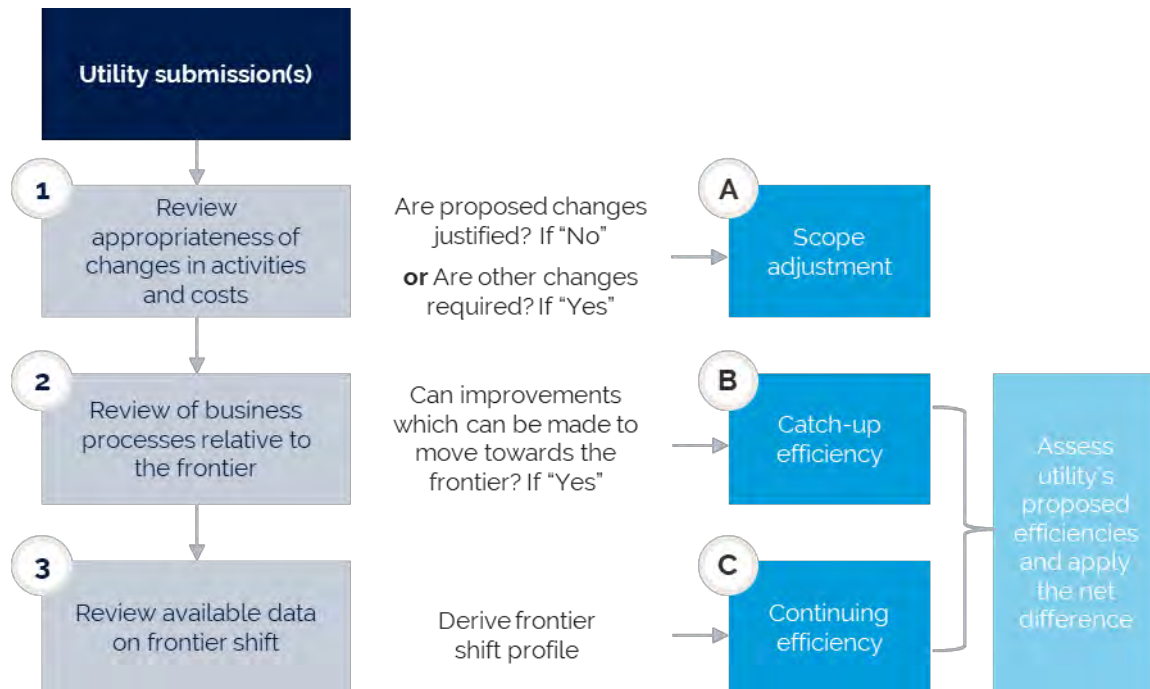
- Where we identify improvements to the utility's business processes, we apply a **catch-up efficiency adjustment**. It takes into account the efficiencies we consider the utility will be able to achieve in the 2021 determination period. This encourages the utility to move to the efficiency frontier.
- This step identifies the effectiveness of the utility's business processes (e.g. decision making and procurement processes) relative to a 'frontier' company.

Step 3 – Reviewing available data on frontier shift:

- We apply a **continuing efficiency adjustment** to take account of the ongoing improvements that even efficient utilities should be able to make over time, as more productive ways of working emerge. We refer to long-term multi-factor productivity trends to set this adjustment.
- This step recognises that in competitive markets (which we are trying to replicate through our regulatory framework) firms must innovate to achieve continuing efficiency gains over time.

We compare the total efficiency challenge derived from steps 2 and 3 with the efficiencies applied by the utility in its own submission. We then apply the net difference as an adjustment to the utility's submission.

Figure 2.2 Our approach to assessing efficiency



Once we establish WAMC's efficient expenditure, we then allocate it between water users and the NSW Government. Further, we allocate the user share of these costs across water sources. This process is discussed in more detail in Chapter 7. Appendix B outlines how we use these allocations to set prices.

2.5 Costs of most proposed activities should be factored into prices

Our decision is:

4. To factor the costs of most of WAMC's proposed activities into prices for its monopoly services for the 2021 determination period. The exceptions are for:
 - W06-07 cross-border and national commitments (we excluded 25% of the intergovernmental activity costs)
 - coal seam gas bore monitoring (we excluded all of these costs) since they do not relate to the WAMC monopoly services which we regulate.

At a preliminary stage of our review, we determine which WAMC activities are sufficiently relevant to its monopoly services (the services we set prices for in Chapter 10) for their costs to be factored into prices. We then examine the efficiency of these costs, as outlined in Chapters 3, 4 and 5.

Under the *Independent Pricing and Regulatory Tribunal (Water Services) Order 2004*, WAMC's declared monopoly services involve the making available of water, the making available of the water supply facilities, and the supply of water. In the past, we referred to the *Water Management Act 2000*, as well as the pricing principles under the National Water Initiative (NWI), to assist with this decision. These principles – agreed to by the Commonwealth, state and territory governments – provide guidance on the types of water planning and management costs that should be recovered through prices.

We asked our consultant, Cardno, to review WAMC's proposed activities. Cardno found the scope of these activities was largely unchanged compared with previous WAMC reviews. However, it proposed several changes to the activities and costs which constitute WAMC's monopoly services. We accepted these recommendations.

2.5.1 We factored metropolitan water planning costs into prices

The costs included for metropolitan water planning are recovered from Water NSW's Greater Sydney customers through a specific charge levied on its Greater Sydney business. We discuss this charge in further detail in Chapter 9.

In the 2016 Determination, we excluded 25% of metropolitan water planning costs – those relating to recycled water and desalination planning – on the basis that the costs were outside the scope of the *Water Management Act 2000* framework. Further, there were separate pricing principles for water planning and recycled water under the NWI.

However, DPIE/NRAR submitted we should adopt a different approach for this price review. They considered strategic, integrated water planning should take into account all viable options. Removing options from the planning framework can result in piecemeal investment decisions.⁹

We agree with this reasoning, and note it is consistent with views we expressed in recent price reviews. In particular, we emphasised the importance of planning being:

... comprehensive and rigorous in terms of the options assessed for long-term water supply and drought response, as well as co-ordinated across the relevant agencies.¹⁰

Cardno supported this position. It noted:

- Supply measures should not be considered separately. Rather, good practice water resource planning should consider all water supply measures in an integrated way.
- This approach is consistent with the NWI pricing principles' fundamental objective to promote economically efficient use of water. Further, it was reinforced through the planning undertaken in response to the recent drought.¹¹

We have some discretion when determining what costs are included in prices for WAMC's monopoly services. While in the past we used the *Water Management Act 2000* framework and NWI pricing principles as a guide, ideas about integrated water planning have changed.^b

^b For example, the Productivity Commission's review of the NWI noted that best-practice system planning involves planning that integrates water supply, wastewater and stormwater planning and management (Productivity Commission, *National Water Reform*, Draft Report, February 2021, p 141).

Therefore, we decided to no longer exclude recycled water and desalination planning costs from prices for WAMC's monopoly services. WAMC has proposed metropolitan water planning costs of around \$2.6 million per year. We discuss the efficiency of these costs in Chapter 3.

2.5.2 We factored Nimmie–Caira costs into prices

DPIE/NRAR included operation and maintenance costs for a new Sustainable Diversion Limit Adjustment Mechanism (SDLAM) project in their pricing proposal. The project delivers environmental flows to the Nimmie–Caira floodplain in the Murrumbidgee River valley.

Cardno recommended accepting this proposal and including Nimmie–Caira's costs in WAMC's monopoly services. It considered the project addresses the environmental impacts of water extraction, and noted the costs of other SDLAMs are already factored into prices for WAMC's monopoly services.¹²

We accepted the proposal from DPIE/NRAR. Water users are already supporting the costs of existing SDLAM projects through their WAMC prices. Further, the Nimmie–Caira SDLAM involves works that remediate the environmental impacts of extractive water use. As such, we decided to factor its operation and maintenance costs (around \$0.13 million per year) into prices for WAMC's monopoly services.

In its submission to the Draft Report, Coleambally Irrigation Co-operative Limited disagreed with including Nimmie–Caira costs into prices for WAMC's monopoly services.¹³ We maintained our decision from the Draft Report, because the project addresses the environmental impacts of water extraction. Further, the costs of other SDLAMs are already factored into prices for WAMC's monopoly services.

2.5.3 We excluded 25% of intergovernmental activity costs from prices

WAMC undertakes intergovernmental activities through participating in a range of committees. In the 2016 Determination, we accepted these activities as WAMC monopoly services.

In this review, Cardno has been able to investigate these costs in more detail. It identified some of the activities, relating to W06-07 cross-border and national commitments, were more akin to policy development rather than implementation^c (representing around 25% of expenditure for this activity), and so should be excluded from prices for WAMC's monopoly services.

We decided to exclude these costs (around \$0.3 million per year). The NWI pricing principles outline that policy development costs should not be recovered from water users, but policy implementation costs are recoverable. Our decision is consistent with Cardno's recommendation.

^c According to the NWI pricing principles, 'policy development' involves making comprehensive strategies that articulate the long-term policy objective for sustainable water management and overarching policy and institutional framework (for example, *Water Management Act 2000*): National Resource Management Ministerial Council, National Water Initiative Pricing Principles, 2010, pp 13–14.

In its submission to the Draft Report, Coleambally Irrigation Co-operative Limited generally supported our decision to exclude some intergovernmental activity costs from prices for WAMC monopoly services, on the basis they related to policy development. However, it considered 50% of intergovernmental activity costs should be excluded (not 25%).¹⁴ In contrast, DPIE/NRAR disagreed with our decision to exclude some intergovernmental activity costs from prices. They noted, while the intergovernmental activities contained a policy development component, they supported the delivery of WAMC activities.¹⁵

Cardno reviewed additional information provided by DPIE about its intergovernmental activities. It still found that around one-quarter of these activities were more akin to policy development, rather than policy implementation.¹⁶ We therefore have maintained our decision from the Draft Report and excluded 25% of intergovernmental activity costs.

Coleambally Irrigation Co-operative Limited also considered water management planning should be classified as a policy development activity, and therefore the costs be excluded from prices for WAMC's monopoly services.¹⁷ We consider these are 'policy implementation' activities. The NWI pricing principles set out that these types of costs should not be automatically allocated to government.¹⁸ Therefore, we have not excluded the costs for this activity. Rather we have determined both the efficient level of costs for WAMC's water management planning activities, and the share to be allocated to water users (see Chapters 3 and 7).

2.5.4 We excluded costs of coal seam gas bore monitoring from prices

Water NSW did not include coal seam gas (CSG) bore monitoring costs in its pricing proposal, due to uncertainty around the timing of bores being transferred to it. Therefore, we did not consider this issue for the Draft Report.

In its submission to our Draft Report, Water NSW stated it now knew the scope and costs of CSG bore monitoring, and considered additional operating expenditure should be included for monitoring CSG bores. That is, we should consider appropriate funding arrangements to support Water NSW owning, operating and maintaining the bores.¹⁹

In its Supplementary Report, Cardno noted this activity was not historically provided by WAMC. Further, it considered whether the costs for this activity related to WAMC's monopoly services. It recommended excluding them, since the bores are for monitoring the impact of CSG extraction and therefore do not relate to 'water use' as defined under the NWI pricing principles. We agree with Cardno's analysis and have not factored these costs into prices for WAMC's monopoly services.

After Cardno finalised its Supplementary Report, DPIE provided us with additional information about the CSG bores. It stated the information provided to Cardno was incomplete and outlined further reasons why it considered these monitoring costs should be included in WAMC prices.

We have continued to exclude CSG bore monitoring costs from WAMC prices for several reasons:

- Water NSW and DPIE had multiple opportunities throughout the 6 months of Cardno's expenditure review to provide adequate information about these costs.
- Providing additional information after the expenditure review has concluded does not allow us to properly scrutinise the costs or other stakeholders an opportunity to comment on them.

- In any case, it is not clear based on the additional information that CSG bore monitoring costs should now be included in WAMC prices.

If Water NSW or DPIE propose to include CSG bore monitoring costs in WAMC prices at the next determination, they need to undertake further work to demonstrate these costs relate to 'water use' as defined under the NWI pricing principles. They also need to provide evidence about who is creating the need for this monitoring activity (and therefore who should incur the costs).

Chapter 3 >>

Operating expenditure

03

Summary of our decisions for operating expenditure

WAMC's efficient operating expenditure is higher than when we last set prices

We set WAMC's efficient level of operating expenditure for the 2021 determination period at \$214.3 million. This is \$13.6 million (6.8%) higher than the costs used to set prices in 2016.

We found the step change in operating expenditure is required for WAMC to lift its performance and provide a more sustainable, reliable water resource management system going forward.

We recognise WAMC has conducted extensive stakeholder engagement to support the increased levels of service. However, we would like to see further consultation to understand users' willingness to pay and ensure future proposed expenditure represents an informed trade-off between service, cost and risk.

WAMC could make \$63.3 million in efficiency savings

We found around \$63.3 million (22.8%) of the proposed operating expenditure is not efficient. We excluded these costs from the 2021 allowance. Our recommended reductions for the forecast operating expenditure are comprised of:

- \$58.9 million in scope adjustments
- \$3.7 million in catch-up efficiency adjustments, and
- \$3.7 million in continuing efficiency adjustments.

Our adjustments recognise the efficiency challenges proposed by the WAMC agencies. We also provided guidance to WAMC on how it can achieve our recommended efficiency savings over the forecast regulatory period.

We recommended the government pays for the intensive phase of compliance management

We recognise that in the short term there is a need for NRAR to perform more intensive compliance and enforcement activities to address historical water theft and compliance issues. However, these costs should not be paid for by users through its water management prices.

We have recommended that WAMC seek government funding to recover the balance of the reduced compliance costs of \$38.9 million. This means WAMC will have \$253.2 million of operating expenditure to provide its water management services.

This chapter sets out our assessment of Water NSW's efficient level of operating expenditure. To inform our decision on operating expenditure, we engaged Cardno to review WAMC's expenditure and recommended the efficient amount of operating expenditure allowance for the 2021 determination period. As part of its review, Cardno also reviewed WAMC's performance against output measures over the current determination period, and made recommendations about WAMC's proposed output measures.

We engaged Atkins to undertake a separate review of Water NSW's corporate costs. We have taken into account recommendations from both consultants, as well as stakeholder submissions, in making our final decisions on efficient operating expenditure.

This chapter does not include proposed expenditure for Murray–Darling Basin Authority (MDBA) and Dumaresq–Barwon Border Rivers Commission (BRC) (Chapter 5), consent transactions (Chapter 12), existing metering charges (Chapter 13) and proposed non-urban metering reform charges (Chapter 14).

3.1 WAMC's efficient level of operating expenditure is \$214.3 million

Our decision is:



5. To set WAMC's total operating expenditure allowance for the 2021 determination period at \$214.3 million, as shown in Table 3.1.

Table 3.1 Decision on efficient operating expenditure for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|----------------|---------|---------|---------|---------|-------|
| WAMC proposed | 70.0 | 70.6 | 68.9 | 68.2 | 277.6 |
| IPART decision | 54.9 | 54.8 | 52.6 | 52.0 | 214.3 |
| Difference | -15.0 | -15.7 | -16.4 | -16.1 | -63.3 |
| Difference (%) | -21.5 | -22.3 | -23.8 | -23.7 | -22.8 |

Note: Proposed expenditure for consent transactions, metering and MDBA and BRC is not included.

Source: WAMC (DPIE/NRAR), Pricing proposal to IPART, July 2020; WAMC (Water NSW), Pricing proposal to IPART, July 2020; and IPART analysis.

WAMC proposed operating expenditure of \$277.6 million for the 2021 determination period.²⁰ Our decision is to set WAMC's efficient level of operating expenditure for the 2021 determination period at \$214.3 million. This amount is around \$13.6 million (6.8%) higher than the costs we used to set prices in 2016 (Table 3.1).

We found that WAMC requires some additional expenditure in these key areas for WAMC to lift its performance and provide a more sustainable, reliable water resource management system going forward. In particular, it is critical for WAMC to undertake comprehensive long-term planning and implement a robust compliance and enforcement framework.

WAMC noted it has conducted extensive stakeholder consultation, and increased expectations for a range of water management activities is one of the main drivers of its increased operating expenditure.²¹ Although WAMC engaged with water users on what levels of service they would like it to deliver, we consider further consultation is required to understand users' willingness to pay for these higher service levels.

We agree with Cardno that the efficient level of expenditure should represent an informed trade-off between service, cost and risk.²² We would like to see the outcomes of appropriate stakeholder engagement on both cost and service incorporated into future price submissions to IPART.

While we have increased the efficient operating expenditure compared to the 2016 allowance, this is not to the extent requested by WAMC. Our recommended \$63.3 million reduction in the operating expenditure proposed by WAMC comprises:

- \$58.9 million in scope adjustments
- \$3.7 million in catch-up efficiency adjustments, based on a catch-up efficiency factor of 1.1% per year
- \$3.7 million in continuing efficiency adjustments, based on a continuing efficiency factor of 0.7% per year.

We also reallocated \$3.0 million of corporate overheads into the WAMC business.

Our draft decision was to reduce the operating expenditure allowance by \$68.9 million (or 24.8%). The increase in operating expenditure between our Draft Report and Final Report reflects additional information provided by WAMC to support its proposed:

- regional water planning
- water modelling
- customer management activities.

We have also made an adjustment to the allocation of corporate overheads.

Our recommended adjustments to WAMC's proposed operating expenditure for the 2021 Determination are summarised in Table 3.2. Figure 3.1 shows our decisions in comparison to WAMC's historical expenditure and proposed expenditure.

Table 3.2 Decision on efficient operating expenditure for the 2021 determination period (\$ millions, \$2020–21)

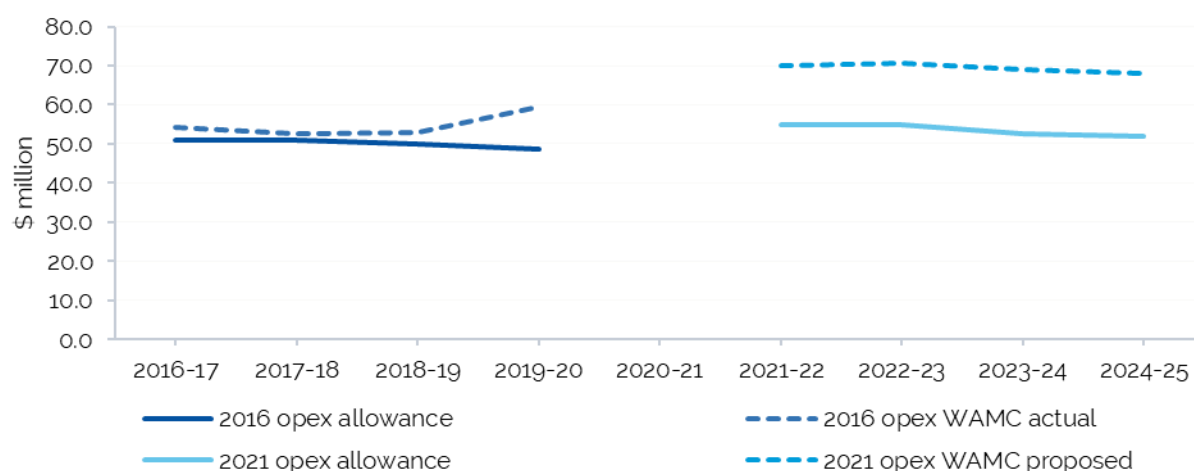
| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|--|-------------|-------------|-------------|-------------|--------------|
| WAMC's proposal | 70.0 | 70.6 | 68.9 | 68.2 | 277.6 |
| Specific adjustments | | | | | |
| Compliance management | -9.9 | -9.9 | -9.6 | -9.6 | -38.9 |
| Regional planning and management strategies | -0.5 | -0.5 | 0.0 | 0.0 | -1.1 |
| Customer management | -1.2 | -1.2 | -1.1 | -1.1 | -4.6 |
| Development of water planning and regulatory framework | -0.7 | -0.7 | -0.7 | -0.7 | -2.8 |
| Water plan and performance assessment | -1.0 | -1.0 | -1.0 | -1.0 | -4.1 |
| Drainage management plan | -0.5 | -0.5 | -0.5 | -0.5 | -2.2 |
| Cross-border and national commitments | -0.4 | -0.4 | -0.4 | -0.4 | -1.6 |
| Business governance and support | -0.6 | -0.6 | -1.5 | -1.1 | -3.8 |
| Efficiency adjustments | | | | | |
| Catch-up efficiency | -0.4 | -0.8 | -1.1 | -1.4 | -3.7 |
| Continuing efficiency | -0.4 | -0.7 | -1.1 | -1.4 | -3.7 |
| Other adjustments | | | | | |
| Reallocation of Water NSW overheads to WAMC ^a | 0.5 | 0.7 | 0.6 | 1.2 | 3.0 |
| Total efficient operating expenditure | | | | | |
| Total | 54.4 | 54.8 | 52.6 | 52.0 | 214.3 |
| Difference | -15.2 | -15.7 | -16.4 | -16.1 | -63.3 |
| Difference (%) | -21.5 | -22.3 | -23.8 | -23.7 | -22.8 |

a. This adjustment is based on Atkins' separate review of Water NSW's corporate operating expenditure.

Note: Proposed expenditure for consent transactions, metering and MDBA and BRC is not included.

Source: Cardno, *WAMC expenditure review – Final Report for IPART*, March 2021, pp 59–61; Cardno, *WAMC expenditure review – Supplementary Report for IPART*, September 2021, pp 13–17; and IPART analysis.

Figure 3.1 Our decision and WAMC's past and proposed operating expenditure



Source: IPART analysis.

The sections below outline our findings in relation to WAMC's current and proposed operating expenditure.

3.2 Actual operating expenditure was higher in the 2016 period

Over the 2016 determination period, WAMC's total actual operating expenditure was \$219.0 million – \$18.2 million (or 8.3%) higher than the allowance we used to set prices (Table 3.3).

Table 3.3 WAMC's operating expenditure over the 2016 determination period (\$ millions, \$2020–21)

| | 2016–17 | 2017–18 | 2018–19 | 2019–20 | Total |
|-----------------|---------|---------|---------|---------|-------|
| IPART allowance | 51.1 | 50.9 | 50.1 | 48.7 | 200.8 |
| WAMC actual | 54.2 | 52.5 | 53.0 | 59.4 | 219.0 |
| Difference | 3.1 | 1.5 | 2.9 | 10.7 | 18.2 |
| Difference (%) | 5.8 | 2.9 | 5.4 | 18.0 | 8.3 |

Note: Proposed expenditure for consent transactions, metering and MDBA and BRC is not included.
Source: IPART analysis.

Cardno's review of WAMC's operating expenditure over the 2016 determination period found:

- There has been an increased scope and expectation of WAMC to improve the quality of its compliance management activities, demonstrated by the creation of NRAR.
- The 2016 Determination did not reflect the full costs of delivering some WAMC services, in particular for business customer service activities. However, Water NSW did not adopt the activity code framework to accurately record and report its costs, making it difficult for Cardno to confirm the amount that has been understated.²³
- WAMC achieved its output measures for most of its activities. However, for 2 activities (water plan performance assessment, and development of water planning and regulatory framework) outputs were not achieved.²⁴ DPIE explained this was due to a reprioritisation of its efforts to deliver Basin Plan activities.

Responding to our Draft Report, stakeholders raised concerns about potential duplication of services and roles between the 3 WAMC agencies. Stakeholders consider the merged functions should bring cost savings and better customer service, which was not evident from WAMC's pricing proposal. Stakeholders also raised concerns about paying for past poor performance and under delivery of water management activities.²⁵

We acknowledge these stakeholder concerns and have included only the efficient costs for performing water management activities in WAMC's operating expenditure allowance. This amount provides WAMC the flexibility to deliver its roles and responsibilities and prioritise its expenditure accordingly over the regulatory period.

WAMC has already taken several steps to respond to legislative reforms and lift its performance including establishing the NRAR in late 2017, resulting in an overspend of its 2016 determination allowance. Because we do not conduct a post review of its operating expenditure, any overspend is borne by WAMC. Where WAMC has underspent on particular activities, it should be careful that its reprioritisation of expenditure does not lead to under-delivery of its water management activities in future determination periods.

3.3 We maintained our reduction in compliance costs, but recognise that efficient costs may change in the future

We recognised in our Draft Report that WAMC's increased proposed and actual compliance management expenditure reflects a step change in resourcing to address compliance and enforcement issues raised in the Matthews review (Box 3.1).

Box 3.1 WAMC's performance in water regulation

During the 2016 determination period, DPIE's compliance and enforcement program focused on increasing voluntary compliance by conducting audits, on-site and remote monitoring, and providing advice and education to customers. NRAR was established in early 2018, in response to an independent inquiry that found existing water compliance and enforcement arrangements were ineffectual and required urgent improvement. Establishing NRAR resulted in a change in WAMC's compliance and enforcement regime, its resource priorities, and costs required to deliver this activity.

Source: NSW Department of Industry (Ken Matthew AO), *Independent investigation into NSW water management and compliance – Final Report*, November 2017.

Our draft decision was to reduce WAMC's proposed compliance costs by around \$38.9 million for the 2021 determination period, consistent with Cardno's recommendation.²⁶ We agree that in the short term a higher level of expenditure is required to address historical ineffective compliance management and delays in undertaking metering reform.²⁷ Our decision is unchanged from the Draft Report.

We consider our decision represents the efficient level of expenditure that would be required for a steady-state organisation with a mature and effective compliance function. This is derived from comparative benchmarks against other states (i.e. Victoria).²⁸ We acknowledge there are limitations with benchmarking and we understand NRAR has commenced some work in this area with MDBA and other states.²⁹

We reduced WAMC's proposed compliance costs and excluded the balance of costs from the efficient costs that users pay. However, we have not reduced the total value of NRAR's proposed compliance expenditure other than applying a catch-up efficiency. Given NRAR is currently operating under an intensive phase of compliance and enforcement, we recommended NRAR seek funding from the government to recover these costs.³⁰ By reducing WAMC's proposed compliance costs, we ensure users do not pay for past inefficiencies in compliance and enforcement. However, our recommendation also ensures NRAR obtains sufficient funding to perform its compliance and enforcement functions.

In response to our Draft Report, WAMC was concerned that the efficient costs of compliance are too low. It considered this may result in potential underfunding in the future if WAMC does not receive funding from the government and cannot recover compliance management costs from users.³¹ We assessed the efficient level of compliance based on the current operating environment. This operating environment may change in the future especially in light of the non-urban metering reform policy. For future determinations, we will assess the efficient level of compliance management costs required based on the circumstances prevailing at that time.

3.4 We re-profiled regional water planning costs

In our Draft Report, we decided to defer regional water planning costs for 2 years for DPIE to develop a more robust and integrated state-wide regional water planning program, and to appropriately engage with its stakeholders on its policies.³² This decision was consistent with Cardno's recommendation, and resulted in a reduction of WAMC's proposed costs by \$2.6 million over the 2021 determination period.

DPIE did not agree with this recommendation and considers its stakeholder engagement and planning work is more advanced than was acknowledged by Cardno. It considers the reductions made will delay the implementation of these regional water strategies.³³

Based on the additional information supplied, we have some additional assurance regarding the effectiveness and timing of DPIE's stakeholder engagement. However, we are still concerned that circumstances are changing quickly and DPIE has not effectively considered the changing context. For example, drought conditions are easing and DPIE should take time to consider what planning initiatives should take priority. Therefore, our decision is to lower the scope adjustment for regional water planning from 25% to 10%.³⁴

Our decision aims to incentivise WAMC to rebalance its efforts to ensure appropriate and effective resource planning, effort prioritisation and stakeholder consultation is undertaken before significant costs are incurred. By deferring the costs allowed, we also aim to incentivise DPIE to carefully structure its planning and fulfil its obligations at the lowest cost.

3.5 We increased customer management costs but lowered them from WAMC's proposal

WAMC has proposed customer management costs of \$5.2 million per year (or \$20.4 million for 4 years) for the 2021 determination period. Of the \$5.2 million per year proposed, \$4.6 million (89%) is for Water NSW and \$0.6 million (11%) is for NRAR.

Our draft decision was to set the efficient level of expenditure using the prorated 2020–21 financial year out-turn of costs for this activity, consistent with Cardno's recommendation. This approach recognises there may be some underfunding of WAMC's costs from the 2016 determination period. However, the efficient expenditure required to deliver this activity is lower than was proposed by WAMC.

Water NSW considers our draft decision is not achievable and that Cardno has not put sufficient weight on its actual expenditure over the 2016 determination period.³⁵ Cardno assessed Water NSW's submission, but did not change its recommendation. The additional information provided did not alleviate its concerns about the accuracy of Water NSW's allocation of costs to customer management and other account and billing activities.³⁶

We maintained a conservative approach to the proposed increases in customer management expenditure, based on available evidence. However, we updated our adjustment using more recent 2020–21 financial year customer management cost data,³⁷ resulting in \$1.5 million of customer management costs being reinstated.

Our decision on NRAR's customer management costs is unchanged. That is, we consider NRAR's customer management costs are justified under the current operating environment, but do not represent the costs of a steady state organisation in the medium to long term.³⁸ Aligned with the treatment of compliance management costs, the efficient costs of NRAR's customer management costs are recovered from users based on the Deed of Transfer,^a and we recommend the NSW Government pay the remaining balance proposed by NRAR.

As discussed in our Draft Report, we are working to amend Water NSW's reporting manual to require Water NSW to correctly report its costs by activity against the WAMC activity codes. This approach should address cost allocation issues for the next determination period. We expect NRAR and Water NSW will be able to provide more reliable and robust forecasts in future expenditure reviews as they improve their business processes to better deliver WAMC's services.

3.6 We reinstated some costs for water modelling while other activities remain unchanged

In our Draft Report, we made \$15.9 million in adjustments to WAMC's proposed operating expenditure for a number of activities. DPIE on behalf of WAMC did not agree with our adjustments for water modelling, water plan and performance assessment, and intergovernmental activities.

- **Surface water and groundwater modelling** – Based on the additional information provided by DPIE, we consider there is a material change in WAMC's scope of work for water modelling to support government priorities including floodplain harvesting, regional water strategies and Sustainable Diversion Limit Adjustment Mechanism projects.³⁹ Therefore, we decided to reinstate \$2.8 million relating to surface water and groundwater modelling costs.
- **Water plan and performance assessment** – In our Draft Report, we considered WAMC's obligations were largely business as usual and were unchanged from the current determination period.⁴⁰ We also noted WAMC reprioritised its expenditure and significantly underspent in this area, resulting in WAMC not achieving its output measures and performance.

^a The Deed of Business Transfer sets out the roles and responsibilities between the WAMC agencies following the transfer of functions from DPI Water to Water NSW and the creation of NRAR during the 2016 determination period.

In its submission to our Draft Report, DPIE considered the recommended adjustments will result in it being unable to meet its statutory requirements. The submission also referred to recent reports from the Natural Resources Commission and Independent Commission Against Corruption recommending NSW should commit additional resources to water sharing plan monitoring programs and establish a dedicated unit.⁴¹

Cardno reviewed DPIE's submission and additional information provided. It found the resourcing required to complete the proposed additional reporting and monitoring work is broadly in line with the recommended efficient expenditure. However, it is still concerned that DPIE's proposed additional expenditure does not represent an informed trade-off between service, cost and risk. Cardno also noted that DPIE is still developing an evaluation framework of the service and costs required to deliver this activity.⁴²

We support Cardno's conclusion that it is not efficient to include increases in expenditure at this time if the objectives of the expenditure are unclear. We consider there is insufficient evidence to change our draft decision.

- **Intergovernmental activities** – We reviewed the additional information provided by DPIE and our decision on intergovernmental activities is unchanged from our Draft Report. That is, we still consider around 25% of the effort for intergovernmental activities falls outside the scope of WAMC monopoly services. We also consider a 5% scope adjustment is warranted to reflect the Claydon review recommendations for greater efficiency through improved governance arrangements and less involvement in committee work.⁴³

Stakeholders did not comment and we did not change the following draft decisions:

- **Development of water planning and regulatory framework** – We consider the efficient expenditure for this activity should be set at the actual level of expenditure for this activity in the 2016 determination period. This provides an appropriate incentive for DPIE to deliver more with less, as it has done in the current period. We consider DPIE should also seek to implement long-term proactive government policy and reduce the amount of reactive work required for this activity.
- **Drainage management** – We consider all costs on drainage management should be excluded.⁴⁴
- **Business governance and support** – DPIE has included costs for W10-02 for transparency purposes. We made an administrative adjustment to remove these costs to avoid duplication.⁴⁵

3.7 We reallocated some corporate costs to WAMC

We engaged Atkins to separately review Water NSW's corporate costs. The review included the efficiency of corporate costs by functional team and how these costs should be allocated across its regulated businesses (i.e. WAMC, Water NSW Rural Valleys, Water NSW Greater Sydney and Broken Hill pipeline).

In our Draft Report, we considered whether using direct costs to allocate corporate costs (including non-core expenditure), rather than total expenditure as proposed by Water NSW, is more appropriate. We applied Atkins' recommended adjustment using this approach, which increased WAMC's allocation of corporate overheads by \$2.1 million.

In response to our draft decision, Water NSW maintained its total expenditure approach meets accounting standards, is consistent with IPART's cost allocation guidelines, and has been used by utilities in other jurisdictions. Water NSW also questioned whether allocating additional overhead to non-core activities would be consistent with the requirements of the *Water Charge (Infrastructure) Rules 2010*. It argued our draft approach would have unintended consequences, including allocating additional overhead costs to the Broken Hill pipeline.⁴⁶

Atkins assessed Water NSW's submission, including additional information provided on the number of full-time equivalent work hours. Atkins concluded there was insufficient information to change its recommended approach to cost allocation. However, it supported Water NSW's submission that there is a need to adjust the allocation to the Broken Hill pipeline and include costs for additional regulatory resources.⁴⁷ We considered Atkins and Cardno's adjustments to Water NSW's corporate overhead allocation and consider there is merit in maintaining this approach.⁴⁸ We decided to update this adjustment to include additional operating expenditure for the allocation of corporate costs consistent with our consultants' recommendations.

We did not apply catch-up efficiency adjustments to this reallocation to avoid double counting. Consistent with our Draft Report, we did not apply Atkins' high-level scope adjustments for customer management to avoid double counting of Cardno's scope adjustments from its detailed review of that activity.⁴⁹ Consistent with our Draft Report, we did not make any adjustments to DPIE's corporate overhead costs.

3.8 WAMC could make efficiency savings of \$7.3 million

We applied catch-up and continuing efficiency adjustments to WAMC's forecast operating expenditure, resulting in \$7.3 million in savings.

In making our decisions, we compared the total efficiency savings applied to WAMC against efficiencies achieved by other water utilities when they were at a similar stage of efficiency maturity. This comparison provides a sense of the scale of efficiency that should be achievable for the 2021 determination period (Table 3.4).

Table 3.4 Comparison of operating expenditure efficiencies

| Determination | Start year | Catch-up efficiency (%) | | | | Continuing efficiency (% p.a.) | Total efficiency challenge (% p.a.) | Conclusion at ex post review |
|-------------------|------------|-------------------------|--------|--------|--------|--------------------------------|-------------------------------------|------------------------------|
| | | Year 1 | Year 2 | Year 3 | Year 4 | | | |
| Hunter Water | 2009 | 1.0% | 1.0% | 1.0% | 1.0% | 0.8% | 1.8% | Achieved |
| Sydney Water | 2012 | 1.5% | 2.0% | 2.0% | 2.0% | 0.25% | 2.1% | Overachieved |
| WAMC ^a | 2021 | 0.5% | 1.1% | 1.6% | 2.1% | 0.7% | 2.6% | Achievable |

a. Catch-up efficiency is calculated based on Cardno's total recommended catch-up efficiencies for all WAMC agencies including activities where no catch-up efficiency was applied.

Source: Atkins, *Water NSW Expenditure Review – Final Report for IPART*, March 2021, Table 5–12; and Cardno, *WAMC Expenditure Review – Final Report for IPART*, March 2021, pp 62–64.

3.8.1 WAMC could make catch-up efficiency savings of \$3.7 million

Catch-up efficiency reflects the efficiency needed to be achieved over time to catch up with a company operating at the efficiency frontier. Our decision results in \$3.7 million of catch-up efficiency savings over the 2021 determination period (Table 3.5). This includes:

- 2 levels of catch-up efficiency on an activity basis for DPIE/ NRAR
- 1 level of catch-up efficiency on a business process basis for Water NSW.

We considered WAMC's submissions, however our decision is unchanged from our Draft Report Table 3.5 sets out the recommended levels of catch-up efficiency adjustments applied to WAMC's operating expenditure.

Table 3.5 Catch-up efficiency for operating expenditure (\$ millions, \$2020–21)

| Level of catch-up efficiency | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|--|---------|---------|---------|---------|
| DPIE/NRAR | | | | |
| Catch-up efficiency – Level 1 (cumulative %) | -0.90% | -1.79% | -2.68% | -3.55% |
| Catch-up efficiency – Level 2 (cumulative %) | -1.40% | -2.78% | -4.14% | -5.48% |
| Total catch-up efficiency (\$ million) | -0.3 | -0.6 | -0.9 | -1.1 |
| Water NSW | | | | |
| Catch-up efficiency (cumulative %) | -1.10% | -2.19% | -3.26% | -4.33% |
| Total catch-up efficiency (\$ million) | -0.07 | -0.2 | -0.2 | -0.3 |

Source: Cardno, *WAMC Expenditure Review – Final Report for IPART*, March 2021, pp 62–64; and Cardno, *WAMC Expenditure Review – Supplementary Report for IPART*, September 2021, pp 13–17.

DPIE/NRAR's catch-up efficiency

We applied catch-up efficiency adjustments of 0.9% (level 1) and 1.4% (level 2) per year to DPIE/NRAR's activities for the 2021 determination period. Level 1 catch-up efficiency has been applied to more mature activities. Level 2 catch-up efficiency has been applied to less mature activities. This approach recognises the relative efficiency of different WAMC activities without being unduly specific.⁵⁰ We discuss WAMC's areas of improvement in greater detail below. We have not applied catch-up efficiencies to activities where we accepted DPIE/NRAR's own efficiency challenge to avoid double counting. The overall impact of the catch-up efficiency adjustments is around 0.8%^b per year for DPIE/NRAR's operating expenditure.⁵¹

DPIE/NRAR did not agree with our draft decision and considers:

- it has already made \$73 million of targeted efficiency savings
- IPART has applied further untargeted and arbitrary cuts
- the recommended level of efficiency challenge is not achievable.

^b This includes activities for which no catch-up efficiency adjustments were applied.

We considered DPIE/NRAR's submission and have not changed our draft decisions. We agree with Cardno that DPIE's proposed efficiency savings do not represent genuine efficiencies. For example, 44% of DPIE's efficiency challenge relates to the exclusion of costs for duplicate services delivered by Water NSW.⁵²

We consider efficiency savings applied to inflated or conservative cost estimates are not genuine. However, we acknowledge DPIE has put forward some genuine efficiency savings, which we accepted. As noted above, we did not apply a catch-up efficiency adjustment for activities where we accepted DPIE's own efficiency challenge to avoid double counting. However, we consider there are further catch-up efficiencies that can be realised by DPIE/NRAR over the 2021 determination period.

We do not agree with DPIE/NRAR that our scope and catch-up adjustments are untargeted and arbitrary. We completed a detailed review of its proposed program and outputs for each activity. Further, we applied 2 levels of catch-up efficiency to clearly distinguish the different levels of maturity for each activity. This approach should assist DPIE in identifying which activities require a greater level of effort to achieve efficiencies. It also provides appropriate incentives to better manage activities with a level 2 catch-up over the 2021 determination period.

We also consider our catch-up efficiencies are realisable compared with efficiencies achieved by other water utilities. Cardno identified 2 areas where DPIE/NRAR could make material improvements to its processes for all of its activities and move towards the efficiency frontier over time:

- **Improvements to resource planning** – Cardno considered for many activities there was little granular historical cost information, and poor quantification of the desired outputs and the timing of these outputs. It also noted DPIE/NRAR performs limited risk analysis to determine how it would optimise its resources. Cardno also considered DPIE could better estimate its expected expenditure through a bottom-up approach using its existing resources to perform the required outputs, rather than a top-down approach to estimate future resource requirements.
- **Improvements in effort prioritisation** – Cardno considered many of DPIE's activities have subjective outputs. DPIE is seeking to increase the quality of its outputs to meet customer expectations and better achieve policy obligations. However, it has not identified how it would prioritise its efforts to achieve these outcomes. Cardno considers DPIE should improve its stakeholder consultation to appropriately balance the cost of performing its activities and the level of service required.⁵³

Water NSW's catch-up efficiency

In our Draft Report, we applied Cardno/Atkins' recommended catch-up efficiency adjustments of 1.1% per year, resulting in \$1.4 million in efficiency savings for Water NSW over the 2021 determination period. We consider that it is more appropriate for catch-up efficiency adjustments to be applied at the activity level instead of broad categories of costs. However, we recognise the limitations of this approach due to the unreliability of Water NSW's allocation of WAMC's costs at an activity level.

Water NSW did not agree with our draft decisions and considers there is no justification (or theoretical basis) given the absence of an 'efficiency frontier' on which to base these reductions. It also submitted the draft decision:

- was based on flawed benchmarking analysis applied inconsistently compared with other IPART decisions
- has potential for double counting given that uncontrollable costs should be excluded and (some) programs have already been specifically 'adjusted' once to ensure (scope) efficiency.⁵⁴

Atkins has reviewed and responded to Water NSW's comments in its Supplementary Report, and notes it has already addressed some of Water NSW's issues in its Final Report.⁵⁵ We are satisfied with Atkins' response regarding its methodology and application of catch-up efficiency. Therefore, we have not changed our draft decision.

We have not applied a catch-up efficiency adjustment for Water NSW's water monitoring activities to avoid double counting and to acknowledge Water NSW's proposed efficiency challenges, which have already been incorporated in its proposed costs.

In making our decisions, we considered catch-up efficiencies applied to other water utilities at a similar stage of efficiency maturity, and how Water NSW can achieve these efficiencies. Atkins has identified 4 key areas where Water NSW could make material improvements to its processes and move towards the efficiency frontier over time, including:

- greater management focus on cost performance, including alignment of incentives, embedding genuine challenge into budgeting processes and governance of initiatives (such as hardwiring the savings associated with an initiative directly into future budgets)
- clearer internal accountability for performance of each regulated business and water source, with clear profit and loss (P&L)-style ownership and accountability
- P&L-style accountability for corporate expenditure and directly allocating charges to the regulated businesses
- continued progress in improving procurement, including tracking of benefits.⁵⁶

3.8.2 WAMC could make continuing efficiency savings of \$3.7 million

Our decision is to apply continuing efficiency adjustments of 0.7% per year,^c totalling \$3.7 million in efficiency savings over the 2021 determination period (Table 3.6). The continuing efficiency adjustment (in percentage terms) is unchanged from our draft decision.

Table 3.6 Continuing efficiency for operating expenditure (\$ millions, \$2020–21)

| Level of efficiency | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|--------------------------------------|---------|---------|---------|---------|-------|
| Continuing efficiency (cumulative %) | -0.70% | -1.40% | -2.09% | -2.77% | |
| Continuing efficiency (\$ million) | -0.4 | -0.7 | -1.1 | -1.4 | -3.7 |

Source: Cardno, *WAMC Expenditure Review – Supplementary Report for IPART*, September 2021, pp 13–17; and IPART analysis.

^c We derived the continuing efficiency adjustment from the compound long-run average of the Australian Bureau of Statistics multi-factor productivity in the Australian economy.

The continuing efficiency adjustment is important because it ensures our maximum prices capture the impact of innovation and new technologies that enable firms to do more with less inputs. We favour a forward-looking adjustment because it:

- incentivises the regulated firms to pursue productivity enhancing activities over the determination period
- recognises market-based firms' continuous push to innovate and become more productive over time
- is consistent with the incentive-based framework under which we set prices for public water utilities.

By putting a quantitative target in place, we establish an expectation of continuous productivity improvement that efficient businesses should reasonably be able to achieve over the next determination period.

In response to our draft decision, Water NSW submitted that including a continuing efficiency factor is not unreasonable. However, it disagreed with 0.7% and suggested a range of 0% to 0.35%. It considered that most weight should be given to the measured productivity of the utility industry (rather than the market sector) since the utility industry most closely reflects the input and output characteristics of water businesses. It also argued for giving most weight to multi-factor productivity (MFP) estimates over the most recent historical years (rather than 40 years), to produce more realistic estimates of the scope for productivity gains over the forthcoming regulatory period.⁵⁷

We consider that our current approach, which uses all available data, is preferable to a shorter time period. A longer time series provides more data points and helps to reduce the impacts on final estimates of unusual MFP growth over a single business cycle. Further, this approach does not require judgement about what part of the business cycle we will experience over the forthcoming regulatory period.

We also consider it is appropriate to base the continuing efficiency factor on the market sector data rather than data specific to the utilities sector or a subset of industries. This approach represents the efficiencies that could be available to utilities, through internal initiatives or incorporated through supply chains.

3.9 WAMC will continue reporting its output measures annually

Our decision is:



6. For WAMC to report annually against the output measures and in accordance with the framework in the Output Measures Report, which will be published on IPART's website.

We require WAMC to report against a set of output measures for each year of the 2021 determination period. These are discussed in the Output Measures Report. They relate to a range of activities including surface water and groundwater quantity and quality monitoring, floodplain management plan development and compliance, and customer and billing management. These measures are intended to:

- ensure accountability for delivering the water management services paid for by water users through regulated prices
- provide transparency to stakeholders in terms of the water management services delivered and activities undertaken by WAMC
- inform future expenditure and price reviews.

We expect over time WAMC would be collecting, monitoring and acting on data in addition to these output measures, to improve its performance.

Chapter 4 >>

Capital expenditure

04

Summary of our decisions for capital expenditure

WAMC's efficient historical capital expenditure is higher than the capital expenditure reflected in current prices

When we set the allowance in 2016, WAMC did not propose including any capital expenditure for its corporate systems. WAMC proposed including corporate capital expenditure incurred to deliver its functions over the 2016 determination period in the regulatory asset base (RAB).

We consider it is efficient to include an additional \$27.3 million of corporate capital expenditure in WAMC's RAB (including \$15.8 million for the additional year of deferral). Increasing the RAB will result in higher prices.

The efficient level of forecast expenditure is higher than the 2016 allowance but less than WAMC proposed

We set WAMC's efficient level of capital expenditure for the 2021 determination period at \$35.3 million, significantly higher (\$20.6 million or 140.3%) than the forecast used to set prices in 2016. The main driver of this increase is additional investment in WAMC's corporate systems.

The efficient capital expenditure is \$6.7 million (16.0%) less than WAMC proposed, comprising:

- \$4.2 million in scope adjustments
- \$2.0 million in catch-up efficiency adjustments
- \$0.6 million in continuing efficiency adjustments.

Our adjustments recognise the efficiency challenges proposed by the WAMC agencies for water monitoring. We also identify how WAMC can achieve our recommended efficiency savings.

This chapter sets out our assessment of WAMC's efficient level of capital expenditure. We reviewed the efficiency of WAMC's actual capital expenditure over the current determination period^a and its proposed capital expenditure for the 2021 determination period.

As with operating expenditure, we engaged Cardno to review WAMC's historical and forecast capital expenditure and recommend the efficient amount to include in the regulatory asset base (RAB). We engaged Atkins to undertake a separate review of Water NSW's corporate costs. We considered recommendations from both consultants and stakeholder submissions in making our decisions on the efficient capital expenditure.

^a Our review of WAMC's capital expenditure over the 2016 determination period includes the last year of the 2011 Determination (2015–16), the 2016 Determination (2016–2020) and the year of the deferral (2020–21).

As discussed in Chapter 3, Water NSW did not allocate its WAMC costs using the activity code framework. Instead, it has allocated its capital expenditure based on its own defined business units. Capital expenditure is split into 2 broad categories – water monitoring (groundwater and surface water monitoring activities) and corporate capital expenditure (licensing, billing and customer service activities).

Cardno considered Water NSW should directly allocate its costs to WAMC activities. Water NSW's current approach loses granularity and traceability of expenditure to these activities. Recognising the data Water NSW has provided is the best information available, Cardno assessed Water NSW's current and proposed capital expenditure against the 2 categories.

4.1 Efficient historical capital expenditure is \$43.3 million

Our decision is:



- To set the efficient level of WAMC's past capital expenditure to be included in the regulatory asset base for the 2016 determination period as shown in Table 4.1.

Table 4.1 Decision on efficient capital expenditure for the 2016 determination period (\$ millions, \$2020–21)

| | 2015–16 | 2016–17 | 2017–18 | 2018–19 | 2019–20 | 2020–21 |
|----------------|---------|---------|---------|---------|---------|---------|
| WAMC actual | 2.4 | 4.7 | 4.9 | 6.8 | 9.8 | 15.8 |
| IPART decision | 1.3 | 4.7 | 4.9 | 6.8 | 9.8 | 15.8 |
| Difference | -11 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Difference (%) | -46.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Note: Our review of WAMC's capital expenditure for the 2016 determination period includes the last year of the 2011 Determination (2015–16), the 2016 Determination (2016–2020) and the year of the deferral (2020–21).

Source: Cardno, *WAMC Expenditure Review – Final Report for IPART*, March 2021; Cardno, *WAMC Expenditure Review – Supplementary Report for IPART*, September 2021 and IPART calculations.

Our decision is to set WAMC's efficient historical capital expenditure over the 2016 determination period at \$43.3 million.^b This is \$1.1 million (2.5%) lower than WAMC's actual capital expenditure over the period.

Overall, WAMC overspent on its capital expenditure allowance by \$11.5 million (78.3%) over the 2016 determination period.^c Cardno noted it is likely the 2016 allowance was lower than the expenditure required to deliver WAMC's functions because the allowance did not include corporate capital expenditure. We consider it is appropriate for WAMC to recover its capital expenditure for office accommodation and information and communication technology (ICT) systems.⁵⁸

^b This figure includes the last year of the 2011 Determination (2015–16), the 2016 Determination (2016–2020) and the year of the deferral (2020–21).

^c This figure does not include Water NSW's actual spend of \$15.8 million in the year of the deferral.

In arriving at the efficient level of historical capital expenditure, we deducted \$1.1 million due to DPIE's error in recording costs of decommissioning groundwater bores in WAMC's 2015–16 RAB.⁵⁹ We made no further adjustments to the historical capital expenditure.

Our draft decision was to reallocate \$7.4 million of Water NSW's corporate capital expenditure from the WAMC business to its other regulated businesses and phase in corporate capital expenditure over the 2016 determination period.⁶⁰ Water NSW did not agree with our draft decision because the capital expenditure relates to accommodation and information and computer technology (ICT) projects. It considers costs should be allocated to the WAMC business because they are incurred by WAMC and should be recovered from WAMC customers, who directly benefit from the asset over the useful life of these assets.⁶¹ Cardno considered this additional information and revised its recommendation.

We consider the additional information provided by Water NSW supports its proposal that this expenditure should not be reallocated and phased in. We also reviewed Water NSW's corporate capital expenditure allocation over the 2016 period across its other business segments (that is, Greater Sydney and Rural Valleys) to ensure there is no double counting of historical capital expenditure. Therefore, we accepted WAMC's proposed historical capital expenditure and only made an adjustment for the error in 2015–16.

4.2 Efficient forecast expenditure is higher than the 2016 allowance

Our decision is:



8. To set the efficient level of WAMC's capital expenditure to be included in the regulatory asset base for the 2021 determination period as shown in Table 4.2.

Table 4.2 Decision on efficient capital expenditure for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|----------------|---------|---------|---------|---------|-------|
| WAMC proposal | 9.9 | 10.4 | 12.7 | 9.0 | 42.1 |
| IPART decision | 9.0 | 9.2 | 9.8 | 7.5 | 35.3 |
| Difference | -1.0 | -1.3 | -2.9 | -1.6 | -6.7 |
| Difference (%) | -10.0 | -12.3 | -22.7 | -17.4 | -16.0 |

Note: Proposed expenditure for consent transactions, metering and MDBA and BRC is not included.

Source: Cardno, *WAMC Expenditure Review – Supplementary Report for IPART*, September 2021 and IPART analysis.

WAMC proposed capital expenditure of \$42.1 million for the 2021 determination period. Our decision is to set WAMC's efficient level of capital expenditure for the 4-year 2021 determination period at \$35.3 million consistent with Atkins' and Cardno's recommendations (Table 4.2). This amount is a \$6.7 million (16.0%) expenditure reduction to WAMC's proposed capital expenditure for the 2021 determination period and \$20.6 million (140.3%) higher than the capital expenditure we used to set prices in 2016.

The main driver of the increased expenditure for the 2021 determination period is the inclusion of corporate capital expenditure. We consider it is appropriate for WAMC to recover its corporate capital expenditure for office accommodation and ICT systems used to deliver its functions.

Our reductions in forecast capital expenditure comprise:

- \$4.2 million in scope adjustments, which applies to some of WAMC's corporate capital expenditure
- \$2.0 million in catch-up efficiency adjustments, based on a catch-up efficiency factor of 1.1% per year
- \$0.6 million in continuing efficiency adjustments, based on a continuing efficiency factor of 0.7% per year.

Table 4.3 summarises our adjustments for the 2021 determination period. This expenditure has increased by \$1.1 million since our draft decision due to additional information provided by Water NSW on vehicle procurement.

Table 4.3 Efficient capital expenditure for the 2021 determination period (\$ millions, 2020–21)

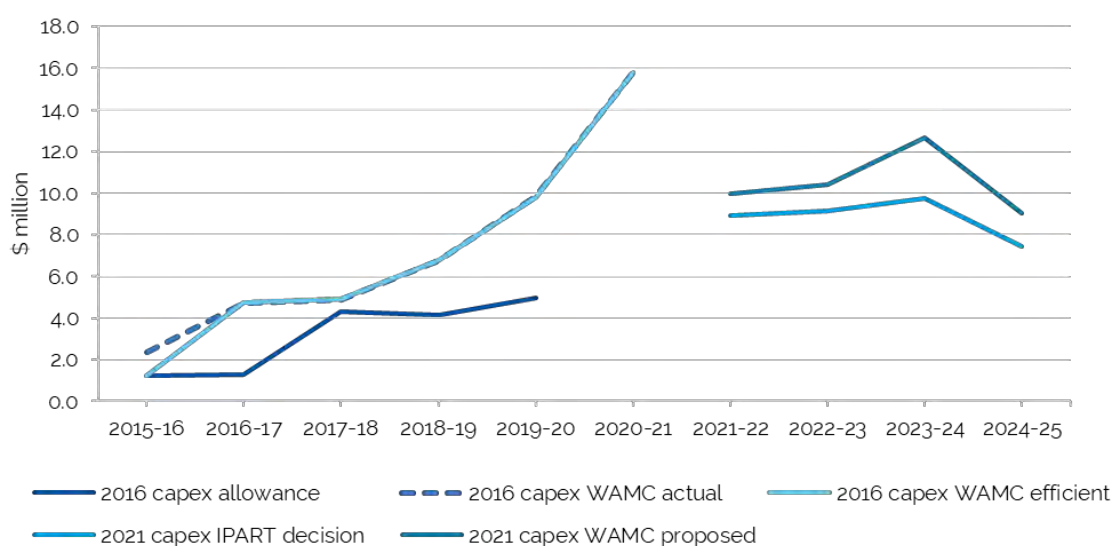
| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|-------------------------------|------------|------------|------------|------------|-------------|
| WAMC's proposal | 9.9 | 10.4 | 12.7 | 9.0 | 42.1 |
| Specific adjustments | | | | | |
| Atkins's scope adjustments | -0.7 | -0.7 | -1.9 | -0.7 | -4.2 |
| Efficiency adjustments | | | | | |
| Catch-up efficiency | -0.2 | -0.4 | -0.7 | -0.6 | -2.0 |
| Continuing efficiency | -0.1 | -0.1 | -0.2 | -0.2 | -0.6 |
| Total efficient capex | | | | | |
| Total | 9.0 | 9.2 | 9.8 | 7.5 | 35.3 |
| Difference | -1.0 | -1.3 | -2.9 | -1.6 | -6.7 |
| Difference (%) | -10.0 | -12.3 | -22.7 | -17.4 | -16.0 |

Note: Proposed expenditure for consent transactions, metering and MDBA and BRC is not included.

Source: Atkins, *Water NSW Expenditure Review – Supplementary Report for IPART*, June 2021 and IPART analysis.

Figure 4.1 compares our decision with WAMC's historical and forecast capital expenditure.

Figure 4.1 Our decision compared with past and proposed capital expenditure



Source: IPART analysis.

The sections below outline our findings relating to WAMC's forecast capital expenditure.

4.2.1 We reduced corporate capital expenditure to directly allocate costs based on cost drivers

We reduced Water NSW's corporate capital expenditure by \$4.2 million (excluding efficiency adjustments) over the 2021 determination period. Our decision is based on Atkins's separate review of Water NSW's corporate expenditure (Box 4.1). Cardno did not make any separate recommendations on WAMC's corporate capital expenditure to avoid double counting of cost savings.

The corporate capital expenditure reduction comprises:

- a \$3.0 million reallocation of Water NSW's corporate capital expenditure to its other business units for ICT projects and its Integrated Business Systems project,
- a \$1.2 million reduction for vehicle procurement expenditure. We considered the additional information provided by Water NSW in response to our Draft Report and agree with Atkins's conclusion that a lower reduction should be applied to take into account the impact of a longer useful life of vehicles on maintenance costs.⁶²

Based on Atkins' recommendation on Water NSW's corporate capital expenditure, an ex-post adjustment to the NRR may be required at the next Water NSW Greater Sydney price review.

Box 4.1 Method for allocating corporate capital expenditure

Water NSW has several business segments, including part of WAMC (the subject of this price review), Rural Valleys, Greater Sydney and the Broken Hill pipeline. Water NSW allocates capital expenditure for its corporation-wide projects – such as ICT, property and fleet – across these business segments.

In 2020, Water NSW amended its Cost Allocation Manual to allocate its corporate capital expenditure using salaries.

We engaged Atkins separately to review Water NSW's current capitalisation method as a whole for all its business segments.

Atkins considers each capital project should have a clear view of the scope, assets, deliverables and efficiencies at the business plan stage to allocate costs to the relevant regulated business segments. That is, the corporate capital expenditure should be directly allocated based on its cost drivers.

Atkins has reviewed each project with significant expenditure, and assessed the impact of direct cost allocation at individual project level to determine the relevant corporate capital expenditure that should be reallocated to the WAMC business.

Source: Atkins, *Water NSW Expenditure Review – Final Report for IPART*, March 2021, pp 202–205.

4.3 WAMC could make efficiency savings of \$2.6 million

Consistent with our approach for operating expenditure, we applied catch-up and continuing efficiency adjustments to WAMC's forecast capital expenditure. We consider WAMC could make \$2.6 million (6.1%) savings from catch-up and continuing efficiencies.

The total efficiency savings applied to WAMC is comparable to efficiencies applied to other water utilities at a similar stage of efficiency maturity (Table 4.4). We consider the efficiency applied is comparable to that of Sydney Water in 2016.

Table 4.4 Comparison of capital expenditure efficiencies

| Determination | Start year | Catch-up efficiency (%) | | | | Continuing efficiency (% p.a.) | Conclusion at ex-post review |
|---------------|------------|-------------------------|--------|--------|--------|--------------------------------|------------------------------|
| | | Year 1 | Year 2 | Year 3 | Year 4 | | |
| Water NSW GS | 2020 | 2.1% | 4.1% | 6.7% | 7.3% | 0.8% | N/A |
| Central Coast | 2019 | 3.25% | 7.5% | 10.8% | 13.0% | 0.3% | N/A |
| Sydney Water | 2016 | 2.9% | 5.8% | 7.2% | 8.6% | 0.3% | Achieved |
| WAMC | 2021 | 2.1% | 4.2% | 6.8% | 7.4% | 0.7% | Achievable |

Source: Atkins, *Water NSW Expenditure Review – Final Report for IPART*, March 2021, Table 6–15, pp 134–147; IPART, *Review of prices for Water NSW Greater Sydney from 1 July 2020 – Final Report*, June 2020, p 3; IPART, *Review of Central Coast Council's water, sewerage and stormwater prices to apply from 1 July 2019*, May 2019, p 42 and IPART, *Review of prices for Sydney Water Corporation from 1 July 2016 to 30 June 2020*, June 2016, p 111.

4.3.1 WAMC could make catch-up efficiency savings of \$2.0 million

Catch-up efficiency is the efficiency that needs to be achieved to catch up with a frontier company. Our decision is to apply catch-up efficiency savings of \$2.0 million over the 2021 determination period.

In our Draft Report, we applied catch-up efficiency savings of \$1.9 million. We did not apply a catch-up efficiency adjustment for Water NSW's water monitoring activities. This approach aimed to avoid double counting and to acknowledge Water NSW's proposed efficiency, which has already been incorporated in its proposed costs. Our catch-up efficiency adjustment applies to Water NSW's corporate capital costs. The adjustment is based on Atkins's judgment, its review of Water NSW's capital processes, and analysis of a sample of its representative capital program as a whole.⁶³

Atkins identified 4 key areas how Water NSW could move towards the efficiency frontier over time:

- Improvements to capital program development, optimisation and prioritisation
- Improvements to value engineering
- Improvements in cost estimating and the management of contingencies
- The impact of new procurement processes and the likely savings from more effective program management.⁶⁴

In response to our draft decision, Water NSW raised concerns that our catch-up efficiency adjustments did account for progress on developing a number of its capital processes. It also questioned whether the catch-up efficiencies are achievable for a relatively young organisation.⁶⁵

Atkins reviewed Water NSW's submission, but does not consider its concerns are sufficient to justify a change to its catch-up efficiency adjustments. Water NSW does not appear to challenge its capital program internally, and the various areas identified above should assist Water NSW in achieving its catch-up efficiencies. Atkins also recognises Water NSW is employing new initiatives that ought to have projected benefits and efficiency savings. However, these savings have not been factored into its expenditure proposals. On this basis, Atkins considers the catch-up efficiency adjustments are warranted.⁶⁶

We agree with Atkins's assessment and have decided to adopt its catch-up efficiencies. Atkins's total combined capital efficiency challenge for Water NSW is set out in Table 4.5.

Table 4.5 Catch-up efficiency for capital expenditure (\$ millions, \$2020–21)

| Level of efficiency | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|--|-------------|-------------|-------------|-------------|-------------|
| Catch-up: capital program development, optimisation and prioritisation | 0.1% | 0.2% | 0.3% | 0.4% | |
| Catch-up: value engineering | 0.5% | 1.0% | 1.5% | 2.0% | |
| Catch-up: cost-estimating | 0.5% | 1.0% | 2.0% | 2.0% | |
| Procurement | 1.0% | 2.0% | 3.0% | 3.0% | |
| Total catch-up efficiency (cumulative %) | 2.1% | 4.2% | 6.8% | 7.4% | |
| Total catch-up efficiency (\$ million) | -0.2 | -0.4 | -0.7 | -0.6 | -2.0 |

Source: Atkins, *Water NSW Expenditure Review – Supplementary Report for IPART*, June 2021, p 31; and IPART analysis.

4.3.2 WAMC could make continuing efficiency savings of \$0.6 million

The continuing efficiency adjustment reflects the long-run shift in the efficiency frontier. It ensures our maximum prices capture the impact of innovation and new technologies that enable firms to do more with less inputs. By setting a quantitative target, we establish an expectation of continuous productivity improvement that efficient businesses should reasonably be able to achieve over the next determination period.

Our draft decision was to apply a continuing efficiency adjustment of 0.7% per year (Table 4.6).^d Water NSW did not agree with our draft decision and considered this adjustment unachievable.⁶⁷ We have not changed our decision, for the reasons outlined in section 3.8.2. Our continuing efficiency adjustment for Water NSW results in \$0.6 million in efficiency savings over the 2021 determination period.⁶⁸

Table 4.6 Continuing efficiency for capital expenditure (\$ millions, \$2020–21)

| Level of efficiency | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|--------------------------------------|---------|---------|---------|---------|-------|
| Continuing efficiency (cumulative %) | -0.7% | -1.4% | -2.1% | -2.8% | |
| Continuing efficiency (\$ million) | -0.1 | -0.1 | -0.2 | -0.2 | -0.6 |

^d The value of the continuing efficiency adjustment is derived from the compound long-run average of the Australian Bureau Statistics multi-factor productivity in the Australian economy.

Chapter 5 >>

Murray–Darling Basin Authority and
Dumaresq–Barwon Border Rivers
Commission costs

05

Summary of our decisions for MDBA and BRC costs

WAMC's efficient level of building block MDBA costs is \$34.6 million and BRC costs is \$3.5 million

Despite applying efficiency adjustments, our building block Murray–Darling Basin Authority (MDBA) and Dumaresq–Barwon Border Rivers Commission (BRC) costs for WAMC are higher than DPIE/NRAR's proposal (51.6% and 13.8% respectively).

This outcome is mainly because we did not accept DPIE's allocation of total MDBA and BRC costs across the WAMC and Water NSW rural bulk water determinations.

Instead, we shifted Salt Interception Scheme costs of \$13.1 million from Water NSW rural bulk water to WAMC. Regulated and unregulated river users in the Murray–Darling Basin are both driving the need for this scheme, so its costs should be allocated to them (via the WAMC determination).

We applied the building block approach to WAMC's MDBA and BRC costs

We consider this approach is more efficient and equitable than recovering expenditure in the year it occurs (our previous approach).

In particular, capital expenditure would be recovered over the useful life of the assets it creates.

WAMC contributes to 2 inter-jurisdictional water management organisations on behalf of the NSW Government – the MDBA and BRC.

We reviewed the method for allocating MDBA and BRC costs between the WAMC and Water NSW rural bulk water price determinations, as well as the efficiency of these costs. We engaged Atkins to assist with this review. We considered Atkins' recommendations and stakeholder submissions in making our decisions.

5.1 WAMC's efficient costs for MDBA is \$34.6 million and BRC is \$3.5 million

Our decisions are:

- 9. The efficient level of WAMC's Murray–Darling Basin Authority costs for the 2021 determination period is \$34.6 million as shown in Table 5.1.
- 10. The efficient level of WAMC's Dumaresq–Barwon Border Rivers Commission costs for the 2021 determination period is \$3.5 million as shown in Table 5.2.

DPIE/NRAR proposed MDBA costs of \$22.8 million be allocated to WAMC for the determination period. Our decision is to allow MDBA costs of \$34.6 million (Table 5.1). Although this is 51.6% higher than DPIE's proposal, it is lower than the 2016 allowance and actuals (by 11.2% and 20.5%, respectively).

The higher allowance is mainly driven by our reallocation of Salt Interception Scheme (SIS) costs of \$13.1 million from the Water NSW rural bulk water determination to the WAMC determination, as discussed in section 5.4.

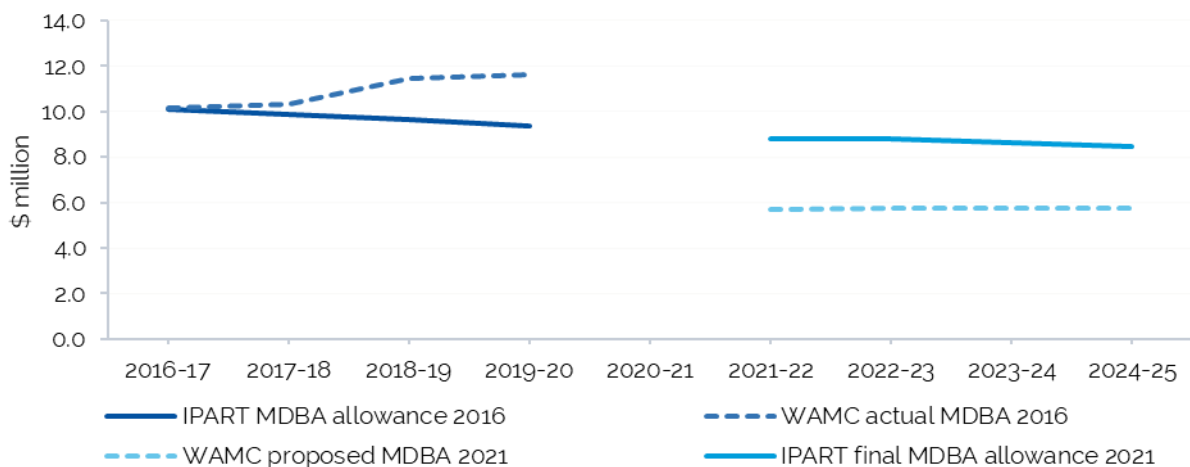
Table 5.1 Decision on efficient building block MDBA costs for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|----------------|---------|---------|---------|---------|-------|
| WAMC proposed | 5.7 | 5.7 | 5.7 | 5.7 | 22.8 |
| IPART decision | 8.8 | 8.8 | 8.6 | 8.5 | 34.6 |
| Difference | 3.1 | 3.1 | 2.9 | 2.7 | 11.8 |
| Difference (%) | 54.9% | 53.3% | 50.5% | 47.8% | 51.6% |

Note: Totals may not add due to rounding.

Source: IPART calculations and Atkins, *MDBA/BRC Expenditure Review - Final Report for IPART*, March 2021, p 11; and IPART analysis.

Figure 5.1 Our decision and WAMC's past and proposed MDBA contributions (\$ millions, \$2020–21)



Source: IPART analysis.

DPIE also proposed BRC costs of \$3.0 million be allocated to WAMC for the determination period. Our decision is to allow BRC costs of \$3.5 million (Table 5.2). Our allowance is higher because we rebalanced the BRC's corporate costs between the WAMC and Water NSW rural bulk water determinations.

Table 5.2 Decision on efficient BRC costs for the 2021 determination period (\$ millions, \$2020–21)

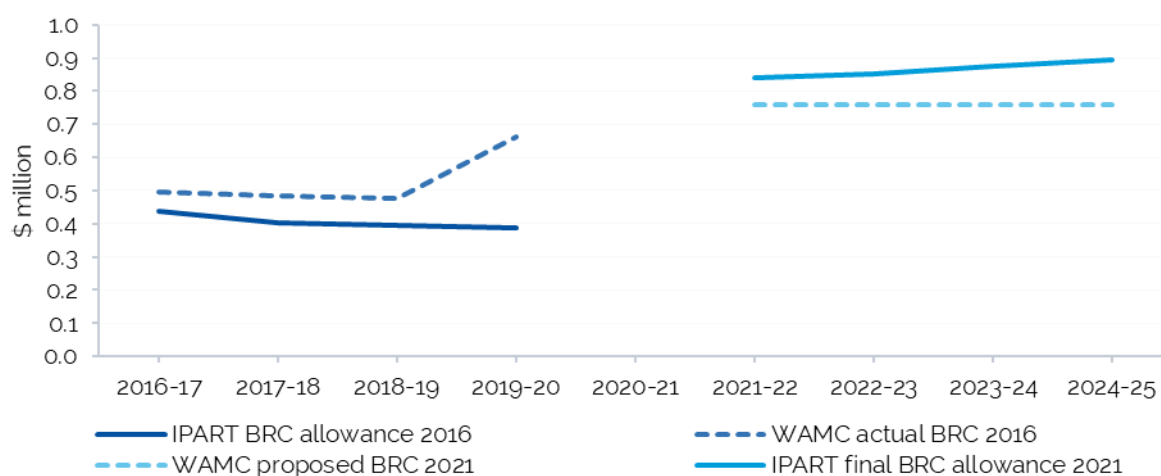
| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|----------------|---------|---------|---------|---------|-------|
| WAMC proposed | 0.8 | 0.8 | 0.8 | 0.8 | 3.0 |
| IPART decision | 0.8 | 0.9 | 0.9 | 0.9 | 3.5 |
| Difference | 0.1 | 0.1 | 0.1 | 0.1 | 0.4 |
| Difference (%) | 10.6% | 12.0% | 14.9% | 17.9% | 13.8% |

Note: WAMC's proposal includes only operating expenditure. IPART's decision includes operating and capital expenditure (building block). Totals may not add due to rounding.

Source: IPART calculations and Atkins, *MDBA/BRC Expenditure Review - Final Report for IPART*, March 2021, pp 14–15; and IPART analysis.

DPIE's proposal, and our decision, represent a step change in BRC costs compared with the 2016 determination period (Figure 5.2).

Figure 5.2 Our decision and WAMC's past and proposed BRC contributions (\$ millions, \$2020–21)



Source: IPART analysis.

5.2 DPIE proposed increases in total MDBA and BRC costs

DPIE proposed increases in total MDBA and BRC contributions across the WAMC and Water NSW rural bulk water reviews.^a

5.2.1 MDBA costs would increase by 8.1% overall under DPIE's proposal

DPIE proposed total MDBA contributions of \$126.8 million,⁶⁹ compared with \$117.3 million for the previous price reviews (an increase of 8.1%).

It proposed recovering 18.0% of these costs from the WAMC determination and 82.0% from the Water NSW rural bulk water determination. This cost allocation is based on DPIE assigning MDBA's non-river management costs to WAMC and river management costs to Water NSW rural bulk water.⁷⁰

In the previous price reviews, the MDBA contributions were split 33.2% to WAMC and 66.8% to Water NSW rural bulk water.

5.2.2 BRC costs would increase by 24.9% overall under DPIE's proposal

DPIE proposed total BRC contributions of \$7.2 million⁷¹ (compared with \$5.8 million for the previous WAMC and Water NSW rural bulk water price reviews – a 24.9% increase).

Currently, 28.1% of BRC contributions are recovered from the WAMC determination and 71.9% from the Water NSW rural bulk water determination. This allocation is based on historical natural resource management and river operations costs.⁷²

For the 2021 determination period, DPIE proposed revising this split (42.2% to WAMC and 57.8% to Water NSW rural bulk water) to reflect the BRC's forward work plan.

5.2.3 Stakeholders were concerned about efficiency of proposed cost increases

Several stakeholders were concerned about the magnitude of the proposed MDBA and BRC contributions.⁷³ They strongly supported improving DPIE's incentive to actively engage in negotiating these contributions, so only efficient costs are passed onto water customers.⁷⁴ Water NSW considered this engagement is already occurring.⁷⁵

In particular, some stakeholders considered there should be greater transparency and efficiency requirements for MDBA contributions. They questioned the justification for MDBA charges and the efficiency of the MDBA's operations, and urged IPART to scrutinise these costs.⁷⁶

As outlined below, we examined the efficiency of these costs. We also reviewed the method for allocating these costs between the WAMC and Water NSW rural bulk water reviews. We were assisted in these tasks by our consultant, Atkins.

^a The MDBA stated its program costs were not proposed to increase. Rather, the NSW Government was proposing to assign a greater proportion of its contribution to the MDBA program to water users compared to past reviews (MDBA, Submission to IPART's Draft Report for the Water NSW rural bulk water review, April 2021, p 1).

5.3 We made efficiency adjustments to MDBA and BRC costs

Our decisions allowed for:

- Total MDBA costs of \$117.6 million for the 2021 determination period. This is \$9.2 million (7.3%) lower than DPIE proposed for the WAMC and Water NSW price reviews.
- Total BRC costs of \$7.0 million for the 2021 determination period. This is \$0.2 million (2.5%) lower than DPIE proposed for the WAMC and Water NSW price reviews.

5.3.1 We reduced proposed MDBA costs by 7.3%

In our previous WAMC price review, we expressed concerns about the transparency and efficiency of the MDBA's operations. For example, we noted the MDBA's activities may not have been subject to a sufficient level of independent review to ensure its costs were efficient.⁷⁷

In its proposal, DPIE/NRAR highlighted that the MDBA had subsequently implemented several independent review and transparency measures.⁷⁸ For example, new projects are subject to cost-benefit analysis. Further, the Commonwealth Government has committed to undertaking triennial independent reviews of the MDBA's River Murray Operations costs to provide greater transparency and assure water users that expenditure is reasonable.

We recognise improvements have been made in this area. However, we consider there is still scope to deliver efficiency savings. As such, we accepted Atkins' recommended adjustments, including:

- **Scope adjustments** of \$3.7 million, to remove MDBA corporate overheads from Water NSW MDBA costs. DPIE confirmed that corporate MDBA costs should be recovered through the government share, and not through either WAMC or Water NSW prices to customers.⁷⁹
- **Catch-up efficiency adjustments** of 1.1% per year cumulative, totalling \$3.4 million in efficiency savings over the 2021 determination period.⁸⁰
- **Continuing efficiency adjustments** of 0.7% per year cumulative, totalling \$2.2 million in efficiency savings over the 2021 determination period.⁸¹

The catch-up and continuing efficiency adjustments are consistent with those we applied to WAMC expenditure in this review, as well as Water NSW's expenditure in the concurrent rural bulk water review.

Public Interest Advocacy Centre Limited (PIAC) supported our adjustments to MDBA costs in its submission to our Draft Report for the Water NSW rural bulk water review, noting they would help facilitate greater efficiency in the recovery of costs for water services.⁸² Coleambally Irrigation Co-operative Limited also supported catch-up and continuing efficiency adjustments being applied to MDBA costs.⁸³ However, Murray Irrigation Limited considered IPART had only applied modest 'efficiency dividends' to the MDBA's operations.⁸⁴

In its submission to our Draft Report for the Water NSW rural bulk water review, the MDBA raised the following main objections to the efficiency adjustments:

- It submitted it was unclear how Atkins had given consideration to the findings of a previous independent review into efficiency improvements for River Murray Operations when recommending additional generic efficiency requirements.
- It was concerned that further untargeted reductions in expenditure would lead to limitations to service delivery and increased risk of a service failure.
- It questioned the utility of a 'continuing efficiency' at the frontier without information on a comparable frontier company.⁸⁵

We asked Atkins to review the MDBA's submission. Atkins noted the previous independent review related to actual costs rather than forward looking expenditure (which was the focus of Atkins' recommendations). Further, it considered its recommended efficiency adjustments were modest and proportionate to the control the MDBA had over its costs. Finally, while it acknowledged the lack of comparator organisations for the MDBA, the concept of frontier efficiency encourages new innovations, ways of working and a drive towards efficient outcomes.⁸⁶ It therefore maintained its recommended efficiency adjustments, and our decision is consistent with these adjustments.

5.3.2 We reduced proposed BRC costs by 2.5%

Atkins recommended several adjustments, which we accepted. These involve:

- **Scope adjustments** comprising:
 - A water infrastructure adjustment (-\$1.2 million): The BRC does not have a formalised agreement in place for the operation and maintenance works carried out by Sunwater. This adjustment aligns expenditure with the BRC's historical operation and maintenance costs (i.e. before Sunwater applied a significant risk premium to these costs).
 - A resource management adjustment (+\$0.2 million). BRC's costs appeared to be going down. However, this was due to problems with its accruals accounting and late invoicing by Water NSW. This adjustment means budgets are based on actual costs including accruals.
 - An Annuity Fund Contribution adjustment (-\$0.3 million). We netted off this contribution from operating expenditure as it is linked to capital expenditure. We have made a separate capital expenditure allowance for the BRC.⁸⁷
- **Catch-up efficiency adjustments** of 1.1% per year cumulative, with efficiency savings totalling \$0.2 million for operating expenditure and \$0.1 million for capital expenditure over the 2021 determination period.⁸⁸
- **Continuing efficiency adjustments** of 0.7% per year cumulative, with efficiency savings totalling \$0.1 million for operating expenditure and \$0.1 million for capital expenditure over the 2021 determination period.⁸⁹

PIAC supported our efficiency adjustments in its submission to our Draft Report for the Water NSW rural bulk water review.⁹⁰ However, the BRC considered the catch-up and continuing efficiency adjustments may be challenging to achieve during the determination period, given the governance improvement program it had recently undertaken.⁹¹

In its submission to our Draft Report, the BRC also partly agreed with our views on the efficiency of charges under Sunwater's service contract. However, it considered a material component of the increase was justified, due to changes in approach to risk and insurances. Therefore, it disagreed with our decision to align Sunwater's costs with historical expenditure.⁹²

After considering the BRC's submission, we have decided to maintain our draft decision on its efficiency adjustments. The BRC did not provide any new information relating to how much of the additional costs related to Sunwater contract negotiations and how much the BRC considered to be unjustified. Atkins also reviewed the BRC submission and maintained its recommended efficiency adjustments.⁹³

5.3.3 MDBA and BRC operations could be more efficient

Atkins identified several ways the MDBA and BRC could improve their processes, which would bring them closer to how an efficient agency operates (Box 5.1).

Box 5.1 MDBA and BRC catch-up efficiencies

Decision making: Hardwire justification and timing challenge into requests to State Contracting Authorities and MDBA/BRC decision making.

Reporting activities and expenditure: Enhance reporting of activities and expenditure from State Contracting Authorities.

Outputs and outcomes: Put in place a benefits realisation process from definition to tracking.

Incentives: Ensure efficiency is a key metric for MDBA management. Ensure BRC management drive permeates governance processes. Consider measures such as delegated management contracts with State Contracting Authorities to formalise requirements and put in place performance incentives.

Multi-year planning: Create more detailed budget projections and formalise multi-year budget agreements, with firmer commitments for some elements where this will aid efficiency and effectiveness.

Source: Atkins, *MDBA/BRC Expenditure Review - Final Report for IPART*, March 2021, pp 9–10, 13–14.

Atkins found:

- Efficiency was not a key focus of the MDBA. The BRC was in a similar situation before the recent change in its management, but this is now changing.
- There were limited incentives for the MDBA or BRC to pursue efficiencies, with no entity clearly accountable for efficiency.
- While MDBA has strengthened prioritising investments, the justification framework remained weak.⁹⁴

Adopting catch-up efficiencies of the type outlined in Box 5.1 would assist the MDBA and BRC address these concerns.

5.4 We changed the allocation of MDBA and BRC costs

Our main change to DPIE's proposed allocation of costs between the WAMC and Water NSW rural bulk water determinations involved the MDBA's SIS.^b

5.4.1 We have shifted the MDBA's SIS costs from Water NSW to WAMC

In the previous determination period, SIS costs were borne by users in the WAMC determination. In its pricing proposal, DPIE has instead allocated these costs (\$13.1 million)⁹⁵ to Water NSW's Murray and Murrumbidgee valleys. We consider these costs should remain with WAMC.

- The SIS activity relates to water resource management, which is a WAMC monopoly service, rather than Water NSW's bulk water storage and delivery services.
- The prices for Water NSW's rural bulk water services apply only to regulated river users. However, Atkins found that salinity issues were not just caused by regulated river licence holders. Rather, salinity was the result of basin-wide land use, drainage and water abstraction effects.⁹⁶
- Both regulated and unregulated river users across the entire Murray–Darling Basin contribute to high salinity, so regulated river licence holders should not bear all the cost of the SIS. Rather, the SIS's efficient costs should be added to WAMC and applied to all regulated and unregulated river management costs in the Murray–Darling Basin (Box 5.2).

PIAC supported our allocation of costs across the Water NSW and WAMC determinations.⁹⁷ The Commonwealth Environmental Water Holder and Coleambally Irrigation Co-operative Limited also supported the decision to move SIS costs to WAMC.⁹⁸

Murray Valley Private Diverters disagreed that irrigation itself was by far the dominant driver of salinity in the Murray–Darling Basin. It considered salinity investments, land management and new modelling had significantly changed predicted salinity risks.⁹⁹ The driver of salinity costs was also discussed at the public forum, where it was outlined that these costs are allocated 80% to users and 20% to government.¹⁰⁰ At this stage we have not been provided with evidence to change this cost share.

^b The SIS is a MDBA program that aims to intercept high salinity groundwater before it reaches river systems. Bores are constructed in the Murray valley to capture groundwater, which is pumped to evaporation beds.

Box 5.2 Allocating the costs of managing salinity

In allocating the MDBA costs of the Salt Interception Scheme (SIS), we considered what factors were driving the need for the scheme.

Broadly, salinity in waterways is caused by the mobilisation of salts that are (in the undisturbed natural environment) bound to soils. Salt mobilisation is driven by 2 factors:

1. **Land clearing generally, including for agriculture:** Land clearing removes natural root systems that access groundwater, helping to keep it in a relatively steady state. This causes the groundwater table to rise and dissolve salts in the soil. Salinity costs caused by land clearing should *not* be allocated to water licence holders, because it is not the use or holding of a water licence that is causing the costs to be incurred
2. **Irrigation specifically:** Irrigation removes water from rivers and applies it on productive land. This water percolates through soils and mobilises salts, and can increase groundwater flow rates and salt loads into rivers. Salinity costs caused by irrigation should be allocated primarily to licence holders, because water use is the primary driver of salinity and hence costs.

DPIE confirmed irrigation itself is by far the dominant driver of salinity in the Murray Darling Basin. However, it also confirmed that groundwater licence holders are unlikely to contribute to the problem, so we have ring-fenced them from these SIS costs.

Table 5.3 sets out DPIE's proposed allocation of MDBA contributions between the WAMC and Water NSW rural bulk water determinations, and our allocation after shifting the SIS costs.

Table 5.3 Allocation of MDBA contributions

| | DPIE's proposed allocation | IPART's allocation |
|--|----------------------------|--------------------|
| WAMC determination | 18.0% | 29.2% |
| Water NSW rural bulk water determination | 82.0% | 70.8% |

Source: IPART calculations and Atkins, *MDBA/BRC Expenditure Review - Final Report for IPART*, March 2021, p 64 and IPART analysis.

5.4.2 Our scope adjustments to BRC's expenditure allocated costs differently

In allocating its proposed BRC costs between Water NSW and WAMC, DPIE used the following method:

1. Water infrastructure operational costs allocated 100% to Water NSW rural bulk water.
2. Water resource management operational costs allocated 100% to WAMC
3. BRC corporate costs then apportioned based on the relative costs from steps 1 and 2 above.¹⁰¹

As set out in section 5.3, we adjusted propose expenditure on water infrastructure services (reducing it by \$1.2 million). We also increased resource management costs by \$0.2 million. These adjustments shifted the allocation of costs between WAMC and Water NSW rural bulk water (Table 5.4).

We used these proportions to allocate both efficient operating costs and efficient capital costs.

Table 5.4 Allocation of BRC contributions

| | DPIE's proposed allocation | IPART's allocation |
|--|----------------------------|--------------------|
| WAMC determination | 42.2% | 56.4% |
| Water NSW rural bulk water determination | 57.8% | 43.6% |

Source: IPART calculations and Atkins, *MDBA/BRC Expenditure Review - Final Report for IPART*, March 2021, p 82.

5.5 We applied a building block approach to set WAMC's MDBA and BRC costs

Our decision is:



- To use the building block approach to set efficient Murray–Darling Basin Authority and Dumaresq–Barwon Border Rivers Commission costs.

Sections 5.3 and 5.4 outline how we adjusted the total MDBA and BRC costs proposed by DPIE:

- firstly, we reduced these costs to an efficient level
- secondly, we allocated costs between the WAMC and Water NSW rural bulk water determinations based on which water users are creating the need for these costs to be incurred.

This section explains how we have applied the building block approach to WAMC's share of these efficient MDBA and BRC costs. We consider there are efficiency and equity benefits in using the building block approach. Further, it means the approach we use in setting MDBA and BRC charges is brought into line with our treatment of WAMC's core costs.^c

In previous WAMC and Water NSW determinations, we included all efficient MDBA and BRC expenditure in prices in the year that expenditure occurs.^d The amounts were typically based on forecasts of NSW's annual contributions to the MDBA and BRC respectively.¹⁰² We usually applied efficiency adjustments to these forecasts to ensure water users only pay for MDBA and BRC expenditure that is efficient and directly related to the water management or rural bulk water services delivered.

^c We also applied the building block approach to Water NSW rural bulk water's MDBA and BRC costs in its concurrent review.

^d In 2014, the ACCC included MDBA and BRC costs as required by a government direction to the then State Water Corporation.

Because payments were passed through in the year they occurred, 100% of all efficient MDBA and BRC costs have been effectively treated as operating expenditure. However, expenditure by both the MDBA and BRC includes both operating expenditure and capital expenditure.

Murrumbidgee Private Irrigators Inc and Murrumbidgee Groundwater Inc were concerned about the impact on future determinations from using the building block approach for capital costs.¹⁰³ PIAC and Coleambally Irrigation Co-operative Limited supported applying the building block approach to MDBA and BRC costs. PIAC considered this approach should facilitate greater transparency, consistency and efficiency in the recovery of costs for water services.¹⁰⁴

Water NSW submitted that the building block approach would create cashflow issues for the NSW Government.¹⁰⁵ We consider that while the cashflow implications for the NSW Government are different under the building block approach, the arrangement is no different to the NSW Government funding the capital itself. In particular, where the NSW Government holds its capital investment relating to MDBA and BRC activities, it is compensated through the allowance for return on assets (i.e. weighted average cost of capital (WACC) x RAB).

5.5.1 Capital expenditure should be recovered over its useful life

Our previous approach to including MDBA and BRC costs in prices did not recognise how and when capital expenditure is most efficiently recovered from water users. Including capital expenditure in prices in the year that expenditure occurs is potentially inefficient and inequitable.

We consider that capital expenditure should be recovered over the useful life of the assets it creates. This approach ensures water users who receive a service from an asset over time contribute to its cost. Under our standard building block approach set out in Chapter 2, efficient:

- operating expenditure is passed through in the year it occurs, and
- capital expenditure is added to the RAB, and we include allowances for depreciation and return on assets for the value of that RAB.

This approach ensures water users only pay for their share of an asset that may deliver services over a long period, and the utility is compensated for:

- its initial investment (through a depreciation allowance for assets in the RAB), and
- the economic cost of holding those assets over time (through the allowance for a return on assets, calculated as WACC x RAB).^e

^e The WACC and RAB are discussed in chapter 6.

5.5.2 We set efficient capital and operating expenditure for MDBA costs

Our decision is:



12. To set WAMC's operating and capital expenditure for Murray–Darling Basin Authority costs as shown in Table 5.5.

Table 5.5 sets out our decision on WAMC's efficient MDBA operating and capital expenditure over the 2021 determination period. WAMC's share of efficient MDBA costs is allocated entirely to operating expenditure, consistent with Atkins' recommendation.

We consider water management activities undertaken by the MDBA do not require investment in assets and infrastructure. Asset creation and renewal activities relate to River Murray Operations, which are allocated to Water NSW's rural bulk water services (not to WAMC's water management services).¹⁰⁶

Table 5.5 Decision on WAMC's efficient MDBA expenditure for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|-------------------------|------------|------------|------------|------------|-------------|
| Operating expenditure | 8.7 | 8.7 | 8.6 | 8.4 | 34.4 |
| Capital expenditure | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total MDBA costs | 8.7 | 8.7 | 8.6 | 8.4 | 34.4 |

Note: Both the user share and government share of efficient costs are included. Only the user share of costs is included when setting prices. Our decisions on the user share of costs are discussed in Chapter 7.

Source: Atkins, *MDBA/BRC Expenditure Review - Final Report for IPART*, March 2021, p 64.

5.5.3 We set efficient capital and operating expenditure for BRC costs

Our decision is:



13. To set WAMC's operating and capital expenditure for Dumaresq–Barwon Border Rivers Commission costs as shown in Table 5.6.

Table 5.6 sets out our decision on WAMC's efficient BRC operating and capital expenditure over the 2021 determination period.

Table 5.6 Decision on WAMC's efficient BRC expenditure for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|-----------------------|------------|------------|------------|------------|------------|
| Operating expenditure | 0.8 | 0.8 | 0.8 | 0.8 | 3.2 |
| Capital expenditure | 0.2 | 0.1 | 0.3 | 0.1 | 0.8 |
| Total BRC | 1.0 | 0.9 | 1.1 | 0.9 | 4.0 |

Note: Totals may not add due to rounding. Both the user share and government share of efficient costs are included. Only the user share of costs is included when setting prices. Our decisions on the user share of costs are discussed in Chapter 7.

Source: Atkins, *MDBA/BRC Expenditure Review - Final Report for IPART*, March 2021, pp 85, 87.

To estimate the capital expenditure component of BRC's efficient costs, Atkins reviewed BRC's renewal and enhancement budget over the determination period.

- The BRC budgeted for around \$3.0 million of renewal and enhancement expenditure from 2021-22 to 2024-25, to be funded equally by NSW and Queensland.
- After applying the catch-up and scope efficiency adjustments outlined in section 5.3 to the NSW portion, this equates to \$1.4 million in capital expenditure to be shared between WAMC and Water NSW rural bulk water.¹⁰⁷

Our decision is consistent with the recommendations made by Atkins. Further, as outlined in section 5.4, we have allocated this capital expenditure:

- 43.6% to Water NSW, or \$0.6 million
- 56.4% to WAMC, or \$0.8 million.

In the short run, using the building block approach may put downward pressure on bills for some water sources. As capital expenditure is recovered more slowly over time, prices needed to recover those costs are also spread over future years.

However, these relative savings in bills would reduce in the long-term as the RAB increases through the creation and addition of more assets. The capital cost building blocks (allowances for depreciation and return on assets) will increase as a result.

5.5.4 We set the opening MDBA and BRC RABs to zero

Our decision is:



14. To set WAMC's opening regulatory asset base for Murray–Darling Basin Authority and Dumaresq–Barwon Border Rivers Commission costs at 1 July 2021 to zero.

The RAB represents the economic value of assets held by a utility. Each year, capital expenditure is added to the RAB, and depreciation and capital contributions^f are deducted.

Historically, all NSW's share of MDBA and BRC expenditure has been funded directly through annual payments. Some of this expenditure has been capital expenditure used to build assets and infrastructure. These payments have been passed directly through to water users, or paid for by the NSW Government through its share of these costs. As such, we consider that the existing MDBA and BRC assets used to deliver services to water users for WAMC and Water NSW rural bulk water's services have already been fully paid for.

^f Capital contributions include grants and other contributions that directly fund new assets. If an asset is funded, or partially funded, by direct cash contributions, it does not need to be recovered through prices because there are no further costs incurred by a utility.

In the past, we have set opening RABs to zero for the purpose of setting prices. In our 2011 WAMC Determination, we set the opening RAB to zero for its core costs.¹⁰⁸ Because we are treating MDBA and BRC capital expenditure differently from operating expenditure for the first time, this will change from 2021–22. This means that all efficient MDBA and BRC capital expenditure will enter the RAB from 2021–22 onwards.⁹

With an opening RAB of zero and our decision on forecast efficient MDBA and BRC capital expenditure set out in Table 5.5 and Table 5.6, the annual MDBA and BRC RAB values over the 2021 determination period are set out in Table 5.7.

Table 5.7 WAMC's MDBA and BRC RAB values at 1 July for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|----------|---------|---------|---------|---------|
| MDBA RAB | 0.0 | 0.0 | 0.0 | 0.0 |
| BRC RAB | 0.0 | 0.2 | 0.3 | 0.6 |

Note: RAB balance = Previous year's RAB balance plus capital expenditure less depreciation, disposals and capital contributions.

5.5.5 Total building block costs for MDBA and BRC expenditure are \$38.1 million

As set out in Chapter 2, the notional revenue requirement (NRR) derived from the building block approach represents the total efficient costs of delivering services. They include allowances for:

- operating expenditure
- regulatory depreciation (RAB/average life of assets in the RAB)
- return on capital (WACC x RAB)
- tax
- working capital.

Table 5.8 below shows the NRR for WAMC's efficient MDBA and BRC activities over the 2021 determination period arising from our decisions. These amounts have changed only marginally since our draft decision due to our updated WACC.

Table 5.8 Decision on WAMC's notional revenue requirement for MDBA and BRC costs over the 2021 determination period (\$ millions, \$2020–21)

| Building block | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|---------------------------|------------|------------|------------|------------|-------------|
| Operating expenditure | 9.5 | 9.5 | 9.3 | 9.2 | 37.5 |
| Return on assets | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Regulatory depreciation | 0.0 | 0.0 | 0.1 | 0.1 | 0.2 |
| Tax allowance | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Working capital allowance | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 |
| Total | 9.6 | 9.6 | 9.5 | 9.4 | 38.1 |

Source: IPART analysis.

⁹ We are setting Water NSW's bulk water prices in Murray–Darling Basin valleys for this determination under the WCIR. The WCIR limit our scope to make ex-post efficiency adjustments to capital expenditure that enters the RAB.

5.5.6 Better clarity and quality of data will enhance transparency

A number of stakeholders were concerned about the efficiency and transparency of MDBA and BRC costs.¹⁰⁹

We consider that our decisions deliver efficiency benefits to Water NSW and its customers. Creating a RAB and recovering capital costs over the useful life of assets means that, over time, MDBA and BRC-related prices will better reflect the efficient costs and timing of expenditure. Customers benefit from the equitable sharing of asset costs through time, and greater clarity on the types of expenditure undertaken by the MDBA and BRC

Further, including a RAB and sharing capital costs over time may provide a more flexible regulatory mechanism for including large capital projects undertaken by the MDBA and BRC. When capital costs need to be recovered in the year they occur, the prohibitive costs (and impact on customers) of efficient, long-term but expensive assets may make them unfeasible. However, when costs are recovered over time, and the utility or agency investing in large projects is compensated for the holding cost of those investments, such projects (if any) may be more likely to be undertaken

Nonetheless, we consider more specific data on projects and programs that deliver services to water users by the MDBA and BRC would be beneficial. This will allow a greater level of precision in assessing both the efficient levels of expenditure and the services delivered to users. This would also improve the transparency to customers of the programs, projects and assets funded through WAMC's MDBA and BRC-related charges.

Chapter 6 >>

Other building block costs and
notional revenue requirement



Summary of our decisions for other building block costs

The total notional revenue requirement is \$290.4 million, \$56.0 million (16.2%) less than WAMC's proposal.

The difference is mainly due to us reducing WAMC's proposed operating expenditure to an efficient level.

We increased the allowance for historical capital expenditure by \$7.4 million compared with our draft decision. We included the full corporate capital expenditure proposed by WAMC due to regulatory constraints.

To set water management prices, we first determine the efficient costs that WAMC should incur to efficiently deliver its water management services, including costs of interjurisdictional agencies such as MDBA and BRC (Chapter 5).

The notional revenue requirement (NRR) represents our view of the total efficient costs of providing water management services in each year of the determination period.^a As outlined in Chapter 2 and Appendix B, we use a building block approach to calculate the total NRR.

The building blocks making up the total NRR are:

- WAMC's operating expenditure allowance (Chapter 3)
- MBDA and BRC expenditure allocated to WAMC and its water users (Chapter 5)
- other building blocks (this chapter) including WAMC's return on assets, regulatory depreciation, working capital allowance and tax allowance.

The sections below summarise our decisions on the total NRR and discuss other WAMC building blocks not covered in previous chapters of this report.

6.1 The total NRR is \$290.4 million over the next 4 years

Our decision is:



15. To set a total notional revenue requirement of \$290.4 million as shown in Table 6.1.

The total NRR is \$290.4 million over 4 years, as set out in Table 6.1. The total NRR is \$56.0 million (16.2%) less than WAMC's proposal over the 4 years of the 2021 determination period.

^a WAMC also provides consent transaction services and water take measurement and reading services (or metering services). These services are not included in water management services. We set efficient costs and charges for these services separately (discussed in Chapters 12 to 14).

Table 6.1 Decision on total notional revenue requirement for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|---------------------------|-------------|-------------|-------------|-------------|--------------|
| WAMC's proposal | | | | | |
| Total NRR | 85.1 | 87.2 | 86.5 | 87.6 | 346.3 |
| IPART decision | | | | | |
| Operating allowance | 54.9 | 54.8 | 52.6 | 52.0 | 214.3 |
| Return on assets | 1.4 | 1.5 | 1.6 | 1.7 | 6.2 |
| Regulatory depreciation | 5.2 | 6.1 | 7.1 | 7.9 | 26.3 |
| Working capital allowance | 0.8 | 0.8 | 0.8 | 0.9 | 3.4 |
| Tax allowance | 0.4 | 0.5 | 0.5 | 0.6 | 2.0 |
| WAMC NRR | 62.8 | 63.8 | 62.6 | 63.0 | 252.3 |
| MDBA NRR | 8.8 | 8.8 | 8.6 | 8.5 | 34.6 |
| BRC NRR | 0.8 | 0.9 | 0.9 | 0.9 | 3.5 |
| Total NRR | 72.4 | 73.4 | 72.1 | 72.4 | 290.4 |
| Difference | -12.7 | -13.7 | -14.4 | -15.2 | -56.0 |
| Difference (%) | -14.9% | -15.8% | -16.6% | -17.3% | -16.2% |

Note: Totals may not add due to rounding. In this table, the regulatory depreciation is a mid-year figure (i.e. the RAB roll-forward depreciation figure is discounted by half a year of WACC).
Source: IPART analysis.

6.2 WAMC's return on assets is \$6.2 million

Our decision is:

16. To calculate the return on assets for WAMC's water management services:
- using an opening regulatory asset base of \$43.4 million for 2021–22, and the RAB for each year as shown in Table 6.3
 - using our standard weighted average cost of capital (WACC) methodology, which produces a real post-tax WACC of 3.0% as outlined in Appendix C
 - applying a true-up of annual WACC adjustments in the next determination
 - using a sampling date of 31 March 2021 for market observations as outlined in Appendix C.

We calculate the return on assets by multiplying the value of the regulatory asset base (RAB) over the determination period by an efficient rate of return. As for previous reviews, we determined the rate of return using an estimate of the weighted average cost of capital (WACC).

Our final decisions resulted in a lower return on assets than WAMC proposed (Table 6.2), in part due to our final decision that resulted in a lower RAB (Table 6.3), but mainly due to us using a lower WACC.

Table 6.2 Decision on return on assets for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|----------------|---------|---------|---------|---------|-------|
| WAMC proposal | 1.5 | 1.7 | 1.8 | 1.9 | 6.9 |
| IPART decision | 1.4 | 1.5 | 1.6 | 1.7 | 6.2 |
| Difference | -0.1 | -0.1 | -0.2 | -0.2 | -0.7 |
| Difference (%) | -8.2% | -8.5% | -10.1% | -11.4% | -9.6% |

Note: Totals may not add due to rounding.
Source: IPART analysis.

6.2.1 The opening RAB for the 2021 determination period is \$43.4 million

The RAB represents the value of WAMC's assets on which we consider it should earn a return on capital and an allowance for regulatory depreciation. Our RAB roll-forward calculations for the 2016 and 2021 determination periods are shown in Tables 6.3 and 6.4.

Table 6.3 Decision on regulatory asset base roll-forward for 2015–16 and the 2016 determination period (\$ millions, \$ nominal)

| | 2015–16 | 2016–17 | 2017–18 | 2018–19 | 2019–20 | 2020–21 |
|-------------------------------------|------------|-------------|-------------|-------------|-------------|-------------|
| Opening RAB | 5.3 | 6.2 | 10.2 | 14.2 | 19.9 | 27.9 |
| Plus: Efficient capital expenditure | 1.2 | 4.4 | 4.7 | 6.6 | 9.5 | 15.8 |
| Less: Asset disposals | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 |
| Less: Regulatory depreciation | 0.3 | 0.6 | 0.8 | 1.1 | 1.4 | 1.4 |
| Plus: Indexation | 0.1 | 0.2 | 0.3 | 0.3 | -0.1 | 1.1 |
| Closing RAB | 6.2 | 10.2 | 14.2 | 19.9 | 27.9 | 43.4 |
| WAMC proposal | 7.2 | 11.1 | 15.2 | 21.1 | 28.6 | 44.0 |
| Difference | -1.0 | -0.8 | -1.0 | -1.2 | -0.7 | -0.6 |
| Difference (%) | -13.9% | -7.6% | -6.4% | -5.7% | -2.5% | -1.3% |

Note: Totals may not add due to rounding.
Source: IPART analysis.

Table 6.4 Decision on regulatory asset base roll-forward for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|-------------------------------------|-------------|-------------|-------------|-------------|
| Opening RAB | 43.4 | 47.0 | 49.8 | 52.4 |
| Plus: Efficient capital expenditure | 9.0 | 9.2 | 9.8 | 7.5 |
| Less: Asset disposals | 0.1 | 0.1 | 0.1 | 0.1 |
| Less: Regulatory depreciation | 5.3 | 6.2 | 7.2 | 8.0 |
| Closing RAB | 47.0 | 49.8 | 52.4 | 51.7 |
| WAMC proposal | 47.7 | 50.8 | 54.9 | 54.2 |
| Difference | -0.7 | -0.9 | -2.5 | -2.5 |
| Difference (%) | -1.5% | -1.9% | -4.6% | -4.5% |

Note: In this table, regulatory depreciation is an end-of-year figure. Total may not add due to rounding.
Source: IPART analysis.

The opening RAB for the 2021 determination period is \$43.4 million – an increase of \$6.3 million from our draft decision. We decided to capture the full corporate capital expenditure in the historical RAB (that is, not to phase in this expenditure) after considering the material constraints in Water NSW's regulatory framework highlighted in its submission.^b

We continued our approach of using a single RAB. We did not accept Water NSW's proposal to have multiple RABs.^c Water NSW did not provide sufficient information about how it proposed to accurately allocate multiple RABs across water sources.¹¹⁰

6.2.2 We set the WACC at 3.0%

Our decision is to use a real post-tax WACC of 3.0%. WAMC proposed a WACC of 3.2%.¹¹¹ We updated the WACC from 2.8% in the Draft Report with 31 March 2021 market parameters. Appendix C sets out the parameters that we used to calculate our WACC and reasons for not sampling the market parameters at a later date.

6.2.3 Our inflation expectations forecast approach is unchanged

Our WACC methodology involves first calculating a nominal WACC based on current and long-term market parameters measured in nominal terms. We then subtract our best estimate of inflation expectations to generate a real WACC, which we use to set prices over the determination period. All else being equal, a lower estimate of inflation expectations results in a higher real WACC.

Our standard approach to estimating inflation expectations is taking the geometric mean of the RBA's 1-year ahead inflation forecast and the midpoint of the Reserve Bank of Australia's (RBA) target range (2.5%) for each other year of the determination.

In its submission to our Draft Report, Water NSW disagreed with our approach of estimating forecast inflation expectations. It suggested we use a glide path approach to estimating inflation expectations¹¹² because:

- The current inflation expectations over the 2021 determination period are significantly lower than the forecasts produced by our inflation forecasting approach.
- Other Australian regulators have changed their approach of estimating inflation expectations to recognise the current low inflation environment. For example, Essential Services Commission of South Australia, Australian Energy Regulator and Independent Competition and Regulatory Commission are using a glide path approach to the midpoint of the RBA's inflation target over a period.

^b See chapter 4 for our decisions on historical capital expenditure.

^c Water NSW's pricing proposal proposed using 3 RABs – a corporate RAB, a water monitoring RAB and a legacy RAB.

We maintained our current approach to estimating inflation expectations. We would need strong and compelling evidence to change how we estimate a single WACC parameter in isolation, because the financial market data underlying many elements of the WACC are interrelated. It is more appropriate to consider the WACC methodology in a holistic and internally consistent way as part of our periodic WACC reviews. We intend to review our WACC method before we review these prices again in 2026.

6.2.4 We will undertake the cost of debt true-up at the next price review

We also decided to apply a true-up of annual WACC adjustments in the 2021 Determination. In our 2018 review of the WACC methodology, we decided at each price review we would consider whether to:

- update prices annually to reflect the updates in the WACC annually, or
- use a regulatory true-up at the next period, which we would pass through to prices at the beginning of the next period.¹¹³

These options are equivalent in present value terms to customers and WAMC.

In its submission to our Draft Report, Water NSW proposed adjusting the cost of debt annually to:

- mitigate risk of large price movements between regulatory periods
- benefit customers by passing on a lower cost of debt straightaway.¹¹⁴

We decided to undertake the regulatory true-up at the next price review. This approach provides greater certainty to water users about their prices over the determination period. That is, changes in prices would be impacted by inflation only, rather than also being impacted by annual changes in the cost of debt. Further, provided the true-up is smoothed over the next determination period, we do not expect price shocks would be any more likely in the next determination period compared with an annual update.

6.3 WAMC's regulatory depreciation is \$26.3 million

Our decision is:



17. To calculate the regulatory depreciation for WAMC's water management services using:
- the asset lives set out in Table 6.5 for depreciating WAMC's regulatory asset base
 - the straight-line depreciation method.

Regulatory depreciation aims to recover the cost of an asset over its useful life to ensure customers benefitting from an asset also pay for it. To calculate the regulatory depreciation, we typically divide the value of assets by their expected lives. For simplicity, we did this at an aggregated level (Table 6.5).


Table 6.5 Decision on asset lives for depreciating WAMC's regulatory asset base for the 2021 regulatory period

| Asset category | Asset life |
|---|------------|
| Infrastructure | 20 years |
| Laboratory and specialised equipment (including water monitoring instruments) | 7 years |
| Information technology systems | 7 years |
| Vehicles | 5 years |
| Buildings | 60 years |
| Office equipment | 10 years |
| Plant and machinery | 25 years |

Source: Cardno, *WAMC Expenditure Review - Final Report for IPART*, March 2021, p 205.

6.4 WAMC's working capital allowance is \$3.4 million

Our decision is:

-  18. To calculate the working capital allowance for WAMC's water management services using WAMC's proposed parameters:
- quarterly billing cycle for regulated water sources
 - annual billing cycle for unregulated water sources and groundwater
 - 30 days of delay between reading the meter and receiving payment
 - 30 days of payable
 - zero inventory.
- In addition, to have zero prepayments in each year of the determination period.

The working capital allowance ensures WAMC recovers the costs it incurs due to the time delay between providing a service and receiving the money for it (that is, when bills are paid).

We applied our standard methodology to set the working capital allowance the same way as in our draft decision. More information on our standard approach (including an explanation of the nominal post-tax WACC) can be found in our [Working Capital Allowance Policy Paper](#) on our website.

The total working capital allowance of \$3.4 million is higher than WAMC's proposal, noting Water NSW is the only WAMC agency that provided an estimate of working capital allowance in its pricing proposal (Table 6.6).

Table 6.6 Decision on working capital allowance for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|----------------|---------|---------|---------|---------|-------|
| WAMC proposal | 0.5 | 0.5 | 0.6 | 0.6 | 2.2 |
| IPART decision | 0.8 | 0.8 | 0.8 | 0.9 | 3.4 |
| Difference | 0.3 | 0.3 | 0.3 | 0.3 | 1.1 |
| Difference (%) | 64.1% | 55.9% | 48.3% | 42.1% | 52.0% |

Note: Totals may not add due to rounding.
Source: IPART analysis.

6.5 WAMC's tax allowance is \$2.0 million

Our decision is:

19. To calculate the tax allowance for WAMC's water management services using:
- a tax rate of 30%
 - IPART's standard methodology.

We include an explicit allowance for tax, consistent with our use of a post-tax WACC to estimate the allowance for a return on assets in the revenue requirement (Table 6.7). We applied our standard methodology to set the tax allowance the same way as in our draft decision.

The tax allowance is significantly lower than Water NSW proposed, because the capital expenditure allowed over the forecast period is significantly less than proposed. As a result, our estimate of taxable income is growing at a slower rate than proposed.

Table 6.7 Decision on tax allowance for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|----------------|---------|---------|---------|---------|--------|
| WAMC proposal | 0.3 | 0.5 | 0.8 | 1.1 | 2.8 |
| IPART decision | 0.4 | 0.5 | 0.5 | 0.6 | 2.0 |
| Difference | 0.2 | -0.0 | -0.3 | -0.6 | -0.7 |
| Difference (%) | 66.0% | -8.6% | -37.7% | -49.4% | -26.7% |

Note: Totals may not add due to rounding.
Source: IPART analysis.

Chapter 7 >>

Costs shares and cost drivers



Summary of our decisions for cost shares and cost drivers

We generally maintained the cost shares in our 2019 review of rural water cost shares

The user share of WAMC's efficient costs is \$226.2 million, or 77.9% of the notional revenue requirement, over the 2021 determination period.

Our decision is consistent with cost shares proposed by DPIE and NRAR, except for:

- W06-05 regional planning and management strategies, where we decreased the user share from 70% to 60%
- W04-01 surface water modelling, where we decreased the user share from 80% to 70%.

We are not explicitly changing the cost share for W08-03 compliance management, because water users are still the primary driver of this activity. However, we recognise in the short term NRAR needs to incur costs above those of an organisation with a mature compliance function, and the NSW Government should fund these costs.

We largely accepted WAMC's proposed cost drivers for allocating costs across water sources

The cost driver for several activities will change from water take to water entitlement. We consider this cost driver is more cost reflective, less volatile and simpler to administer.

As a result, costs shifted from groundwater and unregulated rivers to regulated rivers compared with the 2016 Determination.

We use cost shares to allocate WAMC's efficient costs between water users and the NSW Government (on behalf of other users such as recreational users and the broader community).

We then use cost drivers to allocate the user share of WAMC's efficient costs to water sources, defined as the combination of water type (i.e. regulated rivers, unregulated rivers and groundwater) and geographic location (i.e. valleys and areas).

This chapter sets out our decisions on WAMC's cost shares and cost drivers.

7.1 We generally maintained cost shares

Our decision is:

20. To generally set cost shares consistent with our 2019 cost shares review and WAMC's proposal as shown in Table 7.2.
- The exceptions are for W06-05 regional planning and management strategies (user share will decrease from 70% to 60%) and W04-01 surface water modelling (user share will decrease from 80% to 70%).
 - This means the user share of WAMC's efficient costs is \$226.2 million, or 77.9% of the notional revenue requirement, over the 2021 determination period as shown in Table 7.1.

Table 7.1 Decision on user share of notional revenue requirement for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|--------------------------------|-------------|-------------|-------------|-------------|--------------|
| Operating allowance | 42.6 | 42.6 | 41.4 | 41.1 | 167.7 |
| Return on assets | 1.1 | 1.2 | 1.3 | 1.4 | 4.9 |
| Regulatory depreciation | 3.9 | 4.6 | 5.4 | 6.1 | 19.9 |
| Tax allowance | 0.4 | 0.4 | 0.4 | 0.4 | 1.6 |
| Working capital allowance | 0.8 | 0.8 | 0.8 | 0.8 | 3.2 |
| User share of WAMC NRR | 48.7 | 49.6 | 49.3 | 49.8 | 197.3 |
| User share of MDBA NRR | 6.5 | 6.5 | 6.3 | 6.2 | 25.5 |
| User share of BRC NRR | 0.8 | 0.8 | 0.8 | 0.9 | 3.3 |
| User share of total NRR | 55.9 | 56.9 | 56.5 | 56.9 | 226.2 |
| % of the total NRR | 77.2% | 77.5% | 78.3% | 78.6% | 77.9% |

Source: IPART analysis.

We comprehensively reviewed our rural water cost shares framework in 2019. In particular, we examined each of WAMC's 33 activities to understand who was creating the need for the activities (and therefore who should incur the costs). As a result, we revised the cost shares for several activities.¹¹⁵

DPIE and NRAR proposed cost shares consistent with the 2019 review.¹¹⁶ Water NSW's pricing proposal did not directly address this point.¹¹⁷

We asked Cardno to examine whether circumstances had changed to warrant us further adjusting the framework. It recommended maintaining all the 2019 cost shares, except for reducing the user shares for W06-05 regional planning and management strategies from 70% to 60% and W04-01 surface water modelling from 80% to 70%. Cardno also developed recommendations about user shares for W08-03 compliance management costs and Water NSW's W-codes.¹¹⁸

We made a decision consistent with Cardno's recommendations. We are generally maintaining the cost shares set by our 2019 review, with these exceptions:

- **Decreasing the user share for W06-05 regional planning and management strategies.** Water users are still the primary drivers for WAMC developing water management strategies. However, NSW Government policy changes mean WAMC is undertaking more high-level, strategic planning. As a result, the user share will decrease from 70% to 60%.
- **Decreasing the user share for W04-01 surface water modelling.** WAMC is undertaking additional work to support broader government priorities, including floodplain harvesting (which has a 0% user share) and regional planning and management strategies (where we have lowered the user share from 70% to 60%). We have therefore reduced the user share for W04-01 surface water modelling from 80% to 70%.
- **Making efficiency adjustments to W08-03 compliance management costs, rather than changing the user share.** Cardno identified efficiency concerns with compliance management costs.¹¹⁹ Instead of explicitly changing the cost share for this activity, we addressed these concerns through reducing NRAR's costs to an efficient level. We recognise NRAR needs to incur additional costs in the short term (and the NSW Government, rather than water users, should pay them). Our approach implicitly reduces the user share for this activity on a temporary basis.
- **Addressing Water NSW's allocation of costs to W-codes.** Water NSW did not adhere to the activity code framework we use to define WAMC's monopoly services (i.e. W-codes) and allocate costs to them. Instead, Water NSW proposed shifting from individual activity codes to service areas (which comprise aggregated activities). This approach affected user shares for water monitoring and corporate capital expenditure. As a result, Cardno developed user shares for these activities, which aim to align them with our 2019 review.

These decisions are discussed in further detail below. The only change to cost shares from our Draft Report is the decrease in user share for W04-01 surface water modelling.

7.1.1 We allocated costs to the party creating the need for them to be incurred

We typically allocate costs between water users and the NSW Government on the basis of who created the need for an activity (and its associated costs) to be incurred (Box 7.1).

Box 7.1 How do we determine who should pay WAMC's efficient costs?

We use the following funding hierarchy to determine who should pay WAMC's efficient costs:

1. Preferably, the party that creates the need to incur the cost should pay in the first instance.
2. If that is not possible, the party that benefits should pay.
3. Where it is not feasible to charge the above parties (for example, because of social welfare policy, public goods, externalities, or an administrative or legislative impracticality of charging), the NSW Government (taxpayers) should pay.

Source: IPART, *Rural Water Cost Shares*, Final Report, February 2019, p 23.

Stakeholders had mixed views on cost shares in their responses to our Issues Paper and Draft Report. One stakeholder supported the existing cost share ratios as fair and reasonable. However, several stakeholders disagreed with our approach, and thought user shares should be reconsidered given the magnitude of the proposed expenditure increases by WAMC.¹²⁰

We acknowledge these stakeholders' concerns. However, we have decided to continue allocating WAMC's efficient costs to those parties who are creating the need for it to incur the costs. This is a practical and transparent method for allocating WAMC's efficient costs between water users and the NSW Government (on behalf of other users and the broader community). It is also an efficient approach, as water users face the costs of WAMC managing water resources in response to their high consumptive use.

The NSW Irrigators' Council (NSWIC) stated, while water extracted by water users only represented a small proportion of total water usage, our method meant that most of WAMC's costs were being allocated to them. We should therefore develop new cost shares to take account of the relative proportion of total water extracted by water users compared to other users.¹²¹

This proposed approach focuses on allocating costs to the parties who are 'benefiting' from the water management system, for example those which have higher priority for water allocations. We consider it is more cost reflective (and therefore more equitable) for costs to be allocated to those who create the need to incur them, as occurs under our existing method.

Most of WAMC's activities, such as planning and managing water resources and issuing and protecting licences, are required since there is high consumptive use of water resources by water users.¹²² Therefore, the majority of costs should be allocated to water users, which is reflected by the cost shares in our framework.

Some stakeholders suggested cost shares should differ from the 2019 review

Several stakeholders objected to particular aspects of the cost shares framework, suggesting:

- The user share of costs should be lower due to concerns about costs or WAMC's performance.¹²³ For example, it should be zero for expenditure caused by WAMC's organisational restructuring.¹²⁴ Further, it should be reduced for MDBA costs, since water users do not have input into the MDBA joint projects and the complex governance framework leads to higher costs.¹²⁵
- The user share should also be lower for activities that are in the public interest, driven by wider community needs or have multiple objectives (e.g. environmental policies, planning). A lower user share would also maintain NRAR's independence.¹²⁶

We understand stakeholders' concerns about the magnitude of WAMC's proposed cost increases and it pursuing activities with several objectives. That is why we examined each activity to identify whether the cost shares should change from our 2019 review. Where they have not, we have addressed these concerns through other steps in our price determination process (rather than changing the cost shares):

- First, through establishing WAMC's efficient costs. As outlined in earlier chapters, we worked with our expenditure consultants to examine whether the cost increases were justified. We then apply cost shares to these efficient costs to determine the notional level of costs to be recovered from water users.
- Second, through setting prices to recover costs from water users. We considered what portion of water users' share of efficient costs they could afford to pay over this determination period, and phase in the increases to reflect this portion (Chapter 10).

Several stakeholders requested we alter cost shares to factor in climate change

The NSWIC suggested our cost shares framework needed to be reconsidered because it could not adequately accommodate the impacts of climate change. Its submission to our Issues Paper noted:

NSWIC believe that now the largest 'impactor' on waterways is climate change, and many of the services and new infrastructure is a result of preparing towns and river systems to be resilient to a drying climate. Compared to previous determinations, the impacts of climate change on waterways is more clearly evidenced, experienced and thus broadly accepted. It would be almost impossible, however, to develop a funding model based around this 'impactor' (unless from general revenue), and thus a reconsideration of the impactor-pays principle is required.¹²⁷

We consider there is adequate flexibility within our current cost shares framework to consider and account for the impacts of climate change (Box 7.2).

Box 7.2 Climate change under our cost shares framework

Our counterfactual starting point, which we use to anchor our cost shares framework, is a world without high consumptive use of water resources. That is, a world without the need for WAMC to manage NSW water resources.

We can apply our framework to this question in the following way:

- If costs associated with climate change would still need to be incurred in the absence of high consumptive use, then water users would not be the impactor of these costs.
- Alternatively, if costs need to be incurred to secure water use and entitlements for water users beyond our counterfactual starting point, then water users can be considered the impactors.

Regardless of the materiality, we consider there is merit in applying a principles based approach to considering who should pay, based on our cost shares framework. We consider costs associated with climate change would not be incurred in the absence of high consumptive use. Therefore, water users are the impactors.

In response to our Draft Report, several stakeholders stated that in drought, water users did not receive any extractive water. However, WAMC still incurred water management costs. Therefore, water users were not the impactors. Rather climate change (e.g., extreme weather/drought) was driving these costs.¹²⁸

We note that, even in the absence of extractive water due to drought, there is still a need for WAMC to plan and manage the water resource to ensure its long-term sustainability and to protect individual water entitlements. Therefore, WAMC's costs are largely fixed, independent of water delivered (at least in the short to medium term) and predominantly driven by water users.

Source: IPART, *Rural Water Cost Shares*, Final Report, February 2019, pp 24, 45.

We asked Cardno to consider whether there were sufficient grounds to adjust user shares for climate change costs. It found that the impact on WAMC's costs of climate change could only be seen in a handful of areas and these costs were very small compared with the overall costs for WAMC's services. Further, if climate change was an impactor, its impact was substantially smaller than the impacts of high consumptive water use.¹²⁹

We decided to maintain our approach and current cost share ratios:

- Costs related to climate change are unlikely to occur in the absence of high consumptive use of water resources. Therefore, we consider water users are primarily driving these costs.
- Our approach is consistent with our cost shares for changing environmental standards. That is, although these costs are related to external events, they are fundamentally driven by (and would not be incurred in the absence of) high consumptive use of water resources.

- Water users should face efficient price signals, which include water management costs associated with climate change, to encourage efficient decisions going forward.^a

Our current cost share for W05-03 environmental water management (80% user share) already acknowledges a role for broader society to pay some costs for environmental planning and protection.

We remain open to considering this issue going forward. If there is evidence that costs (including costs associated with climate change) would be incurred in the absence of high consumptive water use, we would factor this into our cost shares framework when setting user and government cost share ratios in future determination periods.

7.1.2 We allocated a greater share of W06-05 regional planning and management strategies costs to the NSW Government

The scope of this activity has changed, so the user share should decrease from 70% to 60%. This is consistent with what Cardno recommended.¹³⁰ Further, DPIE stated this adjustment to the user share was reasonable in its response to Cardno's Draft Expenditure Report.

While water users are still the primary drivers for WAMC developing water management strategies, NSW Government policy has shifted. As a result, WAMC is undertaking more high-level, strategic planning with broader objectives. For example, it will work on strategies that support the NSW Government's 2040 Economic Blueprint targeting productive and vibrant regions.¹³¹

Coleambally Irrigation Co-operative Limited supported our decision to reduce the user share for this activity. However, it also considered many of the planning activities related to policy development, so the user share should be set to zero. Lachlan Valley Water Inc stated that regional water strategies had primarily been driven by the NSW Government's objectives rather than by stakeholders.¹³²

We consider regional water planning is a 'policy implementation' activity. Under the *National Water Initiative Pricing Principles*, these costs should be recovered from water users (i.e. only policy development activities should be excluded, as explained in Chapter 2). Further, WAMC needs to establish water management plans and strategies mainly due to high consumptive water use. Therefore water users are the primary drivers of these activities.

^a The Productivity Commission noted irrigators would likely need to contend with more frequent and severe droughts due to climate change, and so would need to adapt to a world with less water (Productivity Commission, *National Water Reform*, Draft Report, February 2021, pp 159–160).

7.1.3 We allocated a greater share of W04-01 surface water modelling costs to the NSW Government

We have revised the cost share for this activity since the Draft Report. WAMC provided Cardno with additional information about how the scope of this activity has changed since the 2019 review. In response, Cardno recommended the user share decrease from 80% to 70%. We have made a decision consistent with this recommendation.¹³³

WAMC is undertaking additional work to support broader government priorities, including floodplain harvesting (which has a 0% user share) and regional planning and management strategies (where we have lowered the user share from 70% to 60%). We have therefore reduced the user share for W04-01 surface water modelling from 80% to 70%.

7.1.4 We made efficiency adjustments to W08-03 compliance management costs, rather than changing the cost share

As outlined in Chapter 3 on operating expenditure, Cardno identified efficiency concerns with compliance management costs. Instead of changing the cost share for this activity, we addressed these concerns through reducing NRAR's costs to an efficient level – that of a steady state organisation with a mature compliance function.

Our approach ensures we continue to allocate costs to whichever party creates the need for them to be incurred. Efficiency concerns are dealt with separately as part of the expenditure review process. NRAR also proposed maintaining the existing cost shares for this activity in its pricing proposal.

However, we recognise additional costs are required in the short term (and the NSW Government, rather than users, should pay them). This approach will enable NRAR to respond to historical compliance issues identified by the Matthews review and pursue its broad objective to build public confidence in its enforcement activities.^b In effect, we are implicitly reducing the user share for this activity on a temporary basis.

7.1.5 We addressed Water NSW's allocation of costs to W-codes

In our 2019 review we decided to continue using the activity code framework (W-codes) to define WAMC's monopoly services and allocate costs to them. This framework underpins our price regulation of WAMC.

However, Water NSW's pricing proposal did not adhere to this framework. Water NSW considered the activity codes did not directly align with its activities and cost allocation methods. Instead, it proposed shifting from individual activity codes to service areas (which comprise aggregated activities).

^b One of NRAR's principle objectives is to maintain public confidence in the enforcement of natural resources management legislation (*Natural Resources Access Regulator Act 2017* s 10(b)).

This approach created challenges for Cardno's expenditure review, in particular:

- Losing the ability to trace costs between the 2016 Determination, current period actual costs and forecast costs
- Creating inconsistencies between Water NSW, DPIE and NRAR for jointly delivered activities
- Reducing the link between the impactor and the costs allocated to them (where Water NSW aggregated activity codes with varying user shares).¹³⁴

As a result, Cardno recommended Water NSW use detailed cost coding within its finance system to record actual costs for at least the most material activities – consent transactions, customer management activities and water monitoring.¹³⁵ We agree with this recommendation.

Water NSW's decision to not use the activity code framework has impacted user shares, particularly for water monitoring and corporate capital expenditure:

- **Water monitoring:** Water NSW proposed combining 7 individual water monitoring activity codes within W01 and W02 – with user shares varying from 40% to 100% – into a single service area. Cardno considered this aggregation was problematic, because it reduced the link between the impactor and pricing for the water monitoring activities. Water NSW was unable to provide Cardno with information to allow it to reliably break down the aggregated costs into individual activity codes. Therefore, Cardno recommended applying a 77% user share to W01 and a 100% user share to W02.¹³⁶ We have made a decision consistent with these recommendations.
- **Corporate capital expenditure:** Water NSW proposed to discontinue the business governance and support activity code (W10-02), which has a user share of 80%. In the 2019 review, we recommended looking at removing this activity code, on the basis that its costs would be transparently allocated across the relevant activity codes.
 - Instead of allocating its corporate capital expenditure from W10-02 across other activities, Water NSW proposed a separate corporate capital expenditure regulatory asset base be established, with a user share of 94%.^{c.137}
 - Cardno did not support this approach. In its view, Water NSW had not used a transparent cost allocation process to allocate its costs to the relevant activity codes. The impact of increasing the corporate capital expenditure user share from 80% to 94% was not justified without having confidence in the allocation.¹³⁸ Consistent with Cardno's recommendation, we are retaining the W10-02 activity code for corporate capital expenditure and applying the existing 80% user share.

^c This user share reflects the weighted average user share of proposed total expenditure for the 2021 determination period.

7.1.6 We decided 77.9% of WAMC's efficient costs were allocated to water users

Our cost share decisions allocate 77.9% of the total notional revenue requirement (NRR) to water users, compared with 72.3% in the 2016 review.¹³⁹ The difference is mainly due to us increasing the user share of costs for several WAMC activities in the 2019 cost share review, which we have affirmed in this review.

The user share of costs has decreased from 78.4% in the Draft Report.¹⁴⁰ This decrease partly reflects our decision to reduce the user share of W04-01 from 80% to 70% in the Final Report.

Table 7.2 outlines our cost shares, as well as WAMC's proposed cost shares. For reference, we have also included the 2016 cost shares, which we updated in the 2019 review. W-codes whose cost shares have changed since the 2019 review are highlighted in grey.

Table 7.2 Decision on WAMC's cost shares for operating and capital expenditure for the 2021 determination period

| Activity | 2016 price review | 2019 cost share review | WAMC pricing proposal | IPART decision |
|--|-------------------|------------------------|-----------------------|----------------|
| Surface water monitoring | | | | |
| W01-01 Surface water quantity monitoring | 70 | 100 | 100 | 100 |
| W01-02 Surface water data management and reporting | 50 | 50 | 50 | 50 |
| W01-03 Surface water quality monitoring | 50 | 60 | 60 | 60 |
| W01-04 Surface water algal monitoring | 50 | 40 | 40 | 40 |
| W01-05 Surface water ecological condition monitoring | 50 | 50 | 50 | 50 |
| Groundwater monitoring | | | | |
| W02-01 Groundwater quantity monitoring | 100 | 100 | 100 | 100 |
| W02-02 Groundwater quality monitoring | 100 | 100 | 100 | 100 |
| W02-03 Groundwater data management and reporting | 100 | 100 | 100 | 100 |
| Water take monitoring | | | | |
| W03-01 Water take data collection | 100 | 100 | 100 | 100 |
| W03-02 Water take data management and reporting | 100 | 100 | 100 | 100 |
| Water modelling and impact assessment | | | | |
| W04-01 Surface water modelling | 50 | 80 | 80 | 70 |
| W04-02 Groundwater modelling | 100 | 100 | 100 | 100 |
| W04-03 Water resource accounting | 100 | 100 | 100 | 100 |
| Water management implementation | | | | |
| W05-01 Systems operation and water availability management | 100 | 100 | 100 | 100 |
| W05-02 Blue-green algae management | 50 | 40 | 40 | 40 |
| W05-03 Environmental water management | 0 | 80 | 80 | 80 |
| W05-04 Water plan performance assessment and evaluation | 50 | 50 | 50 | 50 |
| Water management planning | | | | |
| W06-01 Water plan development (coastal) | 70 | 70 | 70 | 70 |

| Activity | 2016 price review | 2019 cost share review | WAMC pricing proposal | IPART decision |
|---|-------------------|------------------------|-----------------------|----------------|
| W06-02 Water plan development (inland) | 70 | 70 | 70 | 70 |
| W06-03 Floodplain management plan development | 0 | 0 | 0 | 0 |
| W06-04 Drainage management plan development | 0 | 0 | 0 | 0 |
| W06-05 Regional planning and management strategies | 70 | 70 | 70 | 60 |
| W06-06 Development of water planning and regulatory framework | 75 | 80 | 80 | 80 |
| W06-07 Cross-border and national commitments | 50 | 50 | 50 | 50 |
| Water management works | | | | |
| W07-01 Water management works | 50 | 80 | 80 | 80 |
| Water regulation management | | | | |
| W08-01 Regulation systems management | 100 | 100 | 100 | 100 |
| W08-02 Consents management and licence conversion | 100 | 100 | 100 | 100 |
| W08-03 Compliance management | 100 | 100 | 100 | 100 |
| W08-99 Water consents overhead | 100 | 100 | N/A | 100 |
| Water consents transactions | | | | |
| W09-01 Water consents transaction | 100 | 100 | 100 | 100 |
| Business and customer services | | | | |
| W10-01 Customer management | 100 | 100 | 100 | 100 |
| W10-02 Business governance and support | 70 | 80 | 94 | 80 |
| W10-03 Billing management | 100 | 100 | 100 | 100 |

Note: As outlined in section 7.1.5, Water NSW was unable to provide us with the information that would allow us to breakdown the aggregated W01 costs into individual activity codes. Therefore, while we have not changed the user share for the individual W01 codes, we have applied a user share of 77% to Water NSW's aggregated W01 costs. WAMC did not propose allocating any costs to W08-99. Sources: IPART, *Rural water cost shares – Final Report*, February 2019, pp 47–48; and WAMC (DPIE/NRAR), Pricing proposal to IPART, Detailed Paper D, June 2020, pp 2–3.

7.2 We largely accepted WAMC's proposed cost drivers to allocate costs across water sources

Our decision is:



21. To largely accept WAMC's proposed cost drivers in Table 7.3 to allocate the user share of its costs across water sources as shown in Table 7.5.
 - The exceptions are for W06-05 regional planning and management strategies and W10-02 business governance and support. We decided to use volume of entitlements as a cost driver for these WAMC activities.
 - This decision results in the user share of WAMC's efficient costs being allocated across water sources as listed in Table 7.4.

DPIE/NRAR proposed changing the cost drivers for 12 of WAMC's 33 activities from those used in the 2016 Determination. Water NSW did not outline specific changes to cost drivers.

Cardno recommended we accept DPIE/NRAR's proposal, except for the cost driver for W06-05 regional planning and management strategies. It considered DPIE/NRAR had not provided sufficient evidence to justify changing this to number of licences.¹⁴¹

The agencies did not object to Cardno's recommendations in their submissions to its Draft Expenditure Report. Further, there were no stakeholder submissions to our Draft Report on specific cost drivers.

Since the Draft Report, DPIE/NRAR provided us with new information about the cost driver for W06-05 regional planning and management strategies.¹⁴² Cardno undertook additional analysis of the cost driver for W10-02 business governance and support, and recommended an alternative allocator of costs.¹⁴³

As a result, compared with the 2016 Determination, we changed the cost drivers for:

- 11 of WAMC's activities in accordance with DPIE/NRAR's proposal^d
- W06-05 regional planning and management strategies and W10-02 business governance and support from their existing ones to volume of entitlements.^e

7.2.1 We agreed with WAMC's proposal to use several new cost drivers

In their pricing proposal, DPIE/NRAR stated cost drivers should generally be changed only where the existing driver no longer reflects the source of an activity's costs.¹⁴⁴ We agree and, therefore, focused on the cost drivers raised in their proposal. Table 7.3 sets out DPIE/NRAR's proposed new cost drivers and our decisions.

Table 7.3 Decision on DPIE/NRAR's proposed changes to WAMC cost drivers for the 2021 determination period

| 2016 cost drivers | Proposed cost drivers | Activity codes | IPART's decision |
|--|---|---|--|
| Number of water models | Volume of entitlements | W04-01 – Surface water modelling W04-02 – Groundwater modelling | Accept proposed cost driver |
| Water take | Volume of entitlements | W04-03 – Water resource accounting W05-04 – Water plan performance assessment & evaluation W06-01 – Water plan development (coastal) W06-02 – Water plan development (inland) W06-06 – Development of water planning & regulatory framework W06-07 – Cross-border & national commitments | Accept proposed cost driver |
| Water entitlement held by utilities and industry | Number of licences or volume of entitlements ^a | W06-05 – Regional planning and management strategies | Accept proposed cost driver – volume of entitlements |
| Compliance risk profile | Number of licences | W08-03 – Compliance management | Accept proposed cost driver |

^d This means they move to either volume of entitlements or number of licences, depending on the activity.

^e Excluding unregulated and groundwater Hunter Water Corporation and Water NSW entitlements.

| 2016 cost drivers | Proposed cost drivers | Activity codes | IPART's decision |
|---------------------|---------------------------------------|--|------------------------------|
| Number of customers | Number of licences | W10-01 – Customer management | Accept proposed cost driver |
| Water take | None – costs transferred to overheads | W10-02 – Business governance and support | Noted – no decision required |

a. DPIE/NRAR initially proposed 'number of licences' as the cost driver in its pricing proposal. It subsequently proposed 'volume of entitlements' as an alternative cost driver.

Source: Cardno, *WAMC Expenditure Review – Final Report for IPART*, March 2021, pp 28–30; and Email to IPART, DPIE, 7 May 2021.

Stakeholders did not raise concerns with specific cost drivers in their submissions to our Draft Report. Rather, a few stakeholders noted at a high level the process of allocating costs to water sources was flawed.¹⁴⁵ In response, we have obtained additional cost driver information from DPIE, to ensure the allocation of costs among water sources is as cost reflective as possible.

7.2.2 We used volume of entitlements as a cost driver for several WAMC activities

In the 2016 Determination, we accepted WAMC's proposal to use water take to allocate costs for several of its activities across water sources. At the time, we noted this represented a significant shift from the 2011 Determination, where volume of entitlements was a key cost driver. However, we decided on balance that water take was the best available allocator of WAMC's costs at the time.¹⁴⁶ We also accepted the number of models as a cost driver for WAMC's modelling costs.

Since then, WAMC has undertaken further analysis that indicates volume of entitlements is more cost reflective than the existing drivers of water take or number of models. Further, it is more constant over multiple time periods and less skewed by external shocks, such as drought.¹⁴⁷

We agree volume of entitlements is a more cost-reflective, less volatile allocator for WAMC's costs, and accepted WAMC's proposal.

Our decision is consistent with Cardno's recommendation. It found the volume of entitlements cost driver was more aligned with the largely fixed costs of WAMC's activities, compared with water take. It was also preferable to use this cost driver to allocate WAMC's modelling costs – rather than number of models – because it better reflects the scale and potential complexity of modelling required in different valleys, and remains relatively simple to administer.¹⁴⁸

We decided to change to volume of entitlements as a cost driver for two other WAMC activities

We received new information and analysis since our Draft Report about the cost drivers for W06-05 regional planning and management strategies and W10-02 business governance and support. We now consider the costs for these activities should also be allocated to water sources based on volume of entitlements.

W06-05 regional planning and management strategies

Costs for regional planning and management strategies are currently allocated based on volume of entitlements held by utilities and industry. In their pricing proposal, DPIE/NRAR noted this approach was because the coastal water sharing plans dominated this activity for the 2016 determination period.¹⁴⁹

DPIE/NRAR proposed allocating these costs by using number of licences as the cost driver. They considered the focus on this activity would broaden to the whole of NSW. Therefore, the number of licences best reflected the state-wide coverage of regional water strategies.

Cardno found the change in cost driver would impact regulated users more than unregulated users. Regulated users' share of costs would increase from 9.4% using the existing cost driver to 32.1% under the proposed cost driver.¹⁵⁰ It considered DPIE/NRAR did not provide sufficient evidence that these changes brought about by the new cost driver reflected the underlying costs of this activity. Therefore, it recommended retaining the existing cost driver.

DPIE/NRAR did not object to Cardno's recommendation in their submissions to its Draft Expenditure Report. We therefore made a decision in our Draft Report consistent with Cardno's recommendation and maintained the existing cost driver. In our view, DPIE/NRAR did not explain why the cost shift to regulated users – where their share of costs would increase from almost 10% under the existing cost driver to over 30% under the proposed cost driver – was appropriate.

However, DPIE subsequently provided us with new information about the cost driver for this activity.^f It explained that:

- The existing cost driver was weighted towards Hunter Water Corporation and Water NSW, because the work to be done on regional planning during the 2016 determination period was focused on the unregulated Hunter and South Coast water sources.
- For the 2021 determination period, planning activities will be spread across the whole state and heavily weighted towards the Murray and Murrumbidgee regions. There will be less costs incurred in the unregulated South Coast and Hunter water sources because the strategies for these regions are largely complete.
- It is appropriate to change the cost driver to reflect this change in focus for regional planning and management activities. Retaining the existing cost driver would result in a large portion of costs being recovered from the unregulated Hunter and South Coast water sources, when they will not drive costs.¹⁵¹

DPIE suggested changing the cost driver to volume of entitlements, excluding Hunter Water Corporation and Water NSW entitlements, which would be broadly consistent with the cost driver for other activities. Based on the new information, we agree changing the cost driver in this way would be more cost reflective than retaining the existing cost driver.

W10-02 business governance and support

In its pricing proposal, WAMC proposed deleting the W10-02 business governance and support activity code. Instead, these costs were to be re-allocated directly to WAMC's other activities. It therefore did not nominate a change to the existing cost driver (i.e., water take). However, because of problems with WAMC's proposed reallocation of these costs (section 7.1.5), we retained this activity code in our draft decision. This approach meant water take remained as the cost driver in our Draft Report.

^f Because we received this information after Cardno had finalised its Supplementary Report, it was unable to consider it.

Since the Draft Report, Cardno undertook additional analysis of the cost driver for this activity. It recommended changing it from water take to volume of entitlements.¹⁵² We agree, because it more closely reflects the costs for this activity. It is also consistent with the broad shift towards using entitlements as a cost driver for several other activities.

7.2.3 We used the number of licences as a cost driver for W08-03 compliance management and W10-01 customer management

DPIE/NRAR proposed allocating costs for W08-03 compliance management and W10-01 customer management by the number of licences. They considered the number of licences is a more cost-reflective allocator than the existing cost drivers. For example, the roll out of metering would mean the number of licences is a better allocator for compliance costs between valleys, rather than a subjective assessment of past compliance risk, which is the existing cost driver.⁹

In response to our Issues Paper, some stakeholders supported retaining a cost driver calibrated to compliance risk. Southern Riverina Irrigators considered compliance costs should be allocated to regions with known compliance issues.¹⁵³ Further, Murray Irrigation stated that water users in Southern NSW may have a lower compliance risk than those in Northern NSW (due to the nature of their operations), so less compliance costs should be allocated to them.¹⁵⁴

We have decided to accept DPIE/NRAR's proposal and use number of licences as a cost driver. We made this decision because we applied an efficiency adjustment to WAMC's compliance costs, bringing them into line with those of an organisation that has an efficient, relatively settled approach to compliance (Chapter 3). As Cardno noted, the cost driver should then reflect this type of organisation's compliance effort being more evenly directed across water users.¹⁵⁵

7.2.4 Our decision on cost drivers shifted the allocation of costs from our previous determination

Table 7.4 compares the user share of the NRR (in percentage and \$2020–21 terms) under this decision to the user share of the NRR under the 2016 Determination.

It shows there has been a shift in costs from groundwater and unregulated rivers to regulated rivers. For example, 50.3% of the user share of the NRR is allocated to regulated rivers, compared with 43.7% in 2016. A key reason is our decision to change the cost driver for several activities to volume of entitlements, and effectively exclude most unregulated and groundwater Hunter and South Coast water sources from the allocation of costs. As discussed in section 7.2.2, this approach reflects that these water sources are not the main drivers for WAMC's activities for the 2021 determination period.

⁹ DPIE/NRAR noted the existing driver allocates compliance costs on a risk basis. That is, valleys with high non-compliance rates pay a proportionately higher share of the costs (WAMC (DPIE/NRAR), *Pricing proposal to IPART, Detailed Paper D*, June 2020, p 10).

Table 7.4 Decisions on allocation of user share of total notion revenue requirement across water sources (\$ millions, \$2020–21)

| Water source | 2016 Determination | | 2021 Determination | |
|---------------------------------|--------------------|---------------|--------------------|---------------|
| | \$ million | % | \$ million | % |
| Regulated rivers | | | | |
| Border | 3.6 | 2.0% | 5.5 | 2.4% |
| Gwydir | 5.6 | 3.1% | 6.7 | 3.0% |
| Namoi | 4.3 | 2.4% | 4.2 | 1.9% |
| Peel | 1.0 | 0.5% | 0.9 | 0.4% |
| Lachlan | 6.4 | 3.5% | 9.3 | 4.1% |
| Macquarie | 7.1 | 3.9% | 9.9 | 4.4% |
| Murray | 22.7 | 12.6% | 38.4 | 17.0% |
| Murrumbidgee | 23.2 | 12.9% | 33.1 | 14.6% |
| North Coast | 0.2 | 0.1% | 0.3 | 0.2% |
| Hunter | 4.4 | 2.4% | 4.8 | 2.1% |
| South Coast | 0.3 | 0.2% | 0.5 | 0.2% |
| Total regulated rivers | 78.8 | 43.7% | 113.8 | 50.3% |
| Unregulated rivers | | | | |
| North West | 5.4 | 3.0% | 6.7 | 3.0% |
| Central West | 5.6 | 3.1% | 6.5 | 2.9% |
| Far West | 5.6 | 3.1% | 6.7 | 3.0% |
| Murray | 1.3 | 0.7% | 1.8 | 0.8% |
| Murrumbidgee | 3.5 | 2.0% | 4.0 | 1.8% |
| North Coast | 10.1 | 5.6% | 12.7 | 5.6% |
| Hunter | 7.2 | 4.0% | 8.2 | 3.6% |
| South Coast | 18.2 | 10.1% | 14.9 | 6.6% |
| Total unregulated rivers | 57.0 | 31.6% | 61.5 | 27.2% |
| Groundwater | | | | |
| Inland | 35.9 | 19.9% | 36.9 | 16.3% |
| Coastal | 8.7 | 4.8% | 14.0 | 6.2% |
| Total groundwater | 44.5 | 24.7% | 50.9 | 22.5% |
| Total NRR | 180.3 | 100.0% | 226.2 | 100.0% |

Source: IPART analysis.

The user share of the NRR allocated to regulated rivers increased from 45.2% in the Draft Report to 50.3% in the Final Report. This change is mainly due to changing the cost driver for several activities to exclude unregulated and groundwater Hunter and South Coast water sources.

Table 7.5 outlines our cost drivers, as well as WAMC's proposed cost drivers. For reference, we have also included the 2016 cost drivers and indicated where we have not changed these cost drivers. W-codes for which cost drivers have changed since the 2016 Determination are shaded in grey.

Table 7.5 Decision on WAMC's cost drivers for operating and capital expenditure for the 2021 determination period

| Activity | Water type | 2016 review | WAMC pricing proposal | IPART decision |
|--|------------|--|--|--|
| Surface water monitoring | | | | |
| W01-01 Surface water quantity monitoring | R/U | Relative cost of hydrometric stations | No change | No change |
| W01-02 Surface water data management and reporting | R/U | Number of surface water sites subject to data management | No change | No change |
| W01-03 Surface water quality monitoring | R/U | Number of quality tests processed | No change | No change |
| W01-04 Surface water algal monitoring | R/U | Number of algal tests | No change | No change |
| W01-05 Surface water ecological condition monitoring | R/U | River length | No change | No change |
| Groundwater monitoring | | | | |
| W02-01 Groundwater quantity monitoring | G | Number of groundwater bore pipes monitored | No change | No change |
| W02-02 Groundwater quality monitoring | G | Number of quality tests | No change | No change |
| W02-03 Groundwater data management and reporting | G | Number of groundwater bore pipes monitored | No change | No change |
| Water take monitoring | | | | |
| W03-01 Water take data collection | N/A | | | |
| W03-02 Water take data management and reporting | U/G | Unregulated/groundwater 2-part water take | No change | No change |
| Water modelling and impact assessment | | | | |
| W04-01 Surface water modelling | R/U | Surface water models | Volume of entitlements (surface water only) ^a | Volume of entitlements (surface water only) ^a |
| W04-02 Groundwater modelling | G | Groundwater models | Volume of entitlements (ground water only) ^b | Volume of entitlements (ground water only) ^b |
| W04-03 Water resource accounting | R/U/G | Total water take | Volume of entitlements ^c | Volume of entitlements ^c |
| Water management implementation | | | | |
| W05-01 Systems operation and water availability management | R/U/G | Water operations complexity | No change | No change |
| W05-02 Blue-green algae management | R/U | Risk rated BGA alerts | No change | No change |
| W05-03 Environmental water management | R/U | Environmental entitlement | No change | No change |
| W05-04 Water plan performance assessment and evaluation | R/U/G | Total water take | Volume of entitlements ^c | Volume of entitlements ^c |
| Water management planning | | | | |

| Activity | Water type | 2016 review | WAMC pricing proposal | IPART decision |
|---|------------|---|--|--|
| W06-01 Water plan development (coastal) | R/U/G | Total water take | Volume of entitlements (weighted to only include coastal sources) ^c | Volume of entitlements (weighted to only include coastal sources) ^c |
| W06-02 Water plan development (inland) | R/U/G | Total water take | Volume of entitlements (weighted to only include inland sources) | Volume of entitlements (weighted to only include inland sources) |
| W06-03 Floodplain management plan development | R/U | Floodplain management plans | No change | No change |
| W06-04 Drainage management plan development | R/U | Drainage management plans | No change | No change |
| W06-05 Regional planning and management strategies | R/U/G | Volume of entitlements held by utilities and industry | Number of licences | Volume of entitlements ^c |
| W06-06 Development of water planning and regulatory framework | R/U/G | Total water take | Volume of entitlements ^c | Volume of entitlements ^c |
| W06-07 Cross-border and national commitments | R/U/G | Total water take (double the weighting of allocation on activities in inland water pricing sources) | Volume of entitlements (double the weighting of allocation on activities in inland water pricing sources) ^c | Volume of entitlements (double the weighting of allocation on activities in inland water pricing sources) ^c |
| Water management works | | | | |
| W07-01 Water management works | R/U/G | Water management works project dollar cost | No change | No change |
| Water regulation management | | | | |
| W08-01 Regulation systems management | R/U/G | Number of licences | No change | No change |
| W08-02 Consents management and licence conversion | R/U/G | Number of licences | No change | No change |
| W08-03 Compliance management | R/U/G | Compliance risk management | Number of licences | Number of licences |
| W08-99 Water consents overhead | R/U/G | Consent transactions | | |
| Water consents transactions | | | | |
| W09-01 Water consents transaction | R/U/G | Consent transactions | No change | No change |
| Business and customer services | | | | |
| W10-01 Customer management | R/U/G | Number of customers | Number of licences | Number of licences |
| W10-02 Business governance and support | R/U/G | Total water take | Transferred to overheads for DPIE | Volume of entitlements ^c |
| W10-03 Billing management | R/U/G | Number of bills issued per year | No change | No change |

a. Excluding unregulated Hunter Water Corporation and Water NSW entitlements.

b. Excluding groundwater Hunter Water Corporation entitlements.

c. Excluding unregulated and groundwater Hunter Water Corporation and Water NSW entitlements.

Note: R = Regulated, U = Unregulated and G = Groundwater.

Source WAMC (DPIE / NRAR) pricing proposal to IPART, Detailed Paper D, June 2020, pp 10–12; IPART, *Review of prices for the Water Administration Ministerial Corporation from 1 July 2016 – Final Report*, June 2016, pp 182–184; and Cardno, *WAMC Expenditure Review – Final Report for IPART*, March 2021, pp 32–33.

7.2.5 We allocated user share of MDBA NRR across water sources

As outlined in Chapter 5, Atkins reviewed the efficient level of MDBA costs for the WAMC determination. As part of this review, it allocated these MDBA costs to 7 activity codes. We consider Atkins's recommended allocation to these activity codes is appropriate.

Table 7.6 sets out the outcome of our decisions on the user share of the MDBA NRR and allocation to water sources. It shows most of this NRR is allocated to 2 regulated rivers – Murrumbidgee (34.2%) and Murray (28.6%).

Table 7.6 also indicates our allocation represents a substantial proportion of the user share of the NRR used to calculate prices. For example, it represents around 25% to 30% of the total NRR for the Gwydir, Namoi and Murrumbidgee regulated rivers.

Table 7.6 Allocation of user share of MDBA's notional revenue requirement across water sources for the 2021 determination period (\$ millions, \$2020–21)

| Water source | User share of MDBA NRR (A) | % of total user share MDBA | User share of total NRR (B) | User share of MDBA NRR (as % of user share of total NRR) (A÷B) |
|---------------------------------|----------------------------|----------------------------|-----------------------------|--|
| Regulated rivers | | | | |
| Border | 0.7 | 2.8% | 5.5 | 13.0% |
| Gwydir | 1.9 | 7.5% | 6.7 | 28.3% |
| Namoi | 1.1 | 4.2% | 4.2 | 25.5% |
| Peel | 0.1 | 0.2% | 0.9 | 6.2% |
| Lachlan | 1.1 | 4.4% | 9.3 | 12.1% |
| Macquarie | 1.5 | 5.8% | 9.9 | 15.0% |
| Murray | 7.3 | 28.6% | 38.4 | 19.0% |
| Murrumbidgee | 8.7 | 34.2% | 33.1 | 26.3% |
| North Coast | 0.0 | 0.0% | 0.3 | 0.0% |
| Hunter | 0.0 | 0.0% | 4.8 | 0.0% |
| South Coast | 0.0 | 0.0% | 0.5 | 0.0% |
| Total regulated rivers | 22.4 | 87.8% | 113.8 | 19.7% |
| Unregulated rivers | | | | |
| North West | 0.2 | 0.9% | 6.7 | 3.6% |
| Central West | 0.3 | 1.1% | 6.5 | 4.2% |
| Far West | 0.9 | 3.7% | 6.7 | 14.1% |
| Murray | 0.1 | 0.2% | 1.8 | 3.0% |
| Murrumbidgee | 0.1 | 0.3% | 4.0 | 2.1% |
| North Coast | 0.0 | 0.0% | 12.7 | 0.0% |
| Hunter | 0.0 | 0.0% | 8.2 | 0.0% |
| South Coast | 0.0 | 0.0% | 14.9 | 0.0% |
| Total unregulated rivers | 1.6 | 6.3% | 61.5 | 2.6% |
| Groundwater | | | | |
| Inland | 1.5 | 6.0% | 36.9 | 4.1% |
| Coastal | 0.0 | 0.0% | 14.0 | 0.0% |
| Total groundwater | 1.5 | 6.0% | 50.9 | 3.0% |
| Total NRR | 25.5 | 100.0% | 226.2 | 11.3% |

Source: IPART analysis.

Chapter 8 >>

Water entitlement and
water take forecasts



Summary of our decisions for water entitlement and water take forecasts

For regulated rivers, we accepted WAMC's forecasts:

Entitlements are based on 2019–20 actuals.

Water take volumes are based on the 20-year historical average of water take.

Floodplain harvesting volumes are based on WAMC's best available information.

For unregulated rivers and groundwater sources, we largely accepted WAMC's forecasts

We accepted WAMC's forecasts of entitlement and water take volumes for unregulated rivers and groundwater sources.

Floodplain harvesting volumes for unregulated rivers are based on WAMC's best available information.

Metering reforms lead to increasing water sale volumes over the 2021 determination period.

We did not establish a demand volatility adjustment mechanism for WAMC.

Once we established the user share of efficient costs in each water source and decided what proportions of these costs to recover through fixed (entitlement) and variable (water take) charges. We then utilised water entitlement and water take forecasts to calculate maximum prices. If the entitlement and water take forecasts we used are accurate (i.e. if actuals turn out to be equal to our forecasts), then the prices we set will recover the customer share of efficient costs. It is important that forecasts are as accurate as possible so that prices can best reflect efficient costs and regulated utilities can recover their efficient costs.

This chapter sets out the water entitlement and water take forecasts we used to calculate maximum prices for regulated rivers, unregulated rivers and groundwater sources, and discusses whether a demand volatility mechanism should be established for WAMC.

8.1 We accepted WAMC's forecasting approach for regulated rivers

Our decision is:



22. To set WAMC's water entitlements, water take and floodplain harvesting forecasts for regulated rivers as shown in Table 8.1, Table 8.2 and Table 8.3 respectively.

8.1.1 Water entitlement forecasts are around 7.8 million ML per year

We accepted WAMC's proposal for constant volumes over the 2021 determination period based on actual entitlements in the 2019–20 period, because entitlement volumes are generally stable (Table 8.1).¹⁵⁶ This approach was also used in the 2016 price review.

Table 8.1 Decision on regulated river entitlement forecasts for the 2021 determination period (ML per year)

| Water source | Forecast entitlements |
|--------------|-----------------------|
| Border | 266,359 |
| Gwydir | 536,585 |
| Namoi | 265,395 |
| Peel | 47,002 |
| Lachlan | 690,418 |
| Macquarie | 675,157 |
| Murray | 2,347,178 |
| Murrumbidgee | 2,704,141 |
| North Coast | 9,668 |
| Hunter | 208,811 |
| South Coast | 15,121 |
| Total | 7,765,835 |

Source: WAMC (Water NSW) submission to Draft Report, 16 April 2021, p 58.

8.1.2 Water take forecasts are around 4.0 million ML per year

WAMC forecasts water take to be around 4.0 million megalitres (ML) per year over the 2021 determination period (Table 8.2). WAMC used historical data to forecast water take.¹⁵⁷ Forecasts are based on the 20-year average of historical water take for each water source, except:

- the North Coast and South Coast regulated water sources, where only 16 years of water take data are available, consistent with the approach undertaken in the 2016 price review¹⁵⁸
- Lowbidgee supplementary water take (part of the Murrumbidgee regulated water source), which has been calculated separately using a shorter averaging period.

Table 8.2 Decision on regulated river water take forecasts for the 2021 determination period (ML per year)

| Water source | Forecast water take |
|---------------------------|---------------------|
| Border | 139,453 |
| Gwydir | 220,489 |
| Namoi | 138,241 |
| Peel | 12,625 |
| Lachlan | 182,100 |
| Macquarie | 232,545 |
| Murray | 1,379,454 |
| Murrumbidgee ^a | 1,563,243 |

| Water source | Forecast water take |
|--------------|---------------------|
| North Coast | 676 |
| Hunter | 123,631 |
| South Coast | 4,165 |
| Total | 3,996,622 |

a. This figure includes Lowbidgee supplementary water take forecasts.

Note: Water take is forecast to be same for each year of the 2021 determination period.

Source: WAMC (Water NSW) submission to Draft Report, 16 April 2021, p 58.

WAMC engaged CIE in putting together its forecasts and CIE noted water take is highly volatile, and there is "little clear pattern in year-on-year changes".¹⁵⁹ CIE considered this volatility supports using a long-run average to mitigate the effect of random variation in recent years.¹⁶⁰

Our decision is to accept WAMC's proposal and calculate water take volumes for regulated rivers based on the 20-year averaging period. In making our decision, we considered the advantages and disadvantages of the current methodology and merit of alternative approaches. The results of our analysis are summarised below.

We investigated the key drivers of water take

WAMC proposed we continue to base our water take forecast for regulated water sources on historical averages.

The benefit of this approach is that any forecast error (i.e. difference between forecast and actual) will be factored into future forecasts because the averaging period rolls forward to include the new actual water take data. This approach means over time, over-forecasts will be offset by under-forecasts and prices will be cost reflective on average.

The disadvantage of this approach is the forecast does not contain up-to-date information about current factors driving water take. For example, identifying and understanding key drivers of water take, and forecasting what these key drivers are likely to be over the next 4 years, could help us generate a more accurate water take forecast than a forecast based on historical average actual water take.

In considering WAMC's proposal, we considered whether alternative forecasting methods are available by attempting to better understand the key drivers of historical water take. We considered available information that could influence the demand and supply of water, and constraints on demand and supply. This information included data on entitlements, allocation, licence categories, geographic location and environment (including dam levels, rainfall and temperature).

While this analysis has helped improve our understanding of the key drivers of water take, our results are inconclusive. This outcome is because of data limitations and potential complexities in the relationships between variables that may have been omitted from our methodology. WAMC is well placed, in terms of expertise and access to data, to further investigate the key drivers of water take (including impacts from climate change) to inform future pricing proposals.

8.1.3 Floodplain harvesting forecasts are around 212,000 ML per year

We accepted WAMC's floodplain harvesting (FPH) water take forecasts to set charges when FPH is introduced (Table 8.3).

WAMC expects the FPH regulation will be operational during the 2021 determination period. It expects FPH will have a small impact on overall water take for certain regulated water sources (around 5% per year based on total water take volumes). WAMC relied on best available information to estimate the impact, which included latest flood models, farm surveys, on-ground mapping, satellite imagery and remote sensing.¹⁶¹

Table 8.3 Decision on regulated river floodplain harvesting forecasts for the 2021 determination period (ML per year)

| Water source | Forecast |
|--------------|----------------|
| Border | 38,000 |
| Gwydir | 93,200 |
| Namoi | 43,700 |
| Macquarie | 37,500 |
| Total | 212,400 |

Source: DPIE email to IPART, 5 May 2021.

8.2 We accepted WAMC's forecasting approach for unregulated rivers

Our decision is:



23. To accept WAMC's proposed approach for forecasting water entitlements, water take and floodplain harvesting volumes for unregulated rivers as shown in Table 8.4, Table 8.5 and Table 8.6 respectively.

8.2.1 Water entitlement forecasts are around 3.2 million ML per year

In the 2016 price review, we accepted WAMC's forecasting approach for unregulated water sources. It used the latest actual entitlement volumes available at the time (for the 2015–16 period) as the basis for forecasting unregulated water entitlement volumes over the 2016 determination period.¹⁶²

For this price review, WAMC proposed some changes to its forecasting approach. For unregulated rivers water entitlements, WAMC proposed factoring in the impact of non-urban metering reforms that would result in water users moving from 1-part to 2-part tariffs if they meet the new regulatory requirements. WAMC assumed the tariff transition would be staggered over the 2020–2023 period based on the current roll out timetable of the metering framework.¹⁶³

We consider WAMC has applied some rigour when estimating total water entitlements for unregulated water sources over the 2021 determination period given the limited historical data available for unregulated water sources. WAMC provided a detailed consultant report, which documented the steps taken to calculate entitlements volumes for each water source.¹⁶⁴

We accepted WAMC's general approach to forecasting water entitlements for the different unregulated water sources, including the impact of non-urban metering reforms (Table 8.4).

Table 8.4 Decision on unregulated river water entitlement forecasts (ML)

| Water source | 2-part tariff entitlements | 1-part tariff entitlements | Total entitlements |
|--|----------------------------|----------------------------|--------------------|
| Border | 30,111 | 15,734 | 45,845 |
| Gwydir | 30,862 | 18,605 | 49,468 |
| Namoi | 69,264 | 89,250 | 158,514 |
| Peel | 2,330 | 10,024 | 12,353 |
| Lachlan | 18,779 | 37,029 | 55,808 |
| Macquarie | 240,969 | 58,304 | 299,273 |
| Far West | 159,929 | 71,712 | 231,640 |
| Murray and Lower Darling | 38,967 | 13,557 | 52,525 |
| Murrumbidgee | 47,842 | 48,999 | 96,841 |
| North Coast | 123,136 | 154,174 | 277,310 |
| Hunter (including Hunter Water Corporation) | 526,810 | 149,262 | 676,072 |
| South Coast (including Water NSW Greater Sydney) | 1,169,800 | 86,718 | 1,256,518 |
| Total | 2,458,798 | 753,366 | 3,212,165 |

Note: Figures may not add due to rounding. Figures shown in the 2-part tariff and 1-part tariff columns are valid across the full 2021 determination period for Border, Gwydir, Namoi, Peel, Lachlan, Macquarie, Far West, Murray and Murrumbidgee. For Hunter, North Coast and South Coast, the roll out of the non-urban metering reforms to 2022–23 means there are slightly more unregulated river entitlements on 1-part tariffs than shown here in 2021–22, and slightly less on 2-part tariffs. Total entitlements are unaffected. Source: IPART calculations using WAMC AIRSIR submission to IPART, November 2020 and additional information provided by WAMC in September 2020.

8.2.2 Water take forecasts are around 1.0 million ML per year

In the 2016 price review, we accepted WAMC's forecasting approach for unregulated water sources. It forecast water take volumes by multiplying forecast entitlement volumes with historical utilisation rates of the different water users.¹⁶⁵ Estimating a 20-year rolling average for unregulated water take was not possible because water take data for unregulated water sources is scarce.

For this price review, WAMC proposed some changes to its forecasting approach. Similar to water entitlements, WAMC proposed to factor in the impact of non-urban metering reforms into forecast water take volumes for the 2021 determination period.^a WAMC also proposed using the more complete unregulated water take (usage) data that are now available (stored in the water accounting system).¹⁶⁶

^a Under the new non-urban metering reforms, the measured water take will increase as a result of more customers with water meters (chapter 14).

As for water entitlements, we consider WAMC has applied some rigour when estimating water take volumes for unregulated water sources over the 2021 determination period. Its approach makes the best use of limited historical data available for unregulated water sources. WAMC provided a detailed consultant report, which documented the steps taken to calculate water take volumes for each water source. Given the data constraints, we do not consider further data manipulation would improve the forecasting of water take.

We decided to accept WAMC's general approach to forecasting water take volumes for the different unregulated water sources, including the impact of non-urban metering reforms, except for Macquarie unregulated. Table 8.5 lists forecast water take volumes for water users on the 2-part tariff in unregulated water sources over the 2021 determination period.

For Macquarie, we increased the water take volumes by 100 ML. This is consistent with our decision in the concurrent review of Water NSW's rural bulk water services, where we increased the water take of one of the customers.¹⁶⁷

Table 8.5 Decision on unregulated river water usage forecasts for the 2021 determination period (ML per year)

| Water source | Forecast annual usage |
|---|-----------------------|
| Border | 5,724 |
| Gwydir | 1,506 |
| Namoi | 3,942 |
| Peel | 575 |
| Lachlan | 4,050 |
| Macquarie | 55,031 |
| Far West | 92,802 |
| Murray | 5,201 |
| Murrumbidgee | 9,073 |
| North Coast | 41,138 |
| Hunter (incl Hunter Water Corporation) | 123,287 |
| South Coast (incl Water NSW Greater Sydney) | 651,027 |
| Total | 993,355 |

Note: For Border, Gwydir, Namoi, Peel, Lachlan, Macquarie, Far West, Murray and Murrumbidgee, the forecast annual usage volumes are valid across the full 2021 determination period. For Hunter, North Coast and South Coast, the roll out of the non-urban metering reforms to 2022–23 means there are slightly less measurable usage volumes in 2021–22.

Source: IPART calculations using WAMC AIRSIR submission to IPART, November 2020 and additional information provided by WAMC in September 2020.

8.2.3 Floodplain harvesting forecasts are around 47,000 ML per year

We accepted WAMC's forecast water take for when FPH is introduced (Table 8.6).

As noted above, WAMC expects the FPH regulation will be operational during the 2021 determination period, and will have a small impact on overall water take for certain unregulated water sources. WAMC has relied on best available information to estimate the impact, which includes latest flood models, farm surveys, on-ground mapping, satellite imagery and remote sensing.¹⁶⁸

Table 8.6 Decision on unregulated river floodplain harvesting forecasts for the 2021 determination period (ML)

| Water source | Forecast |
|--------------|---------------|
| Gwydir | 1,408 |
| Namoi | 27,891 |
| Far West | 17,500 |
| Total | 46,799 |

Source: DPIE email to IPART, 5 May 2021.

8.3 We accepted WAMC's approach for groundwater sources

Our decision is:



24. To accept WAMC's proposed approach for forecasting water entitlements and water take volumes for groundwater as shown in Table 8.7 and Table 8.8 respectively.

8.3.1 Groundwater entitlement forecasts are around 2.0 million ML per year

WAMC proposed to use the same approach for forecasting groundwater entitlements as it used for unregulated entitlements (section 8.2.1). Based on our previous considerations, we accepted WAMC's general approach to forecasting water entitlements for groundwater sources, including the impact of non-urban metering reforms (Table 8.7).

Table 8.7 Decision on groundwater entitlement forecasts for the 2021 determination period (ML)

| Tariff structure / Water source | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|---|------------------|------------------|------------------|------------------|
| 2-part tariff entitlements | | | | |
| Inland Border | 14,618 | 14,618 | 14,618 | 14,618 |
| Inland Murrumbidgee | 359,287 | 362,139 | 362,139 | 362,139 |
| Inland Other | 1,044,768 | 1,044,768 | 1,044,768 | 1,044,768 |
| Coastal | 180,683 | 200,500 | 220,317 | 220,317 |
| Total 2-part tariff entitlements | 1,599,356 | 1,622,025 | 1,641,842 | 1,641,842 |
| 1-part tariff entitlements | | | | |
| Inland Border | 3,497 | 3,497 | 3,497 | 3,497 |
| Inland Murrumbidgee | 16,146 | 13,294 | 13,294 | 13,294 |
| Inland Other | 142,830 | 142,830 | 142,830 | 142,830 |
| Coastal | 202,620 | 182,803 | 162,986 | 162,986 |
| Total 1-part tariff entitlements | 365,093 | 342,424 | 322,607 | 322,607 |
| Total entitlements | 1,964,448 | 1,964,448 | 1,964,448 | 1,964,448 |

Note: Figures may not add due to rounding.

Source: IPART calculations using WAMC AIRSIR submission to IPART, November 2020, and additional information provided by WAMC in September 2020.

8.3.2 Water take forecasts are around 1.1 million ML per year

WAMC proposed to use the same approach for forecasting groundwater water take volumes as it used for unregulated water take volumes (section 8.2.2). Based on previous considerations, we accepted WAMC's general approach to forecasting water take volumes, including the impact of non-urban metering reforms. Table 8.8 lists forecast water take volumes for 2-part tariff in groundwater sources.

Table 8.8 Decision on groundwater water take forecasts for the 2021 determination period (ML)

| Water source | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|---------------------|------------------|------------------|------------------|------------------|
| Inland Border | 8,771 | 8,771 | 8,771 | 8,771 |
| Inland Murrumbidgee | 284,501 | 285,836 | 285,836 | 285,836 |
| Inland Other | 717,223 | 717,223 | 717,223 | 717,223 |
| Coastal | 40,197 | 44,358 | 48,518 | 48,518 |
| Total | 1,050,692 | 1,056,188 | 1,060,348 | 1,060,348 |

Source: WAMC, AIRSIR submission to IPART, November 2020; WAMC (DPIE/NRAR), Pricing proposal to IPART, June 2020, p 61; and WAMC (Water NSW), Pricing proposal to IPART, June 2020, p 114.

8.4 We did not establish a demand volatility adjustment mechanism

In its pricing proposal, WAMC proposed:¹⁶⁹

- not seeking an adjustment to its revenues for the 2021 determination period based on the demand volatility adjustment mechanism (DVAM) included in our 2016 Determination
- maintaining the DVAM from the 2016 Determination for the 2021 determination period.

In our 2016 Final Report, we said:¹⁷⁰

We will consider at the next determination of WAMC's prices:

An adjustment to the revenue requirement and prices to address any over or under-recovery of revenue over the 2016 determination period due to material differences between the level of billable water take over the period and the forecast water take volumes used in making this determination

Whether and how best to make a revenue adjustment based on the circumstances at the time.

We analysed WAMC's estimated actual revenues against revenue requirements for the 2016 determination period. We estimated WAMC over-recovered its revenues associated with groundwater sources, which was offset by under-recovery in the unregulated water source (Table 8.9). Therefore, we consider there is no requirement to make any revenue adjustments over the determination period. This approach is in line with WAMC's proposal.

Table 8.9 Revenue over (under) recovery over the 2016 determination period (%)

| | Regulated | Unregulated | Groundwater |
|------------------------------|-----------|-------------|-------------|
| Level of under/over recovery | 100.1% | 84.0% | 117.0% |

Source: IPART analysis.

While WAMC proposed continuing to have a DVAM, we did not establish a DVAM for WAMC in 2016. For clarity, in our 2016 Final Report we indicated we would consider whether and how best to make a revenue adjustment for WAMC based on the circumstances at the time. We did not explicitly establish a DVAM.

In our Issues Paper, we assumed WAMC would like to have a DVAM going forward. We presented our preliminary view that a DVAM should not be introduced because a large proportion of its revenue is not tied to water take volumes.¹⁷¹

In response to our Issues Paper, WAMC supported establishing a DVAM for its business.¹⁷² However, stakeholders were unanimous in their opposition to a DVAM for WAMC. Stakeholders considered:¹⁷³

- allocating risk to customers is inefficient and not least cost
- the NSW Government (as the ultimate owner of WAMC) should be in a better position to manage revenue volatility risk given its wide variety of revenue streams and better capacity to manage budget volatility
- irrigators have limited financial capacity to manage this risk, particularly in years of low or no water supply.

We maintain our position to not establish a DVAM for WAMC. A low proportion of WAMC's revenue is tied to water take, exposing it to relatively low risk from variations between forecast and actual volumes of water take. We do not consider that additional risk should be allocated to customers by providing a DVAM to WAMC.

In addition, not establishing a DVAM for WAMC is consistent with the position we made in our concurrent review of Water NSW's rural bulk water prices. Under the existing price structure, 70% of WAMC's revenue is recovered from fixed (entitlement) charges and 30% from variable (water take) charges. When we factor in the effect of WAMC's minimum annual charge (which moves WAMC's fixed / variable revenue split close to 80% fixed and 20% variable), this structure is very close to the structure we established for Water NSW's rural bulk water (which includes a risk transfer product designed to achieve an overall 80% fixed and 20% variable revenue split).

Chapter 9 >>

Price structures for water
management services



Summary of our decisions on price structures for water management services

We unbundled existing charges into 3 components: WAMC water management, MDBA and BRC charges

This approach aims to improve transparency in costs and prices and be consistent with how we set charges for rural bulk water.

It means water users will pay up to 3 charges, including small water users that pay the minimum annual charge. Currently, small water users only contribute to WAMC's administrative costs and not to MDBA and BRC costs. Our decision seeks to improve the sharing of these costs between all water users.

We are transitioning prices to full cost recovery:

For the WAMC component, we decided to transition prices for each water source towards full cost recovery at a capped annual real rate of 2.5% (before inflation), until full cost recovery is achieved.

For the MDBA and BRC components, we decided to set these prices at full cost recovery from 2021–22.

We largely maintained other price structure features:

We accepted WAMC's proposal to continue to set different prices for each water source.

We also accepted WAMC's proposal to continue to set 1-part and 2-part tariffs. For 2-part tariffs, we maintained the current 70:30 fixed-to-variable ratio for the WAMC component only. For MDBA and BRC components, we set an 80:20 fixed-to-variable ratio.

We continue to set separate prices for floodplain harvesting.

We also continue to set separate prices for Water NSW to recover metropolitan water planning costs.

We exempted Aboriginal Cultural Licences

We exempted Aboriginal Cultural Licences from paying charges for the 2021 determination period, while the NSW Government considers how to manage these licences in the future as part of the upcoming Aboriginal Water Strategy.

These licences make up a very small proportion of total licences and exempting them has no material impact on prices and revenue for WAMC.

After determining the share of efficient costs payable by water users, and having allocated the user share of costs to water sources, the next step is to decide on the structure of water management charges.

This chapter sets out our decisions to set separate charges for WAMC's water management, MDBA and BRC charges. We set charges for each component to recover full efficient costs over a period of time, or transition them where possible to mitigate impacts on water users. We then set prices for different water users based on their water source, the type of licence they have, whether they have water meters, whether they have special licences, and whether floodplain harvesting (FPH) is implemented in specific water sources over the 2021 determination period.

9.1 We unbundled water management charges

Our decision is:



25. To set separate charges for WAMC's water management, Murray–Darling Basin Authority and Dumaresq–Barwon Border Rivers Commission activities.

We set separate charges for WAMC's water management, MDBA and BRC activities, which we consider will:

- improve transparency in costs and prices for water users compared with the bundled charges set in the 2016 Determination
- be consistent with how we set charges for our concurrent review of Water NSW rural bulk water services where MDBA and BRC charges are separate to Water NSW's bulk water charges.

Stakeholders supported this change,¹⁷⁴ indicating they would like to see more transparency in costs associated with MDBA and BRC activities, and how these costs are funded by water users and the NSW Government.

Our decision means water users will pay up to 3 types of charges based on their location:

- In coastal areas, they will pay WAMC water management charges only
- In MDB areas (excluding BRC areas), they will pay WAMC water management charges and MDBA charges
- In BRC areas, they will pay WAMC water management charges, MDBA charges and BRC charges.

We will also continue setting the minimum annual charge (MAC). The MAC reflects WAMC's administrative costs for small water users (section 9.2). Currently, small water users only pay the MAC. Over the 2021 determination period, small water users that pay the MAC will also pay the relevant MDBA and BRC charges based on their location. We consider this change will improve the sharing of MDBA and BRC costs between all water users.

9.2 We set prices to recover efficient costs

Our decisions are:

- 26. For the WAMC water management component, to transition prices towards full cost recovery at a capped annual real rate of 2.5% until full cost recovery is achieved.
- 27. For the Murray–Darling Basin Authority component, to set prices at full cost recovery from 2021–22.
- 28. For the Dumaresq–Barwon Border Rivers Commission component, to set prices at full cost recovery from 2021–22.
- 29. For the minimum annual charge, to transition prices towards full cost recovery at a capped annual real rate of 2.5% until full cost recovery is achieved.

9.2.1 Prices will transition towards full cost recovery

WAMC proposed recovering the user share of its proposed costs through a combination of price increases and additional contributions from the NSW Government.¹⁷⁵

- WAMC proposed all existing (bundled) water management charges increase from 2020–21 price levels at a capped annual real rate of 5% (or 22% over the 2021 determination period), to mitigate price impacts on customers.
- This approach would result in under-recovery of revenue for most water sources. WAMC proposed the NSW Government provide \$87 million of community service obligation payments or additional contributions to fund the shortfall.^a

Stakeholders did not support WAMC's proposals in their submissions to our Issues Paper.

In our Draft Report, we decided to transition the WAMC water management charge component to full cost recovery at a capped real rate of 2.5% per year (before inflation) for each water source from 2020–21 charges, until full cost recovery is achieved. Further, we decided to set MDBA and BRC charge components at full cost recovery from 2021–22.¹⁷⁶

^a In the Water NSW WAMC proposal, Water NSW indicated a funding shortfall of \$97 million. We are unable to reconcile this number, and estimated the shortfall to be around \$87 million.

Some submissions to our Draft Report supported capping increases for WAMC water management component charges.¹⁷⁷ However, water users, peak bodies and other stakeholders representing water users did not support the overall price increases because of affordability concerns.¹⁷⁸ Meanwhile, WAMC supported broad increases in expenditure (as outlined in the Draft Report), which would result in upward pressure on prices and government contributions.¹⁷⁹

We decided to maintain our draft decision. We consider prices over the 2021 determination period remain sustainable. The prices will allow WAMC to recover efficient costs through a combination of price increases and contributions from the NSW Government. And transitioning prices towards full cost recovery over the 2021 determination period will limit bill shocks for water users. Overall, we consider prices over the 2021 determination period achieve an appropriate balance.

While future prices are generally higher than 2020–21 prices, these prices and bills will be lower for most (but not all) water users compared with WAMC's proposal. Further, NSW Government contributions will be lower compared with WAMC's proposal.

Final prices and analysis of the impacts of our prices are further discussed in Chapters 10 and 11 respectively.

9.2.2 Our approach considered impacts on users

To set WAMC's water management component charges, we considered:

- the charges required to achieve full cost recovery over the 2021 determination period
- the level of charges that will transition the current 2020–21 total water management charges (i.e. the entitlement charge plus the water take charge) to full cost recovery at a maximum real increase of 2.5% per year (i.e. transitioning prices).

To minimise price and bill impacts on water users, we used the minimum charge from these 2 approaches for each year of the determination period.

The process for setting the WAMC water management component charges is:

- **Step 1** – Subtract MDBA and BRC estimated charges from current 2020–21 charges for a like-for-like starting point for the WAMC water management component charges.
- **Step 2** – Calculate full cost recovery charges based on our decisions on efficient costs, price structures and entitlement and water take forecasts.
- **Step 3** – Set starting charges for 2021–22 as the minimum of:
 - full cost recovery charges, or
 - the charges calculated in step 1, escalated by 2.5% and rebalanced to achieve a 70% fixed and 30% variable price structure.^b

^b In section 9.4 we discuss our decision on the tariff structure. In summary, WAMC proposed we maintain the current 70:30 fixed-to-variable ratio for 2-part tariffs. Tariffs are structured so 70% of the forecast revenue is received from the fixed charge (\$ per ML entitlement) and 30% from the water take (or variable) charge (\$ per ML of water taken or extracted).

- **Step 4** – While charges are below full cost recovery, increase charges at a real rate of 2.5% each year of the determination period until they reach full cost recovery.

9.2.3 The minimum annual charge will transition towards full cost recovery

A MAC applies to water users or licence holders where the sum of the entitlement charge and water take charge is less than the minimum annual charge. The MAC is intended to recover most of the cost associated with account management services^c for small water holdings. In 2020–21, the MAC is set at \$214 per water user.¹⁸⁰

WAMC proposed to transition the MAC towards full cost recovery by increasing the MAC at a rate of 5% per year. It estimated its minimum cost per water user is around \$500 per year, and it would take over 18 years to achieve full cost recovery.

We did not receive any stakeholder submissions on the MAC. In past reviews, stakeholders generally support a higher, more cost-reflective MAC.¹⁸¹

Our decision is to accept WAMC's proposal to transition the MAC towards full cost recovery. However, we decided to transition the MAC at a lower annual rate of 2.5%, in line with our decision on WAMC water management charges discussed in section 9.2.1.

9.3 We continue to set prices for each water source

Our decision is:



30. To maintain our approach of setting charges for each water source – that is, the 11 regulated rivers, 12 unregulated rivers and 4 groundwater sources.

WAMC proposed to maintain the existing geographic split of prices across 3 water types as set in the 2016 Determination (i.e. water source based pricing).¹⁸²

Four stakeholders supported maintaining the water source based pricing, with one stakeholder indicating broad concerns about WAMC's cost allocation methodology.¹⁸³ Meanwhile, we received a submission to our Issues Paper from Tamworth Regional Council, and a submission to our Draft Report from P. Gill, proposing postage stamp pricing^d instead of setting different prices for each water source.¹⁸⁴

^c The costs relate to compliance management, customer management and billing management.

^d Postage stamp pricing means setting prices so that all water sources pay the same prices.

On balance, we decided to maintain water source based pricing because this approach:

- ensures prices are reasonably cost reflective and there is transparency, and hence accountability, around costs and activities
- supports the principle that those who create the need for WAMC to incur costs should pay for those costs
- received reasonable support from stakeholders.

In previous reviews, WAMC's groundwater prices were consolidated into 2 regions – Inland (including Murrumbidgee) and Coastal. This consolidation will continue over the 2021 determination period because currently available information on costs incurred by WAMC does not support further disaggregation of costs and prices.

At this stage, we do not consider further consolidation of prices or postage stamp pricing for water management services is appropriate. It would generally result in cross subsidisation between water sources, with some water sources paying prices higher or lower than the efficient costs of providing services to them. In addition, stakeholders have not been properly consulted on this matter. Over the 2021 determination period, WAMC can investigate this issue and consult with stakeholders in the lead up to the next pricing review.

Based on this decision, we set prices for 27 water sources:

- 11 regulated rivers: Border, Gwydir, Namoi, Peel, Lachlan, Macquarie, Murray, Murrumbidgee, North Coast, Hunter and South Coast
- 12 unregulated rivers: Far West, North West region,^e Central West region,^f Murray, Murrumbidgee, North Coast, Hunter and South Coast
- 4 groundwater sources: Inland, Border, Murrumbidgee and Coastal.

There is no change to the number of water sources for regulated and unregulated water sources compared with the 2016 Determination.

For groundwater sources, we decided to set separate charges for Border and distinguished it from the Inland groundwater source. In the 2016 Determination, BRC costs were allocated to the Inland source. As part of the unbundling of existing prices, we are allocating MDBA and BRC costs to relevant water sources only. BRC costs are incurred to manage water resources in the Queensland–NSW Border region. Therefore, water users in that region should pay instead of all water users in Inland water users.

^e We have continued to set prices at common levels for the Border, Gwydir, Namoi and Peel valleys, which are collectively referred to as the North West region.

^f We have also continued to set prices at common levels for the Lachlan and Macquarie valleys, which are collectively referred to as the Central West region.

9.4 We maintained our approach to setting the tariff structure

Our decisions are:

31. To maintain setting:
 - 2-part tariffs, comprised of a fixed charge (\$ per ML of entitlement or unit share) and a water take charge (\$ per ML of water extracted), for regulated water, unregulated water and groundwater sources, where water take is measured, and
 - 1-part tariffs, comprised of a fixed charge (\$ per ML of entitlement or unit share), for unregulated water and groundwater sources, where water take is not measured.
32. To maintain the approach of setting 1-part tariffs as the sum of the fixed charge and water take charge set for 2-part tariffs in each water source.
33. For WAMC's water management price component, to set the tariff structure for the 2-part tariffs so that 70% of forecast revenue from the 2-part tariffs is recovered via the fixed charge and 30% of forecast revenue from the 2-part tariffs is recovered via the water take charge, except for the North Coast regulated water source where this ratio is kept at current levels of 92% fixed and 8% water take.
34. For MDBA and BRC price components, to set the tariff structure for the 2-part tariffs so that 80% of forecast revenue from the 2-part tariffs is recovered via the fixed charge and 20% of forecast revenue from the 2-part tariffs is recovered via the water take charge.

9.4.1 We continued setting 1-part and 2-part tariffs

The prices we set apply to all categories of water access licences and are paid by licence holders or water users. The majority of water users have entitlement charge licences, while others have special category licences (section 9.6).

For water users with an entitlement charge licence, we set:

- a fixed charge (\$ per ML of entitlement or unit share) by water source if water take is not metered (1-part tariffs), or
- a fixed charge (\$ per ML of entitlement or unit share) and a usage charge (\$ per ML of water extracted) by water source if water take is metered (2-part tariffs).

In its pricing proposal, WAMC indicated it will continue to have a mix of water users with and without water meters. It therefore proposed continuing to have 1-part and 2-part tariffs for each water source. Based on this, we decided to continue setting 1-part and 2-part tariffs for each water source.

For 1-part tariffs, the fixed charge for each water source is equal to the sum of the fixed charge and usage charge set for 2-part tariffs. One-part tariffs are relevant for unregulated and groundwater sources only, because 1-part tariffs apply when water users do not have meters or meter equivalents. In regulated water sources, all water users have meters therefore they pay 2-part tariffs. In Chapter 10, we present prices for 2-part tariffs for unregulated and groundwater sources first. We then present the relevant 1-part tariffs for each water source.

9.4.2 We set a 70:30 fixed-to-variable ratio for 2-part tariffs for the WAMC water management component

When setting prices for 2-part tariffs, the ratio of fixed-to-variable prices is usually set to approximate the underlying cost structure of the agency or utility in question.

WAMC proposed maintaining the current 70:30 fixed-to-variable ratio for 2-part tariffs. We decided to accept this proposal and apply it to the WAMC water management component. Under this split, the tariffs are structured so 70% of the forecast revenue under the 2-part tariff is received from the fixed charge (\$ per ML entitlement) and 30% from the water take (or variable) charge (\$ per ML of water taken or extracted).¹⁸⁵

The exception to the 70:30 ratio is the North Coast regulated water source, which currently has a 92:08 fixed-to-variable ratio. The ratio is set at a different level to reflect a low water activation rate for this water source, and mitigate bill and revenue variability that would result from applying a 70:30 ratio.¹⁸⁶

We consider our decision is an on-balance position as this provides WAMC with a reasonable degree of revenue certainty, while providing water users with some scope to reduce their bills through lower levels of water take:

- WAMC's cost structure is largely fixed. By maintaining the 70:30 fixed to variable split for 2-part tariffs, WAMC is likely to generate around 80% of its revenue from fixed charges, including revenue from 1-part tariffs and MACs. This proportion would be closer to reflecting WAMC's cost structure.
- We acknowledge that water users and other stakeholders would generally prefer a ratio with a lower proportion of fixed charges and higher proportion of variable charges. However, the 70:30 fixed to variable ratio mitigates some of the potential bill impact for water users on 2-part tariffs in times of low water availability compared with a ratio that better matches WAMC's cost structure (i.e. with a higher proportion of fixed charges).

9.4.3 We set an 80:20 fixed-to-variable ratio for 2-part tariffs for MDBA and BRC components

We decided to set a different ratio for the 2-part tariff structure for the MDBA and BRC components compared with the WAMC water management component. We consider an 80:20 fixed-to-variable ratio for MDBA and BRC components is appropriate. Our decision balances the following factors:

- In the 2017 Determination for Water NSW's rural bulk water services, the MDBA indicated its cost structure is essentially fixed.¹⁸⁷
- The 80:20 fixed-to-variable ratio for MDBA and BRC components is consistent with the overall ratio for WAMC water management discussed in the previous section.
- This ratio is consistent with how we set the MDBA and BRC charges under the Water NSW rural bulk water price review.

In the Draft Report, we made a factual error. We incorrectly indicated the tariff structure for MDBA and BRC components was a 70:30 fixed-to-variable ratio. However, the modelling for draft prices was correctly undertaken based on an 80:20 fixed-to-variable ratio. During the March Public Hearing, a stakeholder commented on this inconsistency.¹⁸⁸

9.4.4 We will apply the 1-part and 2-part tariffs to WAMC's water management, MDBA and BRC pricing components

In section 9.1, we discussed our decision to unbundle existing prices into 3 pricing components. We will apply the 1-part and 2-part tariffs to these 3 components. In Chapter 10, we present prices for each water source as follows:

- water management prices for all water sources
- MDBA prices for relevant water sources
- BRC prices for relevant water sources
- combined prices (i.e. water management prices, MDBA and BRC prices).

9.5 We continue to set separate prices for floodplain harvesting

Our decision is:



35. To maintain setting separate prices to apply during the 2021 determination period following Ministerial approval to issue all floodplain harvesting licences (as water take charge only licences) for that water source.

Floodplain harvesting (FPH) refers to the capture and use of water flowing across a floodplain that is not covered by another extraction category such as a water access licence.

In the 2016 price review, we accepted WAMC's proposal:

- to set 2 tariff levels for water sources where FPH licences would be introduced – one price schedule that excludes and another price schedule that includes FPH licences and associated estimates of water take
- that the change from the exclusive to the inclusive tariff would apply from 1 July following Ministerial approval to issue FPH licences. For example, if FPH framework is finalised on 30 March 2022 for a particular water source, the pricing schedule incorporating the impact of FPH will take effect from 1 July 2022. If the framework is finalised on 30 March 2023, new pricing schedule will take effect from 1 July 2023, and so forth.

We took this approach because the implementation of FPH licences was being negotiated at the time. The implementation did not happen during the 2016 determination period.

For this review, WAMC did not propose setting 2 tariff levels for water sources where FPH licences would be introduced. Further, WAMC proposed setting prices that exclude FPH licences. However, discussions with officers from DPIE indicated that the agency is negotiating with stakeholders and the NSW Government to implement the FPH licences during the 2021 determination period.

Because of this development, we decided to set 2 tariff levels – exclusive and inclusive of FPH licences for specific water sources. The change from the exclusive to the inclusive tariff would apply following Ministerial approval to issue FPH licences.

Under the impactor pays principle, we consider it appropriate that new FPH licence holders contribute to ongoing management, monitoring and enforcement costs when the licences are created. We understand the marginal level of associated activities will add no additional operating costs to revenue needs. Therefore, the implementation of FPH will spread the revenue requirement over a greater volume of water take in the water sources where it is implemented. This means the water take charge will generally go down for all water users in a water source following the implementation of FPH licences. This is further discussed in Chapter 10.

9.6 We accepted WAMC's special categories of licences

Our decision is:



36. To accept WAMC's proposed special categories of licences as shown in Table 9.1.

There are 3 tariff categories of licences:

1. **Entitlement charge licences** are subject to fixed, or fixed and water take charges (section 9.2).
2. **Water take charge only licences** are only subject to a charge based on the volume of water measured as taken against that licence. Water take charge only licences include 4 subcategories of regulated river licences and 3 subcategories of unregulated river licences. There are no groundwater licences that are water take charge only licences (Table 9.1).

3. **Minimum charge only licences** are subject to MAC and pay their fair share of MDBA and BRC costs. Water taken against these licences will have already been recorded (and charged) under another licence.⁹ In addition, water taken against this licence can only be used for water impacts management and cannot be used for consumptive or commercial purposes or traded.^h

In the 2016 Determination, we approved WAMC's proposed special categories of licences.¹⁸⁹ For the 2021 determination period, WAMC has proposed to maintain the same special categories, listed below.¹⁹⁰

Table 9.1 Decision on special licence categories for the 2021 determination period

| Licence category | Tariff category |
|---|------------------------|
| Floodplain harvesting (regulated river) | Water take charge only |
| Major utility (Barnard) (regulated river) | Minimum charge only |
| Supplementary water (regulated river) | Water take charge only |
| Supplementary water environmental access (regulated river) | Water take charge only |
| Supplementary water (Lowbidgee) (regulated river) | Water take charge only |
| Floodplain harvesting (unregulated river) | Water take charge only |
| Major utility (Grahamstown) (unregulated river) | Minimum charge only |
| Supplementary Aboriginal environmental water access (unregulated river) | Water take charge only |
| Unregulated river (regulated supply) | Minimum charge only |
| Unregulated river (regulated supply – local water utility) | Minimum charge only |
| Unregulated river (special additional high flow) | Water take charge only |
| Salinity and water table management (groundwater) | Minimum charge only |

For this review, we decided to accept WAMC's proposal to maintain having these special licence categories and tariff structures. We consider the rationale used in the 2016 review remains relevant.¹⁹¹ We received one stakeholder submission in support of this proposal in response to our Draft Report.¹⁹²

In section 9.1, we discussed our decision to unbundle prices, and for all water users to pay their fair share of MDBA and BRC costs. Accordingly, the water users listed in the Table 9.1 will also pay MDBA and BRC charges. We consider this change will improve the sharing of MDBA and BRC costs between all water users.

⁹ An example is a major utility in the Barnard Scheme located in the Hunter regulated water source and unregulated river (regulated supply) categories that has multiple licences.

^h Examples include salinity and water table management licences.

9.7 We exempted Aboriginal cultural licences from charges


Under the *Water Management Act 2000* the Minister has the power to issue 3 types of specific purpose access licences to meet the water needs of Indigenous communities, referred to as:

- Aboriginal cultural licences
- Aboriginal community development licences
- Aboriginal commercial licences.

These Indigenous licences are subcategories of other licence types, such as regulated river licences. For example, an Aboriginal cultural subcategory licence would be liable for the same charges as a regular river licence under the 2016 Determination.

Our decisions are:

 37. To exempt Aboriginal cultural licences from all WAMC charges for the 2021 Determination while the NSW Government considers its policy position on charges associated with these licences.ⁱ

 38. To continue setting charges for Aboriginal Community Development and Aboriginal Commercial licences, as we have in previous determinations.

Indigenous stakeholders – including the NSW Aboriginal Land Council,¹⁹³ Murray Lower Darling River Indigenous Nations¹⁹⁴ and DPIE¹⁹⁵ – strongly opposed charging infrastructure fees for Indigenous subcategory licences. DPIE noted the additional limitations for how water can be used under a subcategory licence compared with a general licence. It also noted water taken under subcategory licences for cultural purposes often remains in the river and supports environmental outcomes.

The NSW Government's draft State Water Strategy identifies:

... while there are some provisions for accessing water for cultural purposes in NSW, these do not currently meet the needs and obligations of Aboriginal people to care for Country or achieve the cultural water flows and water management aspirations¹⁹⁶

The draft strategy identifies an action to develop a state-wide Aboriginal water strategy. This action would involve reviewing and identifying required amendments to the water management legislative framework to enable Aboriginal rights, interests and ownership of water.

After engaging with stakeholders we consider there is a strong case for exempting Aboriginal cultural licences for the 2021 Determination while the NSW Government develops a revised approach to these licences in the future. While accounted for this exemption in entitlement and water take volume forecasts for relevant water sources, there is no material impact on entitlement and water take charges.

ⁱ We also decided to exempt Aboriginal cultural licence holders from rural bulk water charges in our review of Water NSW's rural bulk water charges.

Regarding Aboriginal community development licences and Aboriginal commercial licences:

- no licences of either of these subtypes appear to have been issued
- there is no clear policy guidance on what conditions or use limitations might be placed on these licences if they were issued in future.

Given this limited information, we decided to continue setting charges for these 2 subcategories. If the NSW Government decides to issue these licences during the 2021 determination period and considers it is appropriate to exempt them from fees, it can provide Water NSW with a subsidy to do so.

9.8 We set a separate price for Water NSW (South Coast unregulated rivers)

Our decision is:



39. To apply a separate WAMC price to Water NSW, which will recover the user share of metropolitan water planning costs. The price will be an additional fixed charge (\$ per ML of entitlement or unit share) applied to the water access licences held by Water NSW in the South Coast (unregulated rivers) water source.

In the 2016 Determination, we set a separate price for Water NSW to recover the costs of metropolitan water planning for the Greater Sydney region based on the impactor pays principle. We concluded that the impactor was Water NSW.¹⁹⁷ Water NSW is a major water utility that, on behalf of its customers, creates the need for metropolitan water planning to ensure a suitable balance between water supply and demand over time. Water access licences held by major water utilities provide for this demand. This means that WAMC can charge a special levy to Water NSW to recover the cost of water planning for the Greater Sydney region. Consequently, Water NSW has passed this cost onto its customers in the relevant region.

For this review, WAMC proposed to continue setting a separate charge to Water NSW to recover the costs of metropolitan water planning for the Greater Sydney region. In Chapters 2 and 3, we outlined WAMC's costs proposal and our decisions on these planning costs.

We decided to maintain the approach set out in the 2016 price review – that is, setting a separate price to recover the user share of efficient costs of metropolitan water planning directly from Water NSW. The rationale outlined in the 2016 Determination continues to remain relevant over the 2021 determination period. The separate price is further discussed in Chapter 10 and bill impact on Water NSW is discussed in Chapter 11.

9.9 We identified opportunities for WAMC to consider

WAMC's current price structure is complex. As outlined in this chapter, WAMC has 1-part and 2-part tariffs for the majority of the 27 water sources. Further, these prices are currently determined by an indirect cost allocation process where costs are allocated between water sources based on cost drivers that vary by activity.

We encourage WAMC to consider this issue further over the 2021 determination period and in the lead up to its next pricing proposal. Issues to consider include whether WAMC can move towards greater direct cost attribution, whether the cost drivers used to allocate costs between water sources can be improved, and whether there would be merit in simplifying this pricing approach in the future. We encourage WAMC to investigate these issues and consult with stakeholders on potential options including the likely costs, benefits and other impacts of these options.

Chapter 10 »

Prices for water management services

10

Summary of our decisions on water management prices

For regulated water sources, total entitlement and water take charges increase by about 16% on average over the 2021 determination period.

The changes in prices are driven by the overall increase in efficient costs and a higher proportion of costs allocated to these water sources than allowed in the 2016 price review.

The majority of charges will be transitioning towards full cost recovery over the 2021 determination period.

For unregulated water sources, total entitlement and water take charges increase by about 8% on average over the 2021 determination period.

The changes in prices are mainly driven by the overall increase in efficient costs and movements in forecast entitlement and water take volumes.

The movement in entitlement and water take volumes during the 2016 determination period has influenced the price movements over the 2021 determination period.

For groundwater sources, total entitlement and water take charges increase by about 3% on average over the 2021 determination period.

The changes in prices are driven by changes in the level of efficient costs and changes in how costs are allocated between sources.

Our pricing decisions are based on our decisions on the notional revenue requirement (NRR), cost shares and cost allocations, price structures, and forecast entitlements and water take volumes for the 2021 determination period. These decisions are discussed in Chapters 6 to 9 of this Final Report.

This chapter presents prices for water users in regulated water, unregulated water and groundwater sources that are on 1-part and 2-part tariffs. We also set a minimum annual charge (MAC) to recover the efficient administrative costs of managing licences with small entitlements. These charges are set to either fully recover the user share of the NRR on a water source basis, or transition to full recovery of the user share of the NRR. Some water sources will achieve full cost recovery over the 2021 determination period, while others will achieve full cost recovery over a number of determination periods.

We also present prices that include the impacts of floodplain harvesting (FPH). This reflects our decision to set separate prices for a water source if the Minister approves issuing FPH licences for the relevant water source. Finally, we discuss our decision to continue to set a separate price for Water NSW to recover the costs of metropolitan water planning for the Greater Sydney region.

The changes in prices are the result of the combined effects of:

- changes in efficient costs
- changes in cost allocations between water sources
- changes in underlying entitlement and water take forecasts
- maintaining the 70:30 price structure.

In some water sources these factors have offsetting effects, and in others they have compounding effects. We prepared fact sheets available on our website that explain key drivers of prices for each water source.

We report prices on the following basis (where applicable) in \$2021–22:^a

- WAMC's water management charges for all water sources
- MDBA charges for relevant water sources
- BRC charges for relevant water sources
- combined charges (i.e. the sum of the above charges).

We provided combined prices to show the changes in prices over the 2021 determination period relative to current bundled 2020–21 prices. This approach means percentage changes in prices in this chapter include the impacts of inflation from 2020–21 to 2021–22, but not from 2022–23 onwards. The determination sets prices in \$2021–22 from 1 October 2021, and then allows WAMC to adjust these prices by changes in the consumer price index (CPI) from 2022–23 onwards.

10.1 We set prices for water users in regulated water sources

Our decision is:



40. To set the maximum prices shown in Table 10.1, Table 10.2, Table 10.3 and Table 10.4 for water users in regulated water sources.

10.1.1 Entitlement charges will increase for most regulated water sources

Over the 2021 determination period, combined entitlement charges for 10 water sources are increasing at different levels (Tables 10.1 and 10.2):

- The Border regulated water source will face the highest increase (64%), because it will incur all 3 charges (WAMC's water management, MDBA and BRC).
- The majority of other water sources (i.e. except Namoi) will also face price increases, but at a lower rate than Border. For Namoi, the combined entitlement charges from 2021–22 are at the same level as current charges.

^a In the Draft Report, we presented prices in \$2020–21 basis. For the Final Report, we have presented prices in \$2021–22 to align with the Final Determination.

A number of factors are driving these higher charges for regulated water sources:

- a higher level of efficient costs compared with the 2016 price review
- WAMC's water management charges are transitioning to full cost recovery levels, placing upward pressure on prices for water sources that are not at full cost recovery in 2020–21
- MDBA and BRC charges are set at full cost recovery, which affects water sources that receive MDBA and BRC services, and places upward pressure on prices.

Table 10.1 Decision on WAMC, MDBA and BRC component charges for regulated rivers – fixed component of 2-part tariff for the 2021 determination period (\$/ML, \$2021–22)

| Water source | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|--|---------|---------|---------|---------|
| WAMC water management component | | | | |
| Border | 1.76 | 1.80 | 1.85 | 1.90 |
| Gwydir | 1.19 | 1.22 | 1.25 | 1.29 |
| Namoi | 1.92 | 1.92 | 1.92 | 1.92 |
| Peel | 2.99 | 3.06 | 3.14 | 3.14 |
| Lachlan | 1.11 | 1.14 | 1.16 | 1.19 |
| Macquarie | 1.34 | 1.38 | 1.41 | 1.45 |
| Murray | 1.12 | 1.14 | 1.17 | 1.20 |
| Murrumbidgee | 0.95 | 0.98 | 1.00 | 1.03 |
| North Coast | 4.60 | 4.71 | 4.83 | 4.95 |
| Hunter | 3.24 | 3.32 | 3.40 | 3.49 |
| South Coast | 3.59 | 3.68 | 3.77 | 3.86 |
| MDBA component^a | | | | |
| Border | 0.54 | 0.54 | 0.54 | 0.54 |
| Gwydir | 0.72 | 0.72 | 0.72 | 0.72 |
| Namoi | 0.82 | 0.82 | 0.82 | 0.82 |
| Peel | 0.25 | 0.25 | 0.25 | 0.25 |
| Lachlan | 0.33 | 0.33 | 0.33 | 0.33 |
| Macquarie | 0.45 | 0.45 | 0.45 | 0.45 |
| Murray | 0.63 | 0.63 | 0.63 | 0.63 |
| Murrumbidgee | 0.65 | 0.65 | 0.65 | 0.65 |
| BRC component^b | | | | |
| Border | 1.30 | 1.30 | 1.30 | 1.30 |

a. MDBA prices will only apply to 8 out of 11 regulated water sources – i.e. Border, Gwydir, Namoi, Peel, Lachlan, Macquarie, Murray and Murrumbidgee. MDBA prices do not apply to North Coast, Hunter and South Coast water sources because these are outside the responsibility of MDBA.

b. BRC prices will only apply to one out of 11 regulated water sources – i.e. Border. BRC prices do not apply to the remaining regulated water sources because these do not receive services from BRC.

Source: IPART analysis.

Table 10.2 Decision on combined charges for regulated rivers – fixed component of 2-part tariff for the 2021 determination period (\$/ML, \$2021–22)

| Water source | 2020–21 current (\$2020–21) | 2021–22 | 2022–23 | 2023–24 | 2024–25 | % change from current to 2024–25 |
|--------------|-----------------------------------|---------|---------|---------|---------|--|
| Border | 2.28 | 3.60 | 3.64 | 3.69 | 3.74 | 64% |
| Gwydir | 1.62 | 1.91 | 1.94 | 1.97 | 2.01 | 24% |
| Namoi | 2.73 | 2.74 | 2.74 | 2.74 | 2.74 | 0% |
| Peel | 2.67 | 3.24 | 3.31 | 3.39 | 3.39 | 27% |
| Lachlan | 1.43 | 1.44 | 1.47 | 1.49 | 1.52 | 6% |
| Macquarie | 1.71 | 1.79 | 1.83 | 1.86 | 1.90 | 11% |
| Murray | 1.54 | 1.75 | 1.77 | 1.80 | 1.83 | 19% |
| Murrumbidgee | 1.41 | 1.60 | 1.63 | 1.65 | 1.68 | 19% |
| North Coast | 3.97 | 4.60 | 4.71 | 4.83 | 4.95 | 25% |
| Hunter | 3.12 | 3.24 | 3.32 | 3.40 | 3.49 | 12% |
| South Coast | 3.34 | 3.59 | 3.68 | 3.77 | 3.86 | 15% |

Note: Figures may not add due to rounding. The percentage change includes the impact of inflation from 2020–21 to 2021–22.
Source: IPART analysis.

10.1.2 Water take charges will increase for all regulated water sources

All water sources will face water take charge increases at varying rates over the 2021 determination period. Tables 10.3 and 10.4 show the breakdown of the different components and the combined water take prices.

Table 10.3 Decision on WAMC, MDBA and BRC component charges for regulated rivers – water take component of 2-part tariff for the 2021 determination period (\$/ML, \$2021–22)

| Water source | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|--|---------|---------|---------|---------|
| WAMC water management component | | | | |
| Border | 1.41 | 1.45 | 1.48 | 1.52 |
| Gwydir | 1.24 | 1.27 | 1.30 | 1.33 |
| Namoi | 1.54 | 1.54 | 1.54 | 1.54 |
| Peel | 4.67 | 4.79 | 4.90 | 4.90 |
| Lachlan | 1.76 | 1.81 | 1.85 | 1.90 |
| Macquarie | 1.63 | 1.67 | 1.71 | 1.75 |
| Murray | 0.81 | 0.83 | 0.85 | 0.87 |
| Murrumbidgee | 0.70 | 0.72 | 0.74 | 0.76 |
| North Coast | 5.85 | 6.00 | 6.15 | 6.30 |
| Hunter | 2.21 | 2.27 | 2.33 | 2.38 |
| South Coast | 5.39 | 5.52 | 5.66 | 5.80 |
| MDBA component | | | | |
| Border | 0.26 | 0.26 | 0.26 | 0.26 |
| Gwydir | 0.44 | 0.44 | 0.44 | 0.44 |
| Namoi | 0.39 | 0.39 | 0.39 | 0.39 |

| Water source | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|----------------------|---------|---------|---------|---------|
| Peel | 0.23 | 0.23 | 0.23 | 0.23 |
| Lachlan | 0.31 | 0.31 | 0.31 | 0.31 |
| Macquarie | 0.32 | 0.32 | 0.32 | 0.32 |
| Murray | 0.27 | 0.27 | 0.27 | 0.27 |
| Murrumbidgee | 0.28 | 0.28 | 0.28 | 0.28 |
| BRC component | | | | |
| Border | 0.62 | 0.62 | 0.62 | 0.62 |

Source: IPART analysis.

Table 10.4 Decision on combined charges for regulated rivers – water take component of 2-part tariff for the 2021 determination period (\$/ML, \$2021–22)

| Water source | 2020–21 current (\$2020-21) | 2021–22 | 2022–23 | 2023–24 | 2024–25 | % change from current to 2024–25 |
|--------------|-----------------------------------|---------|---------|---------|---------|--|
| Border | 1.78 | 2.29 | 2.33 | 2.36 | 2.40 | 35% |
| Gwydir | 1.40 | 1.68 | 1.71 | 1.74 | 1.77 | 26% |
| Namoi | 1.84 | 1.93 | 1.93 | 1.93 | 1.93 | 5% |
| Peel | 4.76 | 4.90 | 5.02 | 5.13 | 5.13 | 8% |
| Lachlan | 1.92 | 2.07 | 2.12 | 2.16 | 2.21 | 15% |
| Macquarie | 1.85 | 1.95 | 1.99 | 2.03 | 2.07 | 12% |
| Murray | 1.10 | 1.08 | 1.10 | 1.12 | 1.14 | 4% |
| Murrumbidgee | 0.94 | 0.98 | 1.00 | 1.02 | 1.04 | 11% |
| North Coast | 6.12 | 5.85 | 6.00 | 6.15 | 6.30 | 3% |
| Hunter | 2.14 | 2.21 | 2.27 | 2.33 | 2.38 | 11% |
| South Coast | 5.32 | 5.39 | 5.52 | 5.66 | 5.80 | 9% |

Note: Figures may not add due to rounding. The percentage change includes the impact of inflation from 2020–21 to 2021–22.
Source: IPART analysis.

10.2 We set prices for water users in unregulated water sources

Our decision is:



41. To set the maximum prices shown in Table 10.5, Table 10.6, Table 10.7, Table 10.8 and Table 10.9 for water users in unregulated water sources.

Some unregulated water sources will face decreases in charges over the 2021 determination period, while others will face increases:

- For 2-part tariffs, the majority of unregulated water sources will face lower combined entitlement charges (up to 60%). However, these are offset by higher water take charges (up to 66%). On a net basis, total charges^b will increase by an average of about 8% across all unregulated water sources over the 2021 determination period.
- For 1-part tariffs, 11 out of 12 unregulated water sources will face combined entitlement charge increases of around 10% on average over the 2021 determination period. One water source will experience decreases in charges by around 15%.

10.2.1 Entitlement charges for 2-part tariffs will decrease for most water sources

Most unregulated water sources will experience combined decreases in entitlement charges over the 2021 determination period (Tables 10.5 and 10.6).

The largest decreases will occur in Border, Gwydir, Namoi and Peel (collectively referred to as the North West region):

- Costs allocated to these water sources are higher than allowed in the 2016 Determination.
- However, there are more water users on 2-part tariffs, placing downward pressure on entitlement charges. In the 2016 price review, we estimated water users on 2-part tariffs would have around 10,000 ML of entitlements.¹⁹⁸ For the 2021 determination period, we estimated water users would have around 130,000 ML of entitlements.^c

Table 10.5 Decision on WAMC, MDBA and BRC component charges for unregulated rivers – fixed component of 2-part tariff for the 2021 determination period (\$/ML, \$2021–22)

| Water source | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|--|---------|---------|---------|---------|
| WAMC water management component | | | | |
| Border | 0.77 | 0.79 | 0.81 | 0.83 |
| Gwydir | 0.77 | 0.79 | 0.81 | 0.83 |
| Namoi | 0.77 | 0.79 | 0.81 | 0.83 |
| Peel | 0.77 | 0.79 | 0.81 | 0.83 |
| Lachlan | 1.94 | 1.98 | 2.03 | 2.08 |
| Macquarie | 1.94 | 1.98 | 2.03 | 2.08 |
| Far West | 2.94 | 2.94 | 2.94 | 2.94 |
| Murray | 1.62 | 1.66 | 1.70 | 1.74 |
| Murrumbidgee | 2.83 | 2.90 | 2.98 | 3.05 |
| North Coast | 4.39 | 4.50 | 4.62 | 4.73 |
| Hunter | 1.27 | 1.30 | 1.33 | 1.36 |
| South Coast | 1.58 | 1.58 | 1.58 | 1.58 |

^b For each water source, total charges are equivalent to the sum of combined entitlement charges and combined water take charges.

^c In Chapter 8 we present the entitlement forecasts for unregulated water sources for water users that would be on 1-part and 2-part tariffs in Table 8.4. We also present the total forecast entitlement over the next 4 years, which is 3.2 million ML. This forecast is 4.5% higher than the total forecast entitlement we used for unregulated water sources in the 2016 price review.

| Water source | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|-----------------------------------|---------|---------|---------|---------|
| MDBA component^a | | | | |
| Border | 0.09 | 0.09 | 0.09 | 0.09 |
| Gwydir | 0.09 | 0.09 | 0.09 | 0.09 |
| Namoi | 0.09 | 0.09 | 0.09 | 0.09 |
| Peel | 0.09 | 0.09 | 0.09 | 0.09 |
| Lachlan | 0.13 | 0.13 | 0.13 | 0.13 |
| Macquarie | 0.13 | 0.13 | 0.13 | 0.13 |
| Far West | 0.79 | 0.79 | 0.79 | 0.79 |
| Murray | 0.16 | 0.16 | 0.16 | 0.16 |
| Murrumbidgee | 0.12 | 0.12 | 0.12 | 0.12 |
| BRC component^b | | | | |
| Far West | 1.29 | 1.29 | 1.29 | 1.29 |

a. MDBA prices will only apply to 9 out of 12 unregulated water sources – i.e. Border, Gwydir, Namoi, Peel, Lachlan, Macquarie, Far West, Murray and Murrumbidgee. MDBA prices do not apply to North Coast, Hunter and South Coast water sources because these are outside the responsibility of MDBA.

b. BRC prices will only apply to 1 out of 12 unregulated water sources – i.e. Far West. BRC prices do not apply to the remaining unregulated water sources because these do not receive services from BRC.

Source: IPART analysis.

Table 10.6 Decision on combined charges for unregulated rivers – fixed component of 2-part tariff for the 2021 determination period (\$/ML, \$2021–22)

| Water source | 2020–21 current (\$2020–21) | 2021–22 | 2022–23 | 2023–24 | 2024–25 | % change from current to 2024–25 |
|--------------|-----------------------------------|---------|---------|---------|---------|--|
| Border | 2.31 | 0.86 | 0.88 | 0.90 | 0.92 | –60% |
| Gwydir | 2.31 | 0.86 | 0.88 | 0.90 | 0.92 | –60% |
| Namoi | 2.31 | 0.86 | 0.88 | 0.90 | 0.92 | –60% |
| Peel | 2.31 | 0.86 | 0.88 | 0.90 | 0.92 | –60% |
| Lachlan | 2.69 | 2.07 | 2.11 | 2.16 | 2.21 | –18% |
| Macquarie | 2.69 | 2.07 | 2.11 | 2.16 | 2.21 | –18% |
| Far West | 4.13 | 5.02 | 5.02 | 5.02 | 5.02 | 22% |
| Murray | 2.64 | 1.78 | 1.82 | 1.86 | 1.90 | –28% |
| Murrumbidgee | 3.27 | 2.95 | 3.02 | 3.10 | 3.17 | –3% |
| North Coast | 4.59 | 4.39 | 4.50 | 4.62 | 4.73 | 3% |
| Hunter | 1.30 | 1.27 | 1.30 | 1.33 | 1.36 | 5% |
| South Coast | 1.75 | 1.58 | 1.58 | 1.58 | 1.58 | –10% |

Note: Figures may not add due to rounding. The percentage change includes the impact of inflation from 2020–21 to 2021–22.

Source: IPART analysis.

10.2.2 Water take charges for 2-part tariffs will increase for most unregulated water sources

The majority of unregulated water sources will experience increases in their water take charges over the 2021 determination period (Tables 10.7 and 10.8). However, the increases will vary for each water source because of our decisions on:

- transitioning WAMC's water management water take charges towards full cost recovery at 2.5% per year (before inflation)
- setting MDBA and BRC water take charges at full cost recovery from 2021–22.

For some water sources the increases in water take charges are offset by decreases in entitlement charges. On a net basis, the magnitude of the changes for total charges is not as large as changes for entitlement or water take charges only. This outcome is particularly apparent when we consider the price movements for 1-part tariffs in the next section.

Table 10.7 Decision on WAMC, MDBA and BRC component charges for unregulated rivers – water take component of 2-part tariff for the 2021 determination period (\$/ML, \$2021–22)

| Water source | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|--|---------|---------|---------|---------|
| WAMC water management component | | | | |
| Border | 3.57 | 3.66 | 3.75 | 3.85 |
| Gwydir | 3.57 | 3.66 | 3.75 | 3.85 |
| Namoi | 3.57 | 3.66 | 3.75 | 3.85 |
| Peel | 3.57 | 3.66 | 3.75 | 3.85 |
| Lachlan | 3.59 | 3.68 | 3.77 | 3.87 |
| Macquarie | 3.59 | 3.68 | 3.77 | 3.87 |
| Far West | 2.17 | 2.17 | 2.17 | 2.17 |
| Murray | 5.21 | 5.34 | 5.48 | 5.61 |
| Murrumbidgee | 6.36 | 6.52 | 6.68 | 6.85 |
| North Coast | 5.47 | 5.61 | 5.75 | 5.89 |
| Hunter | 2.29 | 2.34 | 2.40 | 2.46 |
| South Coast | 1.18 | 1.18 | 1.18 | 1.18 |
| MDBA component | | | | |
| Border | 0.25 | 0.25 | 0.25 | 0.25 |
| Gwydir | 0.25 | 0.25 | 0.25 | 0.25 |
| Namoi | 0.25 | 0.25 | 0.25 | 0.25 |
| Peel | 0.25 | 0.25 | 0.25 | 0.25 |
| Lachlan | 0.14 | 0.14 | 0.14 | 0.14 |
| Macquarie | 0.14 | 0.14 | 0.14 | 0.14 |
| Far West | 0.34 | 0.34 | 0.34 | 0.34 |
| Murray | 0.30 | 0.30 | 0.30 | 0.30 |
| Murrumbidgee | 0.16 | 0.16 | 0.16 | 0.16 |
| BRC component | | | | |
| Far West | 0.56 | 0.56 | 0.56 | 0.56 |

Source: IPART analysis.

Table 10.8 Decision on combined charges for unregulated rivers – water take component of 2-part tariff for the 2021 determination period (\$/ML, \$2021–22)

| Water source | 2020–21 current (\$2020–21) | 2021–22 | 2022–23 | 2023–24 | 2024–25 | % change from current to 2024–25 |
|--------------|-----------------------------------|---------|---------|---------|---------|--|
| Border | 2.47 | 3.82 | 3.91 | 4.00 | 4.10 | 66% |
| Gwydir | 2.47 | 3.82 | 3.91 | 4.00 | 4.10 | 66% |
| Namoi | 2.47 | 3.82 | 3.91 | 4.00 | 4.10 | 66% |
| Peel | 2.47 | 3.82 | 3.91 | 4.00 | 4.10 | 66% |
| Lachlan | 2.91 | 3.73 | 3.82 | 3.92 | 4.01 | 38% |
| Macquarie | 2.91 | 3.73 | 3.82 | 3.92 | 4.01 | 38% |
| Far West | 2.53 | 3.07 | 3.07 | 3.07 | 3.07 | 21% |
| Murray | 4.21 | 5.51 | 5.64 | 5.78 | 5.91 | 40% |
| Murrumbidgee | 5.81 | 6.52 | 6.68 | 6.84 | 7.01 | 21% |
| North Coast | 4.93 | 5.47 | 5.61 | 5.75 | 5.89 | 20% |
| Hunter | 2.13 | 2.29 | 2.34 | 2.40 | 2.46 | 15% |
| South Coast | 1.49 | 1.18 | 1.18 | 1.18 | 1.18 | -21% |

Note: Figures may not add due to rounding. The percentage change includes the impact of inflation from 2020–21 to 2021–22.
Source: IPART analysis.

10.2.3 Entitlement charges for 1-part tariffs will increase for most unregulated water sources

The majority of water sources will face increases in entitlement charges for 1-part tariffs (Table 10.9):

- Far West will experience the largest increase at 22% from 2020–21 to 2024–25 because it will pay all 3 components, which are set at full cost recovery levels.
- Border, Gwydir, Namoi, Peel, Lachlan, Macquarie, Murray and Murrumbidgee will experience increases in charges within a range of 5% to 11% from 2020–21 to 2024–25. The actual price movements for each water source are influenced by our decisions on transitioning towards or setting charges at full cost recovery levels.
- South Coast will have lower entitlement charges than current 2020–21 charges. The costs allocated to this water source are lower than allowed in the 2016 Determination (Chapter 7 contains our decisions on cost drivers).

Table 10.9 Decision on combined charges for unregulated rivers – fixed charges for 1-part tariff for the 2021 determination period (\$/ML, \$2020–21)

| Water source | 2020–21 current (\$2020–21) | 2021–22 | 2022–23 | 2023–24 | 2024–25 | % change from current to 2024–25 |
|--------------|-----------------------------------|---------|---------|---------|---------|--|
| Border | 4.78 | 4.68 | 4.79 | 4.90 | 5.02 | 5% |
| Gwydir | 4.78 | 4.68 | 4.79 | 4.90 | 5.02 | 5% |
| Namoi | 4.78 | 4.68 | 4.79 | 4.90 | 5.02 | 5% |
| Peel | 4.78 | 4.68 | 4.79 | 4.90 | 5.02 | 5% |
| Lachlan | 5.60 | 5.79 | 5.93 | 6.08 | 6.22 | 11% |
| Macquarie | 5.60 | 5.79 | 5.93 | 6.08 | 6.22 | 11% |
| Far West | 6.66 | 8.09 | 8.09 | 8.09 | 8.09 | 22% |
| Murray | 6.85 | 7.29 | 7.46 | 7.64 | 7.81 | 14% |
| Murrumbidgee | 9.08 | 9.47 | 9.70 | 9.94 | 10.18 | 12% |
| North Coast | 9.52 | 9.86 | 10.11 | 10.37 | 10.62 | 12% |
| Hunter | 3.43 | 3.56 | 3.64 | 3.73 | 3.82 | 11% |
| South Coast | 3.24 | 2.76 | 2.76 | 2.76 | 2.76 | -15% |

Note: Figures may not add due to rounding. The percentage change includes the impact of inflation from 2020–21 to 2021–22.
Source: IPART analysis.

10.3 We set prices for water users in groundwater sources

Our decision is:



42. To set the maximum prices shown in Table 10.10, Table 10.11, Table 10.12, Table 10.13 and Table 10.14 for water users in groundwater sources.

On a net basis, total charges for Border and Inland are decreasing, while total charges for Murrumbidgee and Coastal groundwater are increasing over the 2021 determination period:

- For Border and Inland, total charges are decreasing because costs allocated to these sources are lower than allowed in the 2016 Determination.
- For Murrumbidgee, total charges are increasing because the charges are transitioning towards full cost recovery over the 2021 determination period.
- For Coastal, total charges are increasing because allocated costs are higher than allowed in the 2016 Determination.

10.3.1 Entitlement charges for 2-part tariffs will increase for groundwater sources

The Inland groundwater source will face a marginal increase in combined entitlement charges. The combined entitlement charges for the Border groundwater source are higher than for Inland because Border attracts BRC charges. For Murrumbidgee and Coastal groundwater sources, the WAMC entitlement charges are transitioning towards full cost recovery at a capped rate of 2.5% per year (before inflation) over the 2021 determination period. Murrumbidgee will face a larger increase in entitlement charges because it will be paying MDBA component charges, which are set at full cost recovery levels. Our decisions are set out in Tables 10.10 and 10.11.

Table 10.10 Decision on WAMC, MDBA and BRC component charges for groundwater sources – fixed component of 2-part tariff for the 2021 determination period (\$/ML, \$2021–22)

| Water source | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|--|---------|---------|---------|---------|
| WAMC water management component | | | | |
| Inland | 3.73 | 3.73 | 3.73 | 3.73 |
| Border | 3.73 | 3.73 | 3.73 | 3.73 |
| Murrumbidgee | 2.99 | 3.07 | 3.14 | 3.22 |
| Coastal | 1.80 | 1.84 | 1.89 | 1.94 |
| MDBA component^a | | | | |
| Inland | 0.19 | 0.19 | 0.19 | 0.19 |
| Border | 0.19 | 0.19 | 0.19 | 0.19 |
| Murrumbidgee | 0.19 | 0.19 | 0.19 | 0.19 |
| BRC component^b | | | | |
| Border | 0.30 | 0.30 | 0.30 | 0.30 |

a. MDBA prices will only apply to 3 of 4 groundwater sources – i.e. Border, Inland and Murrumbidgee. MDBA prices do not apply to Coastal water sources because these sources are outside the responsibility of MDBA.

b. BRC prices will only apply to Border. BRC prices do not apply to the remaining groundwater sources because these do not receive services from BRC.

Source: IPART analysis.

Table 10.11 Decision on combined charges for groundwater sources – fixed component of 2-part tariff for the 2021 determination period (\$/ML, \$2021–22)

| Water source | 2020–21 current (\$2020–21) | 2021–22 | 2022–23 | 2023–24 | 2024–25 | % change from current to 2024–25 |
|--------------|-----------------------------------|---------|---------|---------|---------|--|
| Inland | 3.86 | 3.92 | 3.92 | 3.92 | 3.92 | 2% |
| Border | 3.86 | 4.22 | 4.22 | 4.22 | 4.22 | 9% |
| Murrumbidgee | 2.56 | 3.18 | 3.26 | 3.33 | 3.41 | 33% |
| Coastal | 1.76 | 1.80 | 1.84 | 1.89 | 1.94 | 10% |

Note: Figures may not add due to rounding. The percentage change includes the impact of inflation from 2020–21 to 2021–22.

Source: IPART analysis.

10.3.2 Water take charges for 2-part tariffs will decrease for most groundwater sources

Combined water take charges are decreasing for 3 groundwater sources over the 2021 determination period – that is, the Inland, Border and Murrumbidgee groundwater sources. Costs allocated to the Coastal groundwater source have increased between the 2016 and 2021 determination periods, placing upward pressure on water take charges. Our decisions are set out in Tables 10.12 and 10.13.

Table 10.12 Decision on WAMC, MDBA and BRC component charges for groundwater sources – water take component of 2-part tariff for the 2021 determination period (\$/ML, \$2021–22)

| Water source | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|--|---------|---------|---------|---------|
| WAMC water management component | | | | |
| Inland | 2.24 | 2.24 | 2.24 | 2.24 |
| Border | 2.24 | 2.24 | 2.24 | 2.24 |
| Murrumbidgee | 1.79 | 1.84 | 1.89 | 1.93 |
| Coastal | 3.44 | 3.52 | 3.61 | 3.70 |
| MDBA component | | | | |
| Inland | 0.07 | 0.07 | 0.07 | 0.07 |
| Border | 0.07 | 0.07 | 0.07 | 0.07 |
| Murrumbidgee | 0.07 | 0.07 | 0.07 | 0.07 |
| BRC component | | | | |
| Border | 0.13 | 0.13 | 0.13 | 0.13 |

Source: IPART analysis.

Table 10.13 Decision on combined charges for groundwater sources – water take component of 2-part tariff for the 2021 determination period (\$/ML, \$2021–22)

| Water source | 2020–21 current (\$2020–21) | 2021–22 | 2022–23 | 2023–24 | 2024–25 | % change from current to 2024–25 |
|--------------|-----------------------------|---------|---------|---------|---------|----------------------------------|
| Inland | 3.13 | 2.31 | 2.31 | 2.31 | 2.31 | -26% |
| Border | 3.13 | 2.44 | 2.44 | 2.44 | 2.44 | -22% |
| Murrumbidgee | 2.08 | 1.86 | 1.91 | 1.96 | 2.00 | -4% |
| Coastal | 3.29 | 3.44 | 3.52 | 3.61 | 3.70 | 12% |

Note: Figures may not add due to rounding. The percentage change includes the impact of inflation from 2020–21 to 2021–22.

Source: IPART analysis.

10.3.3 Entitlement charges for 1-part tariffs will increase for some groundwater sources

Similar to 2-part tariff price movements (sections 10.3.1 and 10.3.2), price movements for 1-part tariff prices vary, reflecting that entitlement charges for 1-part tariffs are the sum of the entitlement charges and the water take charges for 2-part tariffs (Table 10.14).

Table 10.14 Decision on combined charges for groundwater sources – fixed charges for 1-part tariff for the 2021 determination period (\$/ML, \$2021–22)

| Water source | 2020–21 current (\$2020–21) | 2021–22 | 2022–23 | 2023–24 | 2024–25 | % change from current to 2024–25 |
|--------------|-----------------------------|---------|---------|---------|---------|----------------------------------|
| Inland | 6.99 | 6.23 | 6.23 | 6.23 | 6.23 | -11% |
| Border | 6.99 | 6.66 | 6.66 | 6.66 | 6.66 | -5% |
| Murrumbidgee | 4.64 | 5.04 | 5.17 | 5.29 | 5.41 | 17% |
| Coastal | 5.05 | 5.24 | 5.36 | 5.50 | 5.64 | 12% |

Note: Figures may not add due to rounding. The percentage change includes the impact of inflation from 2020–21 to 2021–22.
Source: IPART analysis.

10.4 We set separate prices for water sources where floodplain harvesting may roll out

Our decision is:



43. To set the maximum prices shown in Table 10.15, Table 10.16, Table 10.17, Table 10.18, Table 10.19, Table 10.20, Table 10.21, Table 10.22 and Table 10.23 in water sources where the floodplain harvesting framework may roll out.

We decided to continue setting separate charges for specific water sources that account for the effect of FPH licences.

While the timing of implementation is unknown, providing for separate pricing schedule for FPH licences will facilitate the switch to lower charges if Ministerial approval is granted. The switch will affect all water users of the relevant water sources, not just FPH licence holders, during the 2021 determination period.

10.4.1 Charges for regulated rivers would not change with FPH

FPH charges may apply to 4 regulated water sources over the 2021 determination period, depending on future Ministerial approval. Tables 10.15 and 10.16 show entitlement charges that will apply to these water sources if FPH licencing is implemented. These charges are the same as charges without FPH (section 10.1). The main changes are expected to occur with water take charges, which are discussed in the next section.

Table 10.15 Decision on WAMC, MDBA and BRC component charges for regulated rivers with floodplain harvesting – fixed component of 2-part tariff for the 2021 determination period (\$/ML, \$2021–22)

| Water source | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|--|---------|---------|---------|---------|
| WAMC water management component | | | | |
| Border | 1.76 | 1.80 | 1.85 | 1.90 |
| Gwydir | 1.19 | 1.22 | 1.25 | 1.29 |
| Namoi | 1.92 | 1.92 | 1.92 | 1.92 |
| Macquarie | 1.34 | 1.38 | 1.41 | 1.45 |
| MDBA component^a | | | | |
| Border | 0.54 | 0.54 | 0.54 | 0.54 |
| Gwydir | 0.72 | 0.72 | 0.72 | 0.72 |
| Namoi | 0.82 | 0.82 | 0.82 | 0.82 |
| Macquarie | 0.45 | 0.45 | 0.45 | 0.45 |
| BRC component^b | | | | |
| Border | 1.30 | 1.30 | 1.30 | 1.30 |

a. MDBA prices will only apply to specific regulated water sources. MDBA prices will apply to Border, Gwydir, Namoi and Macquarie regulated water sources for FPH pricing purposes.

b. BRC prices will only apply to Border regulated water source for FPH pricing purposes.

Source: IPART analysis.

Table 10.16 Decision on combined charges for regulated rivers with floodplain harvesting – fixed component of 2-part tariff (\$/ML, \$2021–22)

| Water source | 2020–21 current (\$2020–21) | 2021–22 | 2022–23 | 2023–24 | 2024–25 | % change from current to 2024–25 |
|--------------|-----------------------------------|---------|---------|---------|---------|--|
| Border | 2.28 | 3.60 | 3.64 | 3.69 | 3.74 | 64% |
| Gwydir | 1.62 | 1.91 | 1.94 | 1.97 | 2.01 | 24% |
| Namoi | 2.73 | 2.74 | 2.74 | 2.74 | 2.74 | 0% |
| Macquarie | 1.71 | 1.79 | 1.83 | 1.86 | 1.90 | 11% |

Note: Figures may not add due to rounding. The percentage change includes the impact of inflation from 2020–21 to 2021–22.

Source: IPART analysis.

Table 10.17 and Table 10.18 show water take charges that will apply for all water users when FPH is implemented.

Water users will face decreases in charges (except for Border) compared with 2020–21 charges, due to higher water take volumes which place downward pressure on charges.

Combined water take charges with FPH (Table 10.18) are lower than water charges with no FPH (Table 10.4). Charges are lower because forecast water take volumes under FPH are higher while costs are the same, which means the costs are spread over a larger volume.

Table 10.17 Decision on WAMC, MDBA and BRC component charges for regulated rivers with floodplain harvesting – water take component of 2-part tariff (\$/ML, \$2021–22)

| Water source | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|--|---------|---------|---------|---------|
| WAMC water management component | | | | |
| Border | 1.11 | 1.13 | 1.16 | 1.19 |
| Gwydir | 0.87 | 0.89 | 0.91 | 0.94 |
| Namoi | 1.17 | 1.17 | 1.17 | 1.17 |
| Macquarie | 1.40 | 1.44 | 1.47 | 1.51 |
| MDBA component | | | | |
| Border | 0.20 | 0.20 | 0.20 | 0.20 |
| Gwydir | 0.31 | 0.31 | 0.31 | 0.31 |
| Namoi | 0.30 | 0.30 | 0.30 | 0.30 |
| Macquarie | 0.28 | 0.28 | 0.28 | 0.28 |
| BRC component | | | | |
| Border | 0.49 | 0.49 | 0.49 | 0.49 |

Source: IPART analysis.

Table 10.18 Decision on combined charges for regulated rivers with floodplain harvesting – water take component of 2-part tariff (\$/ML, \$2021–22)

| Water source | 2020–21 current (\$2020–21) | 2021–22 | 2022–23 | 2023–24 | 2024–25 | % change from current to 2024–25 |
|--------------|-----------------------------------|---------|---------|---------|---------|--|
| Border | 1.78 | 1.80 | 1.82 | 1.85 | 1.88 | 5% |
| Gwydir | 1.40 | 1.18 | 1.20 | 1.22 | 1.25 | -11% |
| Namoi | 1.84 | 1.47 | 1.47 | 1.47 | 1.47 | -20% |
| Macquarie | 1.85 | 1.68 | 1.72 | 1.75 | 1.79 | -3% |

Note: Figures may not add due to rounding. The percentage change includes the impact of inflation from 2020–21 to 2021–22.
Source: IPART analysis.

10.4.2 Changes in charges for unregulated rivers with FPH would vary

Table 10.19 and Table 10.20 show the entitlement charges that may apply to water users on 2-part tariffs for 5 unregulated water sources when FPH applies.

Entitlement charges are forecast to decrease for 4 out of 5 water sources compared with 2020–21 charges. This decrease is because costs allocated to these sources are lower than costs set in the 2016 price review.

Entitlement charges in unregulated rivers are expected to be higher with FPH than charges with no FPH (Table 10.6). The results are less intuitive because of the 2 factors used in setting the price structure – that is:

- the 70:30 fixed-to-variable price structure in place^d
- the relationship between 2-part tariff charges and 1-part tariff charges.^e

As discussed in the next section, water take charges will be lower when FPH is introduced. Entitlement charges will need to increase marginally to generate 70% of revenue from 2-part and 1-part entitlement charges.

Table 10.19 Decision on WAMC, MDBA and BRC component charges for unregulated rivers with floodplain harvesting – fixed component of 2-part tariff (\$/ML, \$2021–22)

| Water source | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|--|---------|---------|---------|---------|
| WAMC water management component | | | | |
| Border | 1.42 | 1.45 | 1.49 | 1.53 |
| Gwydir | 1.42 | 1.45 | 1.49 | 1.53 |
| Namoi | 1.42 | 1.45 | 1.49 | 1.53 |
| Peel | 1.42 | 1.45 | 1.49 | 1.53 |
| Far West | 3.01 | 3.01 | 3.01 | 3.01 |
| MDBA component^a | | | | |
| Border | 0.15 | 0.15 | 0.15 | 0.15 |
| Gwydir | 0.15 | 0.15 | 0.15 | 0.15 |
| Namoi | 0.15 | 0.15 | 0.15 | 0.15 |
| Peel | 0.15 | 0.15 | 0.15 | 0.15 |
| Far West | 0.81 | 0.81 | 0.81 | 0.81 |
| BRC component^b | | | | |
| Far West | 1.31 | 1.31 | 1.31 | 1.31 |

a. MDBA prices will only apply to specific regulated water sources. MDBA prices will apply to Border, Gwydir, Namoi, Peel and Far West unregulated water sources for FPH pricing purposes.

b. BRC prices will only apply to Far West unregulated water source for FPH pricing purposes.

Source: IPART analysis.

^d In Chapter 9, we discussed how we set price structures so 70% of revenue will be recovered from 2-part tariff entitlement charges and 1-part tariff entitlement charges, and the remaining 30% from 2-part tariff water take charges.

^e In Chapter 9 and earlier sections of Chapter 10, we showed the 1-part entitlement charges for an unregulated water source are equivalent to the sum of 2-part entitlement and water take charges for that water source.

Table 10.20 Decision on combined charges for unregulated rivers with floodplain harvesting – fixed component of 2-part tariff (\$/ML, \$2021–22)

| Water source | 2020–21 current (\$2020–21) | 2021–22 | 2022–23 | 2023–24 | 2024–25 | % change from current to 2024–25 |
|--------------|-----------------------------------|---------|---------|---------|---------|--|
| Border | 2.31 | 1.57 | 1.60 | 1.64 | 1.68 | -27% |
| Gwydir | 2.31 | 1.57 | 1.60 | 1.64 | 1.68 | -27% |
| Namoi | 2.31 | 1.57 | 1.60 | 1.64 | 1.68 | -27% |
| Peel | 2.31 | 1.57 | 1.60 | 1.64 | 1.68 | -27% |
| Far West | 4.13 | 5.13 | 5.13 | 5.13 | 5.13 | 24% |

Note: Figures may not add due to rounding. The percentage change includes the impact of inflation from 2020–21 to 2021–22.
Source: IPART analysis.

Table 10.21 and Table 10.22 show water take charges that will apply for all water users when FPH is implemented.

Water take charges under FPH are forecast to be lower than 2020–21 charges for 4 out of 5 water sources. Water take charges with FPH are also lower than charges with no FPH (Table 10.8). In both cases, the higher water take volumes are a result of FPH placing downward pressure on prices.

Table 10.21 Decision on WAMC, MDBA and BRC component charges for unregulated rivers with floodplain harvesting – water take component of 2-part tariff (\$/ML, \$2021–22)

| Water source | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|--|---------|---------|---------|---------|
| WAMC water management component | | | | |
| Border | 1.96 | 2.01 | 2.06 | 2.11 |
| Gwydir | 1.96 | 2.01 | 2.06 | 2.11 |
| Namoi | 1.96 | 2.01 | 2.06 | 2.11 |
| Peel | 1.96 | 2.01 | 2.06 | 2.11 |
| Far West | 1.87 | 1.87 | 1.87 | 1.87 |
| MDBA component | | | | |
| Border | 0.12 | 0.12 | 0.12 | 0.12 |
| Gwydir | 0.12 | 0.12 | 0.12 | 0.12 |
| Namoi | 0.12 | 0.12 | 0.12 | 0.12 |
| Peel | 0.12 | 0.12 | 0.12 | 0.12 |
| Far West | 0.29 | 0.29 | 0.29 | 0.29 |
| BRC component | | | | |
| Far West | 0.48 | 0.48 | 0.48 | 0.48 |

Source: IPART analysis.

Table 10.22 Decision on combined charges for unregulated rivers with floodplain harvesting – water take component of 2-part tariff (\$/ML, \$2021–22)

| Water source | 2020–21 current (\$2020–21) | 2021–22 | 2022–23 | 2023–24 | 2024–25 | % change from current to 2024–25 |
|--------------|-----------------------------------|---------|---------|---------|---------|--|
| Border | 2.47 | 2.08 | 2.13 | 2.18 | 2.23 | -10% |
| Gwydir | 2.47 | 2.08 | 2.13 | 2.18 | 2.23 | -10% |
| Namoi | 2.47 | 2.08 | 2.13 | 2.18 | 2.23 | -10% |
| Peel | 2.47 | 2.08 | 2.13 | 2.18 | 2.23 | -10% |
| Far West | 2.53 | 2.64 | 2.64 | 2.64 | 2.64 | 4% |

Note: Figures may not add due to rounding. The percentage change includes the impact of inflation from 2020–21 to 2021–22.
Source: IPART analysis.

Table 10.23 shows entitlement charges that would apply to water users on 1-part tariffs for 5 unregulated water sources when FPH is implemented. Most charges are lower than current 2020–21 charges. This decline is due to the combined effect of lower costs allocated to these water sources and higher water take volumes as a result of FPH.

Table 10.23 Decision on combined charges for unregulated rivers – fixed charges for 1-part tariff (\$/ML, \$2021–22)

| Water source | 2020–21 current (\$2020–21) | 2021–22 | 2022–23 | 2023–24 | 2024–25 | % change from current to 2024–25 |
|--------------|-----------------------------------|---------|---------|---------|---------|--|
| Border | 4.78 | 3.65 | 3.73 | 3.82 | 3.91 | -18% |
| Gwydir | 4.78 | 3.65 | 3.73 | 3.82 | 3.91 | -18% |
| Namoi | 4.78 | 3.65 | 3.73 | 3.82 | 3.91 | -18% |
| Peel | 4.78 | 3.65 | 3.73 | 3.82 | 3.91 | -18% |
| Far West | 6.66 | 7.77 | 7.77 | 7.77 | 7.77 | 17% |

Note: Figures may not add due to rounding. The percentage change includes the impact of inflation from 2020–21 to 2021–22.
Source: IPART analysis.

10.5 We set a minimum annual charge

Our decision is:



44. To set the minimum annual charges shown in Table 10.24.

In Chapter 9, we discussed our decision to transition the MAC to full cost recovery at a rate of 2.5% per year, or 10.4% over the 2021 determination period in real terms (i.e. before inflation). The MAC for each year of the determination period are shown in Table 10.24.

Table 10.24 Decision on minimum access charge for the 2021 determination period (\$2021–22)

| Water source | 2020–21 current (\$2020–21) | 2021–22 | 2022–23 | 2023–24 | 2024–25 | % change from current to 2024–25 |
|--------------------------|-----------------------------------|---------|---------|---------|---------|--|
| All water sources | 213.74 | 221.50 | 227.03 | 232.71 | 238.53 | 12% |

Note: Figures may not add due to rounding. The percentage change includes the impact of inflation from 2020–21 to 2021–22.
Source: IPART analysis.

10.6 We set a separate price for Water NSW (South Coast unregulated river)

Our decision is:



45. To set the separate price for Water NSW (South Coast unregulated river) shown in Table 10.25.

In Chapter 9 we outlined our decision to continue to set a separate charge for Water NSW to recover the specific costs of metropolitan water planning for the Greater Sydney region. The costs of metropolitan water planning will be recovered from Water NSW through a specific charge. The price will be an additional fixed charge (\$ per ML of entitlement or unit share) applied to the water access licences held by Water NSW in the South Coast unregulated water source (Table 10.25).

In Chapter 3, we discussed our decision on costs of metropolitan water planning. Over the 2021 determination period, costs of metropolitan water planning are lower than 2016 costs. Therefore, the separate charge for Water NSW is decreasing from \$0.91 in 2020–21 to \$0.41 in 2021–22.

Table 10.25 Decision on special entitlement charge for Water NSW for the 2021 determination period (\$/ML, \$2021–22)

| Water source | 2020–21 current (\$2020–21) | 2021–22 | 2022–23 | 2023–24 | 2024–25 | % change from current to 2024–25 |
|--------------|-----------------------------------|---------|---------|---------|---------|---|
| South Coast | 0.91 | 0.41 | 0.41 | 0.41 | 0.41 | –55% |

Note: Figures may not add due to rounding. The percentage change includes the impact of inflation from 2020–21 to 2021–22.
Source: IPART analysis.

Chapter 11 >>

Impacts of our decisions on
WAMC's prices

11

Summary of impacts on WAMC water users and WAMC

Bill impacts vary between water sources

Annual bills will increase for all regulated water sources in 2021–22. Border will face the highest bill increase at \$610, and the Namoi will face the lowest bill increase at \$24.

Bill impacts vary for unregulated water sources in 2021–22. For water users on 2-part tariffs, annual bills will decrease by up to \$240 for 8 water sources and increase in 4 water sources. For water users on a 1-part tariff, annual bills will increase for 7 water sources and decrease in 5 water sources.

For groundwater sources, bills will decrease in the Border and Inland regions, and increase in the Murrumbidgee and Coastal regions in 2021–22.

Bills will increase by \$25 to \$37 in 2021–22 for very small water users paying the minimum annual charge (MAC). For water users closer to the MAC threshold, bills will increase by more because of Murray–Darling Basin Authority (MDBA) and Dumaresq–Barwon Border Rivers Commission (BRC) charges.

Bill impacts are reasonable

We found WAMC bills represent a small portion of total bills paid by water users in regulated water sources.

We calculated changes in customers' bills from 2011–12 and found that, on average, bills are increasing by less than 2.5% per year (before inflation).

We also compare bills with farming businesses' gross value of irrigated agricultural production, and usage charges for 2021–22 with prices paid for allocations in the water trading market.

WAMC will be able to meet its environmental obligations

WAMC can recover all efficient costs it incurs in meeting its environmental obligations through prices and NSW Government contributions.

Prices are not fully cost reflective, and NSW Government contributions will be required

NSW Government contributions over the 2021 determination period will be \$73.7 million higher compared with the 2016 determination period, but remain lower than WAMC's proposal.

We considered the impact of our maximum prices on water users and WAMC before finalising our decisions. We also considered our prices in the context of matters listed in section 15 of the *Independent Pricing and Regulatory Tribunal Act 1992* (IPART Act) (Appendix A). Each of these issues is discussed in turn in the sections below.

The impacts analysis in this chapter excludes the impact of fee-for-service such as consent transactions and metering services, which are discussed on Chapter 12 and Chapter 13 respectively.

11.1 Bill impacts vary between water sources

Our prices directly affect the amount paid annually by water users. The bill impact for a particular water user depends on the volume of entitlements they own, how much water they use, and whether they are subjected to the minimum annual charge (MAC).

We analysed a range of scenarios across all water sources and different water users to assess the impact of prices for the 2021 determination period against 2020–21 prices. Specifically, we analysed the impact on:

- the typical water user on 2-part tariffs not subject to the MAC with 500 megalitres (ML) of entitlements at 60% usage of entitlements
- the typical water user on a 1-part tariff not subject to the MAC with 500 ML of entitlements
- water users subject to the MAC
- the typical water user affected by the floodplain harvesting (FPH) framework with 500 ML of entitlements
- Water NSW as a licence holder in the South Coast unregulated water source
- the typical water user that pays WAMC 2-part tariffs and Water NSW rural bulk water charges, with 500 ML of general security entitlements and 60% usage of entitlements.

Due to the delay in WAMC charges taking effect on 1 October 2021, bills for 2021–22 include 3 months of 2020–21 prices, and 9 months of 2021–22 prices.

11.1.1 Impacts on 2-part tariff water users not on the minimum annual charge vary

For our analysis we defined a typical 2-part tariff water user as having 500 ML of entitlements and an annual water usage rate of 60%.

Our analysis shows that in 2021–22, the typical annual bill will increase for 17 out of 27 water sources:

- For regulated water sources, bills will increase by up to \$100 for 6 water sources, and by more than \$100 for 5 water sources (Table 11.1). Border will face the highest bill increase at \$610, and Namoi will face the lowest bill increase at \$24. Prices will continue to increase for all water sources except Namoi over the 2021 determination period as they transition towards full cost recovery levels.^a
- For unregulated water sources, bills will decrease by up to \$240 for 8 out of 12 water sources (Table 11.2). For the remaining 4 water sources, 3 will face increases of up to \$47, and the Far West will face the highest bill increase at \$457. Prices will then increase for all water sources except Far West and South Coast over the 2021 determination period as they transition towards full cost recovery levels.
- For groundwater sources, bills in the Inland and Border regions will decrease by \$163 and \$21 respectively, and for the Murrumbidgee and Coastal regions, bills will increase by \$182 and \$48 respectively (Table 11.3). For the Inland and Border regions, bills will remain constant in real terms over the 2021 determination period as prices are at full cost recovery levels. For the Murrumbidgee and Coastal regions, prices will continue to increase over the 2021 determination period as they transition towards full cost recovery levels.

As discussed in Chapter 10, the main reasons for differences between water sources are differences in the allocation of costs between water sources, and the transition of charges towards full cost recovery for some water sources.

Table 11.1 Forecast typical bill for water users on 2-part tariffs in regulated water sources (\$2021–22)

| Water source | 2020–21 (\$2020–21) (A) | 2021–22 (B) | 2022–23 | 2023–24 | 2024–25 (C) | \$ change from A to B | % change from A to C |
|--------------|-------------------------------|----------------|---------|---------|----------------|-----------------------------|----------------------------|
| Border | 1,674 | 2,284 | 2,519 | 2,553 | 2,590 | 610 | 55% |
| Gwydir | 1,233 | 1,403 | 1,483 | 1,507 | 1,536 | 169 | 25% |
| Namoi | 1,917 | 1,941 | 1,949 | 1,949 | 1,949 | 24 | 2% |
| Peel | 2,762 | 3,008 | 3,161 | 3,234 | 3,234 | 246 | 17% |
| Lachlan | 1,293 | 1,329 | 1,371 | 1,393 | 1,423 | 36 | 10% |
| Macquarie | 1,408 | 1,462 | 1,512 | 1,539 | 1,571 | 54 | 12% |
| Murray | 1,099 | 1,174 | 1,215 | 1,236 | 1,257 | 75 | 14% |
| Murrumbidgee | 989 | 1,068 | 1,115 | 1,131 | 1,152 | 79 | 17% |
| North Coast | 3,819 | 3,996 | 4,155 | 4,260 | 4,365 | 177 | 14% |
| Hunter | 2,204 | 2,263 | 2,341 | 2,399 | 2,459 | 59 | 12% |
| South Coast | 3,267 | 3,376 | 3,496 | 3,583 | 3,670 | 108 | 12% |

Source: IPART analysis.

^a Bills will increase from 2021–22 to 2022–23 for the Namoi regulated water source as a result of the delay in WAMC charges taking effect until 1 October 2021, which means the 2021–22 bill includes 3 months of current (i.e. 2020–21) prices.

Table 11.2 Forecast typical bill for water users on 2-part tariffs in unregulated water sources (\$2021–22)

| Water source | 2020–21 (\$2020–21) (A) | 2021– 22 (B) | 2022–23 | 2023–24 | 2024–25 (C) | \$ change from A to B | % change from A to C |
|--------------|-------------------------------|--------------------|---------|---------|----------------|-----------------------------|----------------------------|
| Border | 1,896 | 1,656 | 1,613 | 1,650 | 1,690 | -240 | -11% |
| Gwydir | 1,896 | 1,656 | 1,613 | 1,650 | 1,690 | -240 | -11% |
| Namoi | 1,896 | 1,656 | 1,613 | 1,650 | 1,690 | -240 | -11% |
| Peel | 1,896 | 1,656 | 1,613 | 1,650 | 1,690 | -240 | -11% |
| Lachlan | 2,219 | 2,170 | 2,201 | 2,253 | 2,308 | -48 | 4% |
| Macquarie | 2,219 | 2,170 | 2,201 | 2,253 | 2,308 | -48 | 4% |
| Far West | 2,822 | 3,279 | 3,431 | 3,431 | 3,431 | 457 | 22% |
| Murray | 2,582 | 2,553 | 2,602 | 2,664 | 2,723 | -29 | 5% |
| Murrumbidgee | 3,379 | 3,418 | 3,514 | 3,602 | 3,688 | 39 | 9% |
| North Coast | 3,773 | 3,820 | 3,933 | 4,035 | 4,132 | 47 | 10% |
| Hunter | 1,288 | 1,314 | 1,352 | 1,385 | 1,418 | 25 | 10% |
| South Coast | 1,322 | 1,188 | 1,144 | 1,144 | 1,144 | -133 | -13% |

Source: IPART analysis.

Table 11.3 Forecast typical bill for water users on 2-part tariffs in groundwater sources (\$2021–22)

| Water source | 2020–21 (\$2020–21) (A) | 2021–22 (B) | 2022–23 | 2023–24 | 2024–25 (C) | \$ change from A to B | % change from A to C |
|--------------|-------------------------------|----------------|---------|---------|----------------|-----------------------------|----------------------------|
| Inland | 2,871 | 2,707 | 2,653 | 2,653 | 2,653 | -163 | -8% |
| Border | 2,871 | 2,849 | 2,842 | 2,842 | 2,842 | -21 | -1% |
| Murrumbidgee | 1,905 | 2,087 | 2,203 | 2,253 | 2,305 | 182 | 21% |
| Coastal | 1,868 | 1,916 | 1,976 | 2,028 | 2,080 | 48 | 11% |

Source: IPART analysis.

11.1.2 Impacts on 1-part tariff water users not on the minimum annual charge vary

For our analysis we have defined a typical 1-part tariff water user as having 500 ML of entitlements.

Our analysis shows that in 2021–22, the typical annual bill will increase for 9 out of 16 water sources compared with 2020–21 bills:

- For unregulated water sources, bills will increase for 7 out of 12 water sources, with Far West facing the highest bill increase at \$537 (Table 11.4). Of the remaining 5 water sources, 4 will face decreases of around \$37, and the South Coast will face the highest bill decrease at \$180. Annual bills will then increase for all water sources except the Far West and South Coast over the 2021 determination period as prices transition towards full cost recovery levels.

- For groundwater sources, bills in the Inland and Border regions will decrease by \$287 and \$125 respectively, and for the Murrumbidgee and Coastal regions, bills will increase by \$149 and \$70 respectively (Table 11.5). For the Inland and Border regions, bills will remain constant in real terms over the 2021 determination period as prices are at full cost recovery levels. For the Murrumbidgee and Coastal regions, bills will continue to increase over the 2021 determination period as prices transition towards full cost recovery levels.

Table 11.4 Forecast typical bill for water users on a 1-part tariff in unregulated water sources (\$2021–22)

| Water source | 2020–21 (\$2020–21) (A) | 2021–22 (B) | 2022–23 | 2023–24 | 2024–25 (C) | \$ change from A to B | % change from A to C |
|--------------|-------------------------------|----------------|---------|---------|----------------|--------------------------|-------------------------|
| Border | 2,390 | 2,352 | 2,395 | 2,450 | 2,510 | -37 | 5% |
| Gwydir | 2,390 | 2,352 | 2,395 | 2,450 | 2,510 | -37 | 5% |
| Namoi | 2,390 | 2,352 | 2,395 | 2,450 | 2,510 | -37 | 5% |
| Peel | 2,390 | 2,352 | 2,395 | 2,450 | 2,510 | -37 | 5% |
| Lachlan | 2,801 | 2,875 | 2,965 | 3,035 | 3,110 | 74 | 11% |
| Macquarie | 2,801 | 2,875 | 2,965 | 3,035 | 3,110 | 74 | 11% |
| Far West | 3,329 | 3,866 | 4,045 | 4,045 | 4,045 | 537 | 22% |
| Murray | 3,423 | 3,590 | 3,730 | 3,820 | 3,905 | 166 | 14% |
| Murrumbidgee | 4,542 | 4,687 | 4,850 | 4,970 | 5,090 | 145 | 12% |
| North Coast | 4,758 | 4,887 | 5,055 | 5,185 | 5,310 | 129 | 12% |
| Hunter | 1,714 | 1,764 | 1,820 | 1,865 | 1,910 | 49 | 11% |
| South Coast | 1,619 | 1,440 | 1,380 | 1,380 | 1,380 | -180 | -15% |

Source: IPART analysis.

Table 11.5 Forecast typical bill for water users on a 1-part tariff in groundwater sources (\$2021–22)

| Water source | 2020–21 (\$2020–21) (A) | 2021–22 (B) | 2022–23 | 2023–24 | 2024–25 (C) | \$ change from A to B | % change from A to C |
|--------------|-------------------------------|----------------|---------|---------|----------------|--------------------------|-------------------------|
| Inland | 3,497 | 3,211 | 3,115 | 3,115 | 3,115 | -287 | -11% |
| Border | 3,497 | 3,372 | 3,330 | 3,330 | 3,330 | -125 | -5% |
| Murrumbidgee | 2,321 | 2,470 | 2,585 | 2,645 | 2,705 | 149 | 17% |
| Coastal | 2,527 | 2,597 | 2,680 | 2,750 | 2,820 | 70 | 12% |

Source: IPART analysis.

11.1.3 Bills will increase for water users paying the minimum annual charge

In Chapter 9 we discussed our decision to unbundle existing prices and ensure all water users are paying a fair share of MDBA and BRC costs. As a result, small water users currently paying the MAC will also pay MDBA and BRC charges in the future.

To analyse bill impacts on water users on the MAC, we defined 2 types of water users:

- a very small water user that has 5 ML of entitlements and 3 ML of water take
- a small water user that has entitlements and water take close to the threshold of the MAC.

The threshold is different for each water source. It defines the relevant entitlement and water take volumes that would move a water user from paying the MAC to either a 1-part tariff or 2-part tariff.

Based on these scenarios, we calculated the following bill movements from 2020–21 to 2024–25:

- For very small water users, we estimate the changes in annual bills are relatively small in dollar terms and vary between water sources – from a bill increase of \$25 (mostly Coastal water sources) to \$37 (for the Border regulated water source) (Table 11.6).
- For small water users close to the threshold, we estimate the changes in bills are higher compared with very small users, and vary between water sources – from a bill increase of \$25 (Coastal water sources) to \$134 (for the Border regulated water source) (Table 11.7).
- When comparing bill movements between very small and small water users, key differences are due to the impact of MDBA and BRC charges. The closer a small water user gets to the threshold, the more entitlements and water take volumes they would have, and the more MDBA and BRC charges they would pay.

Table 11.6 Forecast bill for very small water users (\$2021–22)

| Water source | 2020–21 MAC (\$2020– 21) | 2024– 25 MAC | 2024– 25 MDBA | 2024– 25 BRC | 2024–25 Total | \$ change 2020–21 to 2024–25 | % change 2020–21 to 2024–25 |
|--------------------|-----------------------------------|--------------------|---------------------|--------------------|------------------|------------------------------------|-----------------------------------|
| Regulated | | | | | | | |
| Border | 213.74 | 238.53 | 3.48 | 8.36 | 250.37 | 36.63 | 17% |
| Gwydir | 213.74 | 238.53 | 4.92 | - | 243.45 | 29.71 | 14% |
| Namoi | 213.74 | 238.53 | 5.27 | - | 243.80 | 30.06 | 14% |
| Peel | 213.74 | 238.53 | 1.94 | - | 240.47 | 26.73 | 13% |
| Lachlan | 213.74 | 238.53 | 2.58 | - | 241.11 | 27.37 | 13% |
| Macquarie | 213.74 | 238.53 | 3.21 | - | 241.74 | 28.00 | 13% |
| Murray | 213.74 | 238.53 | 3.96 | - | 242.49 | 28.75 | 13% |
| Murrumbidgee | 213.74 | 238.53 | 4.09 | - | 242.62 | 28.88 | 14% |
| North Coast | 213.74 | 238.53 | - | - | 238.53 | 24.79 | 12% |
| Hunter | 213.74 | 238.53 | - | - | 238.53 | 24.79 | 12% |
| South Coast | 213.74 | 238.53 | - | - | 238.53 | 24.79 | 12% |
| Unregulated | | | | | | | |
| Border | 213.74 | 238.53 | 1.20 | - | 239.73 | 25.99 | 12% |
| Gwydir | 213.74 | 238.53 | 1.20 | - | 239.73 | 25.99 | 12% |

| Water source | 2020–21 MAC (\$2020– 21) | 2024– 25 MAC | 2024– 25 MDBA | 2024– 25 BRC | 2024–25 Total | \$ change 2020–21 to 2024–25 | % change 2020–21 to 2024–25 |
|--------------------|-----------------------------------|--------------------|---------------------|--------------------|------------------|------------------------------------|-----------------------------------|
| Namoi | 213.74 | 238.53 | 1.20 | - | 239.73 | 25.99 | 12% |
| Peel | 213.74 | 238.53 | 1.20 | - | 239.73 | 25.99 | 12% |
| Lachlan | 213.74 | 238.53 | 1.07 | - | 239.60 | 25.86 | 12% |
| Macquarie | 213.74 | 238.53 | 1.07 | - | 239.60 | 25.86 | 12% |
| Far West | 213.74 | 238.53 | 4.97 | 8.13 | 251.63 | 37.89 | 18% |
| Murray | 213.74 | 238.53 | 1.70 | - | 240.23 | 26.49 | 12% |
| Murrumbidgee | 213.74 | 238.53 | 1.08 | - | 239.61 | 25.87 | 12% |
| North Coast | 213.74 | 238.53 | - | - | 238.53 | 24.79 | 12% |
| Hunter | 213.74 | 238.53 | - | - | 238.53 | 24.79 | 12% |
| South Coast | 213.74 | 238.53 | - | - | 238.53 | 24.79 | 12% |
| Groundwater | | | | | | | |
| Inland | 213.74 | 238.53 | 1.16 | - | 239.69 | 25.95 | 12% |
| Border | 213.74 | 238.53 | 1.16 | 1.89 | 241.58 | 27.84 | 13% |
| Murrumbidgee | 213.74 | 238.53 | 1.16 | - | 239.69 | 25.95 | 12% |
| Coastal | 213.74 | 238.53 | - | - | 238.53 | 24.79 | 12% |

Note: The MDBA and BRC bills are based on 5 ML of entitlements and 3 ML of water take.
Source: IPART analysis.

Table 11.7 Forecast bill for small water users (\$2021–22)

| Water source | 2020– 21 MAC (\$2020– 21) | | 2024– 25 MAC | 2024– 25 MDBA | 2024– 25 BRC | 2024 –25 Total | \$ change 2020– 21 to 2024–25 | % change 2020–21 to 2024– 25 | |
|--------------------|---------------------------------------|----|--------------------|---------------------|--------------------|----------------------|--|---------------------------------------|-----|
| | A | B | | | | | | | |
| Regulated | | | | | | | | | |
| Border | 46 | 28 | 213.74 | 238.53 | 32.17 | 77.29 | 347.99 | 134.25 | 63% |
| Gwydir | 78 | 47 | 213.74 | 238.53 | 77.01 | - | 315.54 | 101.79 | 48% |
| Namoi | 61 | 37 | 213.74 | 238.53 | 64.63 | - | 303.16 | 89.42 | 42% |
| Peel | 37 | 22 | 213.74 | 238.53 | 14.31 | - | 252.84 | 39.10 | 18% |
| Lachlan | 84 | 50 | 213.74 | 238.53 | 43.19 | - | 281.72 | 67.97 | 32% |
| Macquarie | 76 | 46 | 213.74 | 238.53 | 48.93 | - | 287.46 | 73.71 | 34% |
| Murray | 95 | 57 | 213.74 | 238.53 | 75.03 | - | 313.56 | 99.81 | 47% |
| Murrumbidgee | 103 | 62 | 213.74 | 238.53 | 84.54 | - | 323.07 | 109.33 | 51% |
| North Coast | 27 | 16 | 213.74 | 238.53 | - | - | 238.53 | 24.79 | 12% |
| Hunter | 49 | 29 | 213.74 | 238.53 | - | - | 238.53 | 24.79 | 12% |
| South Coast | 32 | 19 | 213.74 | 238.53 | - | - | 238.53 | 24.79 | 12% |
| Unregulated | | | | | | | | | |
| Border | 71 | 43 | 213.74 | 238.53 | 17.03 | - | 255.56 | 41.81 | 20% |
| Gwydir | 71 | 43 | 213.74 | 238.53 | 17.03 | - | 255.56 | 41.81 | 20% |
| Namoi | 71 | 43 | 213.74 | 238.53 | 17.03 | - | 255.56 | 41.81 | 20% |

| Water source | 2020-21 MAC (\$2020-21) | | 2024-25 MAC | 2024-25 MDBA | 2024-25 BRC | 2024-25 Total | \$ change 2020-21 to 2024-25 | % change 2020-21 to 2024-25 | |
|--------------------|-------------------------------|----|----------------|-----------------|----------------|------------------|------------------------------------|-----------------------------------|-----|
| | A | B | | | | | | | |
| Peel | 71 | 43 | 213.74 | 238.53 | 17.03 | - | 255.56 | 41.81 | 20% |
| Lachlan | 52 | 31 | 213.74 | 238.53 | 11.10 | - | 249.63 | 35.89 | 17% |
| Macquarie | 52 | 31 | 213.74 | 238.53 | 11.10 | - | 249.63 | 35.89 | 17% |
| Far West | 35 | 21 | 213.74 | 238.53 | 34.59 | 56.59 | 329.71 | 115.97 | 54% |
| Murray | 44 | 26 | 213.74 | 238.53 | 15.00 | - | 253.53 | 39.79 | 19% |
| Murrumbidgee | 32 | 19 | 213.74 | 238.53 | 6.98 | - | 245.51 | 31.77 | 15% |
| North Coast | 29 | 17 | 213.74 | 238.53 | - | - | 238.53 | 24.79 | 12% |
| Hunter | 84 | 50 | 213.74 | 238.53 | - | - | 238.53 | 24.79 | 12% |
| South Coast | 104 | 63 | 213.74 | 238.53 | - | - | 238.53 | 24.79 | 12% |
| Groundwater | | | | | | | | | |
| Inland | 45 | 27 | 213.74 | 238.53 | 10.51 | - | 249.04 | 35.30 | 17% |
| Border | 42 | 25 | 213.74 | 238.53 | 10.51 | 15.85 | 264.89 | 51.15 | 24% |
| Murrumbidgee | 52 | 31 | 213.74 | 238.53 | 12.11 | - | 250.64 | 36.90 | 17% |
| Coastal | 57 | 34 | 213.74 | 238.53 | - | - | 238.53 | 24.79 | 12% |

Notes: A This column refers to the estimated entitlement threshold in 2024-25. The threshold is different for each water source. It defines the relevant entitlement and water take volumes that would move a water user from paying the MAC to either a 1-part tariff or 2-part tariffs.
 B This column refers to the estimated allocation in 2024-25.
 The MDBA and BRC bills are calculated using the threshold entitlements and water take volumes.
 Source: IPART analysis.

11.1.4 Bills will reduce when floodplain harvesting is introduced

In Chapter 10 we presented prices for when FPH takes effect over the 2021 determination period.

Our analysis shows the introduction of FPH will reduce typical non-FPH bills (Table 11.8). Water users in a water source with FPH would be better off by around 2% to 11% than without FPH.

Table 11.8 Impact of new FPH charges on typical non-FPH bills (\$2021–22)

| Water source | No FPH | | With FPH | | Impact of FPH | | |
|--------------------|------------------------|---------|----------|---------|---------------|---------|---------|
| | 2020–21 (\$2020–21) | 2021–22 | 2024–25 | 2021–22 | 2024–25 | 2021–22 | 2024–25 |
| Regulated | | | | | | | |
| Border | 1,674 | 2,284 | 2,590 | 2,144 | 2,434 | -6% | -6% |
| Gwydir | 1,233 | 1,403 | 1,536 | 1,264 | 1,380 | -10% | -10% |
| Namoi | 1,917 | 1,941 | 1,949 | 1,807 | 1,811 | -7% | -7% |
| Macquarie | 1,408 | 1,462 | 1,571 | 1,388 | 1,487 | -5% | -5% |
| Unregulated | | | | | | | |
| Border | 1,896 | 1,656 | 1,690 | 1,531 | 1,509 | -8% | -11% |
| Gwydir | 1,896 | 1,656 | 1,690 | 1,531 | 1,509 | -8% | -11% |
| Namoi | 1,896 | 1,656 | 1,690 | 1,531 | 1,509 | -8% | -11% |
| Peel | 1,896 | 1,656 | 1,690 | 1,531 | 1,509 | -8% | -11% |
| Far West | 2,822 | 3,279 | 3,431 | 3,202 | 3,357 | -2% | -2% |

Source: IPART analysis.

11.1.5 Water NSW's South Coast (unregulated) water source bill will decrease

We also analysed the impact of our prices on Water NSW. The impact on Water NSW is different from other South Coast unregulated customers due to our decision to set a separate price on licences held by Water NSW.

In Chapter 9 we outlined our decision to continue to set a separate charge for Water NSW to recover the specific costs of metropolitan water planning for the Greater Sydney region. The costs of metropolitan water planning will be recovered from Water NSW through a specific charge. The price will be an additional fixed charge applied to the water access licences held by Water NSW in the South Coast unregulated water source.

In Chapters 2 and 3, we discussed our decision on costs of metropolitan water planning. We allocated the user share of the costs of metropolitan water planning for the Greater Sydney region directly to Water NSW. We adjusted these proposed costs to ensure they were monopoly services and efficient. Over the 2021 determination period, costs of metropolitan water planning are lower than 2016 costs.

In Chapter 10 we noted the separate entitlement charge would decrease from \$0.91 in 2020–21 to \$0.41^b from 2021–22 onwards. As a result, Water NSW's combined entitlement charge will decrease from \$2.66 in 2020–21 to \$2.16 in 2021–22, and \$1.99 from 2022–23 onwards. Overall, we estimate Water NSW's bill would decrease from around \$3.4 million in 2020–21 to \$2.9 million in 2021–22, and \$2.7 million per year from 2022–23 onwards (Table 11.9).

^b In Table 11.9, the entitlement charge for water planning costs in 2021–22 takes into account how new prices will start from 1 October 2021. It considers 3 months of 2020–21 prices and 9 months of 2021–22 prices.

Table 11.9 Estimate of Water NSW's bill (\$2021–22)

| | 2020–21 (\$2020–21) | 2021– 22 ^a | 2022– 23 | 2023– 24 | 2024– 25 | % change 2020–21 to 2024–25 |
|---|------------------------|--------------------------|-------------|-------------|-------------|-----------------------------------|
| Entitlement charge – for water planning costs (\$/ML) | 0.91 | 0.54 | 0.41 | 0.41 | 0.41 | –55% |
| Entitlement charge (\$/ML) | 1.75 | 1.62 | 1.58 | 1.58 | 1.58 | –10% |
| Water take charge (\$/ML) | 1.49 | 1.26 | 1.18 | 1.18 | 1.18 | –21% |
| Entitlements ('000, ML) | 987.0 | 987.0 | 987.0 | 987.0 | 987.0 | |
| Water take ('000, ML) | 549.6 | 581.5 | 581.5 | 581.5 | 581.5 | |
| Total bill (\$ million) | 3.4 | 2.9 | 2.7 | 2.7 | 2.7 | –23% |

a. For the purpose of calculating bills, the charges for 2021–22 in this table take into account how new prices will start from 1 October 2021. It considers 3 months of 2020–21 prices and 9 months of 2021–22 price.

Source: IPART analysis.

11.2 Bills based on final pricing decisions are reasonable

Stakeholders' submissions to our Draft Report acknowledged that bill increases under our draft pricing decisions are generally lower than WAMC's proposal. But they considered that increases over the 2021 determination period are still significant, especially in periods of uncertain allocation reliability.¹⁹⁹

We recognise stakeholders' concerns about the affordability of bill increases. In this section, we present the total bill for water users in regulated water sources based on our pricing decisions for the WAMC and Water NSW price reviews. We then assess the reasonableness of WAMC bills by considering price movements for different types of water users from 2011–12 onwards.

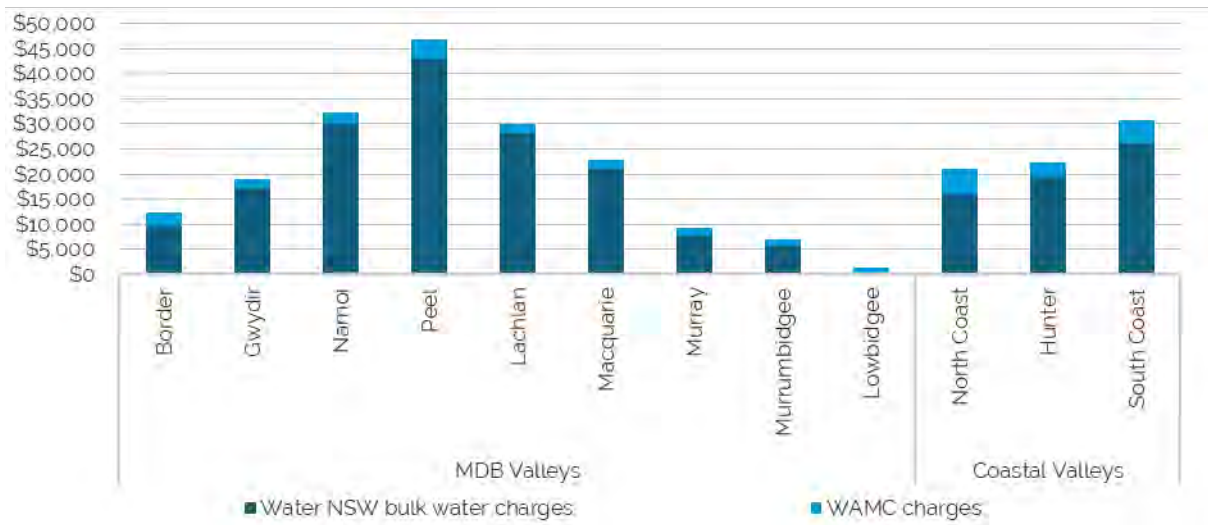
We also compare bills for different types of water users with farming businesses' gross value of irrigated agricultural production (GVIAP), and water take (or usage) prices for 2021–22 with prices paid for allocations traded on the water market.

11.2.1 Total bills for water users in regulated water sources will increase by an average of 23%

We recognise that WAMC water users in regulated water sources also pay rural bulk water prices determined by our review of rural bulk water services. These prices are set out in our Final Report on the Review of Water NSW's rural bulk water prices from 1 October 2021, which is available from IPART's [website](#).

Figure 11.1 presents the combined WAMC and Water NSW bill for a water user with 500 ML of general security entitlements and 60% usage of entitlements by regulated water source.

Figure 11.1 Typical bill – WAMC and Water NSW charges (\$2021–22)



Source: IPART analysis.

Our analysis shows total bills will increase by 2% to 41% from 2020–21 to 2021–22. Water users in the Lachlan regulated water source will experience the highest bill increase (at 41%), driven by a 47% increase in the Water NSW component.

The WAMC component contributes less to the total bill compared with the Water NSW component for all regulated water sources. However, as a stakeholder identified in their submission to the Draft Report, WAMC charges make up 100% of bills paid by water users in unregulated water sources and groundwater sources.²⁰⁰

In section 11.1 we observed water users in the Border regulated water source face the highest increase in their WAMC bills. From a combined WAMC and Water NSW bill perspective, the increase in the WAMC bill represents a relatively small portion of the total bill for water users in the Border regulated water source.

11.2.2 Bill increases are generally less than 2.5% per year (before inflation)

To assess the impact of our pricing decisions on water users over time, we considered price changes from 2011–12 to 2024–25. In this section we present annual bills for water users in different water sources, and cumulative and average annual percentage changes in bills. We present these percentage changes in real terms – that is, adjusted for the effects of inflation. A percentage change of zero indicates bills remained constant in real terms – that is, bills only changed by inflation over this period. We observed average annual percentage changes in bills do not exceed 2.5% per year (before inflation) for most water sources, which we consider is reasonable from an affordability perspective.

Table 11.10 presents the annual bills for the typical water user in a regulated water source (in \$2021–22), the cumulative percentage change in bills from 2011–12 to 2024–25, and the average annual percentage change over this 13-year period.

Table 11.10 Annual bills for water users in regulated water sources (\$2021–22)

| | 2011–12 | 2021–22 | 2024–25 | % change 2011–12 to 2024–25 | Average annual % change |
|--------------|---------|---------|---------|-----------------------------------|-------------------------------|
| Border | 6,947 | 6,741 | 7,047 | 1.4% | 0.1% |
| Gwydir | 7,921 | 8,580 | 8,713 | 10.0% | 0.7% |
| Namoi | 13,916 | 16,255 | 16,263 | 16.9% | 1.2% |
| Peel | 14,892 | 13,271 | 13,497 | -9.4% | -0.8% |
| Lachlan | 9,520 | 12,535 | 12,629 | 32.7% | 2.2% |
| Macquarie | 8,077 | 9,924 | 10,033 | 24.2% | 1.7% |
| Murray | 4,266 | 5,003 | 5,086 | 19.2% | 1.4% |
| Murrumbidgee | 3,159 | 3,705 | 3,789 | 19.9% | 1.4% |
| North Coast | 19,702 | 14,660 | 15,029 | -23.7% | -2.1% |
| Hunter | 11,946 | 15,747 | 15,943 | 33.5% | 2.2% |
| South Coast | 19,504 | 17,816 | 18,110 | -7.1% | -0.6% |

Note: Bills include WAMC and Water NSW charges.

Source: IPART analysis.

For water users in regulated water sources we found, on average, bills are increasing by 0.7% per year from 2011–12 to 2024–25 (before inflation). Bills are increasing by up to 2.2% per year in 8 water sources and decreasing in the 3 remaining water sources.

Table 11.11 presents the annual bills for the typical water user in an unregulated water source (in \$2021–22), the cumulative percentage change in bills from 2011–12 to 2024–25, and the average annual percentage change over this 13-year period.

Table 11.11 Annual bills for water users in unregulated water sources (\$2021–22)

| | 2011–12 | 2021–22 | 2024–25 | % change 2011–12 to 2024–25 | Average annual % change |
|-----------------------|---------|---------|---------|-----------------------------------|-------------------------------|
| 2-part tariffs | | | | | |
| Border | 1,858 | 1,656 | 1,690 | -9.1% | -0.7% |
| Gwydir | 1,858 | 1,656 | 1,690 | -9.1% | -0.7% |
| Namoi | 1,858 | 1,656 | 1,690 | -9.1% | -0.7% |
| Peel | 1,858 | 1,656 | 1,690 | -9.1% | -0.7% |
| Lachlan | 3,305 | 2,170 | 2,308 | -30.2% | -2.7% |
| Macquarie | 3,305 | 2,170 | 2,308 | -30.2% | -2.7% |
| Far West | 2,994 | 3,279 | 3,431 | 14.6% | 1.1% |
| Murray | 3,428 | 2,553 | 2,723 | -20.6% | -1.8% |
| Murrumbidgee | 4,133 | 3,418 | 3,688 | -10.8% | -0.9% |
| North Coast | 4,400 | 3,820 | 4,132 | -6.1% | -0.5% |
| Hunter | 1,894 | 1,314 | 1,418 | -25.1% | -2.2% |
| South Coast | 1,666 | 1,188 | 1,144 | -31.3% | -2.8% |
| 1-part tariff | | | | | |
| Border | 2,110 | 2,352 | 2,510 | 18.9% | 1.3% |
| Gwydir | 2,110 | 2,352 | 2,510 | 18.9% | 1.3% |
| Namoi | 2,110 | 2,352 | 2,510 | 18.9% | 1.3% |
| Peel | 2,110 | 2,352 | 2,510 | 18.9% | 1.3% |
| Lachlan | 3,757 | 2,875 | 3,110 | -17.2% | -1.4% |
| Macquarie | 3,757 | 2,875 | 3,110 | -17.2% | -1.4% |
| Far West | 3,406 | 3,866 | 4,045 | 18.8% | 1.3% |
| Murray | 3,894 | 3,590 | 3,905 | 0.3% | 0.0% |
| Murrumbidgee | 4,696 | 4,687 | 5,090 | 8.4% | 0.6% |
| North Coast | 4,999 | 4,887 | 5,310 | 6.2% | 0.5% |
| Hunter | 2,348 | 1,764 | 1,910 | -18.7% | -1.6% |
| South Coast | 1,980 | 1,440 | 1,380 | -30.3% | -2.7% |

Source: IPART analysis.

For 2-part tariff water users in unregulated water sources we found, on average, WAMC bills are decreasing by 1.3% from 2011–12 to 2024–25 (before inflation). Far West is the only water source to record a cumulative percentage increase over this period, which is equivalent to an increase of around 1.1% per year.

For 1-part tariff water users in unregulated water sources we found, on average, bills remain fairly constant (in real terms) from 2011–12 to 2024–25. Bills increase by up to 1.3% per year in 8 water sources and decrease in the 4 remaining water sources.

Table 11.12 presents the annual bills for the typical water user in a groundwater source (in \$2021–22), the cumulative percentage change in bills from 2013–14 to 2024–25,^c and the average annual percentage change over this 11-year period.

Table 11.12 Annual bills for water users in groundwater sources (\$2021–22)

| | 2013–14 | 2021–22 | 2024–25 | % change 2013–14 to 2024–25 | Average annual % change |
|-----------------------|---------|---------|---------|-----------------------------------|-------------------------------|
| 2-part tariffs | | | | | |
| Inland | 3,446 | 2,707 | 2,653 | -23.0% | -2.3% |
| Border | 3,446 | 2,849 | 2,842 | -17.5% | -1.7% |
| Murrumbidgee | 1,754 | 2,087 | 2,305 | 31.4% | 2.5% |
| Coastal | 2,919 | 1,916 | 2,080 | -28.8% | -3.0% |
| 1-part tariff | | | | | |
| Inland | 3,917 | 3,211 | 3,115 | -20.5% | -2.1% |
| Border | 3,917 | 3,372 | 3,330 | -15.0% | -1.5% |
| Murrumbidgee | 1,990 | 2,470 | 2,705 | 36.0% | 2.8% |
| Coastal | 3,337 | 2,597 | 2,820 | -15.5% | -1.5% |

Source: IPART analysis.

For water users in groundwater sources we found, on average, bills decrease by 1.2% for water users on 2-part tariffs, and 0.6% for water users on a 1-part tariff from 2013–14 to 2024–25 (before inflation). Murrumbidgee is the only water source to record a cumulative percentage increase over this period, which is equivalent to an increase of around 2.5% per year for water users on 2-part tariffs, and 2.8% per year for water users on a 1-part tariff.

11.2.3 Bills will account for up to 12% of farming businesses' revenue

In the Draft Report we used information published by the Australian Bureau of Statistics (ABS) to estimate bills as a percentage of GVIAP for farming businesses. We determined total bills (including WAMC and Water NSW charges) would account for up to 11% of farming businesses' GVIAP. We concluded that bill increases will not have a significant adverse impact on farming businesses' profitability.

Stakeholders' submissions to the Draft Report disagreed with the results of our analysis. Murrumbidgee Private Irrigators Inc and Murrumbidgee Groundwater Inc's joint submission argued the correct interpretation of the GVIAP analysis would be that water charges are far too high. In their view, a cost that grows by around 20% over one determination period, and represents around 11% of revenue, has a significant impact on farming businesses.²⁰¹

^c We present bills from 2013–14 onwards for groundwater sources because we moved to region-based charges in 2013–14.

The 11% figure presented in the Draft Report was the maximum percentage observed across the water sources – specifically, for general security water users in the Hunter regulated water source. Bills as a percentage of GVIAP vary between types of farming businesses due to differences in commodity prices and water application rates, as well as between water sources due to differences in price levels.

We updated our analysis to reflect our pricing decisions for the WAMC and Water NSW price reviews (Table 11.13). We also calculated bills as a percentage of GVIAP for regulated water sources, unregulated water sources, and groundwater sources from 2013–14 to 2017–18.

Table 11.13 Bills as a percentage of gross value of irrigated agricultural production

| Water sources | 2013–14 | 2014–15 | 2015–16 | 2016–17 | 2017–18 | 2021–22 |
|------------------------------|---------|---------|---------|---------|---------|---------|
| Regulated^a | | | | | | |
| Average | 7% | 6% | 6% | 5% | 4% | 4% |
| Maximum | 14% | 13% | 16% | 11% | 9% | 12% |
| Unregulated | | | | | | |
| 2-part tariffs | | | | | | |
| Average | 3% | 4% | 3% | 1% | 1% | 1% |
| Maximum | 6% | 12% | 6% | 3% | 2% | 2% |
| 1-part tariff | | | | | | |
| Average | 2% | 4% | 2% | 1% | 1% | 1% |
| Maximum | 4% | 9% | 4% | 2% | 1% | 1% |
| Groundwater | | | | | | |
| 2-part tariffs | | | | | | |
| Average | 3% | 4% | 3% | 1% | 1% | 1% |
| Maximum | 7% | 11% | 8% | 2% | 2% | 2% |
| 1-part tariff | | | | | | |
| Average | 2% | 4% | 2% | 1% | 1% | 1% |
| Maximum | 5% | 8% | 5% | 2% | 2% | 1% |

a. Includes WAMC and Water NSW bills for a water user in a regulated water source with 500 ML of general security entitlements and 60% usage of entitlements.

Note: GVIAP Data only available up the 2017–18 financial year.

Source: ABS, *Gross Value of Irrigated Agricultural Production*, accessed 4 June 2021; ABS, *Water Use on Australian Farms*, accessed 4 June 2021; and IPART analysis.

Our analysis shows that our results for 2021–22 are similar to 2017–18, and generally lower than the 4 years prior to 2017–18.

Overall, we consider the bill impacts on farming businesses are reasonable. However, we recognise that circumstances differ between water sources and types of farming businesses, and bills representing up to 12% of revenue may be unaffordable for irrigators in some water sources. We constrained the increase in WAMC's water management charges to a maximum of 2.5% per year (before inflation) to address affordability concerns. Irrigators having difficulties paying their water bills can contact Water NSW, which offers several options to help water users requiring affordability assistance.²⁰²

11.2.4 Water take prices are substantially lower than water market prices

In the Draft Report, we compared our draft prices with prices paid for allocations and entitlements on the water market. We found draft water take prices are relatively low compared with the historical average for allocations traded on the water market, which is between \$100 and \$200 per ML.²⁰³ The present values of draft entitlement prices are also lower than prices for entitlements traded on the water market.

Stakeholders' submissions to the Draft Report stated that prices in the water market are irrelevant, because trading would involve ceasing irrigation.²⁰⁴ We acknowledge that water trading is not a preferable alternative for all irrigators. We also recognise that accessibility to the water market is not consistent across all water sources, particularly unregulated water sources and groundwater sources. Therefore, our analysis in this section focuses on regulated water sources.

Allocations

Table 11.14 presents the water take price, the weighted average price on the water market, and the volume of trades in allocations as a percentage of total allocations, by regulated water source.

Table 11.14 Comparison of IPART-determined water take prices and weighted average prices on the water market for allocations

| | Final water take price (\$2021–22/ML) ^a | Weighted average water market price 2010–11 to 2019–20 (\$2021–22/ML) | Volume of trades as a percentage of total allocations (%) |
|--------------|---|--|---|
| Border | \$10 | \$210 | 10.2% |
| Gwydir | \$19 | \$319 | 22.4% |
| Namoi | \$33 | \$223 | 27.8% |
| Peel | \$29 | \$192 | 5.3% |
| Lachlan | \$33 | \$143 | 73.9% |
| Macquarie | \$24 | \$244 | 23.3% |
| Murray | \$6 | \$178 | 36.9% |
| Murrumbidgee | \$6 | \$169 | 16.7% |
| North Coast | \$25 | – | – |
| Hunter | \$21 | \$138 | 1.6% |
| South Coast | \$24 | \$1,012 | 1.5% |

a. This price is the sum of Water NSW usage charges and WAMC water take charges for 2021–22.

Source: NSW Department of Planning, Industry and Environment (DPIE), [Allocations dashboard](#), accessed 16 June 2021; DPIE, [Share component dashboard](#), accessed 16 June 2021; DPIE, [Trade dashboard](#), accessed 16 June 2021; and IPART analysis.

Our analysis shows that prices paid in the water market are substantially higher than the IPART-determined water take prices for all water sources. However, the level of trading activity is not consistent and is substantially lower in the Peel and Coastal regulated water sources.

Entitlements

In this section, we compare the present value of all future entitlement charges with prices paid for entitlements on the water market for the Murray and Murrumbidgee regulated water sources, the 2 water systems with the highest number of trades by volume in NSW.²⁰⁵

We found that from 2010–11 to 2019–20:

- In the Murray, the weighted average price per ML on the water market was \$1,383 for general security entitlements, and \$4,090 for high security entitlements (in \$2021–22). For comparison, the present value of IPART-determined entitlement charges per ML is \$273 for a general security entitlement, and \$527 for a high security entitlement.^d Therefore, the present value of entitlement charges is small (i.e. 20% for general security and 13% for high security) compared with the market price of the entitlements themselves.
- In the Murrumbidgee, the weighted average price per ML on the water market was \$1,506 for general security entitlements, and \$4,054 for high security entitlements (in \$2021–22). We also determined the present value per ML is \$153 for a general security entitlement, and \$318 for a high security entitlement. Again, the present value of entitlement charges is small (i.e. 10% for general security and 8% for high security) compared with market prices.

The trade volumes for entitlements are significantly lower than trade volumes for allocations. Our analysis shows the volume of trades in entitlements on the water market represent around 1% (on average) of total entitlements. Based on this analysis, we acknowledge that comparisons between the present value of IPART-determined entitlement charges, and the weighted average prices on the water market, may not be relevant for all water users.

11.2.5 Stakeholders were concerned about decreases in allocation reliability

Another issue raised by stakeholders at our online public hearing (in March 2021) and in submissions to our Draft Report is that since the Millennium Drought, water charges have increased and allocation reliability has decreased. The NSW Irrigators' Council (NSWIC) requested we analyse the trends of water charges against actual usage to determine how charges per megalitre of actual water take have changed over time.²⁰⁶

We recognise that in periods of low allocation reliability irrigators will pay more for each megalitre of water take. This is because the price per megalitre of water take increases as allocation reliability decreases, because of the fixed component per megalitre increases. However, WAMC's cost structure is largely fixed – that is, its costs are not affected by different levels of reliability.

For water users on 2-part tariffs, one way to manage the impact of decreasing allocation reliability on the price per megalitre of water take is to change the tariff structure and increase the percentage of revenue recovered through variable charges.

^d We calculated the present value using Water NSW and WAMC entitlement charges (based on our final pricing decisions) and the pre-tax real WACC of 2.4% for Murray–Darling Basin valleys as the discount rate.

For water users on a 1-part tariff in unregulated water sources and groundwater sources, one way to manage this is getting a water meter or water meter equivalent, which would result in switching to 2-part tariffs. However, depending on the water user's circumstances, getting a water meter or water meter equivalent may be not financially viable.

11.3 WAMC can recover costs of meeting environmental obligations

Under section 15 of the IPART Act, we are required to have regard to the need to maintain ecologically sustainable development by taking account of all feasible options to protect the environment.

Managing environmental water is a key part of WAMC's water resource management services. Environmental water requirements are set out in section 8 of the *Water Management Act 2000* and individual water sharing plans include environmental water management requirements.

In determining WAMC's revenue requirement, we ensured WAMC can fully recover all efficient costs it incurs in meeting its environmental obligations through prices and NSW Government contributions.

As an example, Cardno found that WAMC's proposed operating expenditure for the Gayini Nimmie-Caira project (a new Sustainable Diversion Limit Adjustment Mechanism project) was generally prudent, and we included this expenditure in WAMC's revenue requirement. The project delivers environmental flows to the Nimmie-Caira floodplain in the Murrumbidgee River valley and addresses the environmental impacts of water extraction. Chapters 2 to 4 contain further details).

11.4 Prices will transition towards full cost recovery levels

In setting our prices, we considered the level of cost recovery by WAMC for all water sources. Target revenue as a percentage of the user share of the NRR is called the level of cost recovery. The shortfall is funded by the NSW Government, effectively as a community service obligation (discussed in section 11.5).

Table 11.15 summarises the impact of our pricing decisions on the level of cost recovery. It shows that, for water sources not at full cost recovery, our maximum prices will transition towards full cost recovery levels at a capped real rate of 2.5% per year from 2021–22 to 2024–25. Using a cap aims to achieve a balance between setting prices that recover WAMC's efficient costs and mitigating bill impacts on water users.

Table 11.15 Impact of prices on cost recovery levels

| Water source | 2020–21 | IPART 2021–22 | IPART 2024–25 |
|--------------------|---------|------------------|------------------|
| Regulated | | | |
| Border | 100% | 90% | 97% |
| Gwydir | 91% | 79% | 84% |
| Namoi | 100% | 100% | 100% |
| Peel | 78% | 96% | 100% |
| Lachlan | 100% | 64% | 68% |
| Macquarie | 100% | 71% | 76% |
| Murray | 100% | 55% | 58% |
| Murrumbidgee | 99% | 64% | 69% |
| North Coast | 100% | 60% | 64% |
| Hunter | 95% | 91% | 97% |
| South Coast | 100% | 73% | 78% |
| Unregulated | | | |
| Border | 100% | 53% | 56% |
| Gwydir | 100% | 53% | 56% |
| Namoi | 100% | 53% | 56% |
| Peel | 100% | 53% | 56% |
| Lachlan | 100% | 92% | 97% |
| Macquarie | 100% | 92% | 97% |
| Far West | 100% | 100% | 100% |
| Murray | 100% | 48% | 51% |
| Murrumbidgee | 100% | 74% | 79% |
| North Coast | 100% | 82% | 87% |
| Hunter | 100% | 88% | 93% |
| South Coast | 100% | 100% | 100% |
| Groundwater | | | |
| Inland | 100% | 100% | 100% |
| Border | NA | 100% | 100% |
| Murrumbidgee | 68% | 81% | 87% |
| Coastal | 100% | 56% | 60% |

Note: Figures in this table do not account for revised prices commencing from 1 October 2021.
Source: IPART analysis.

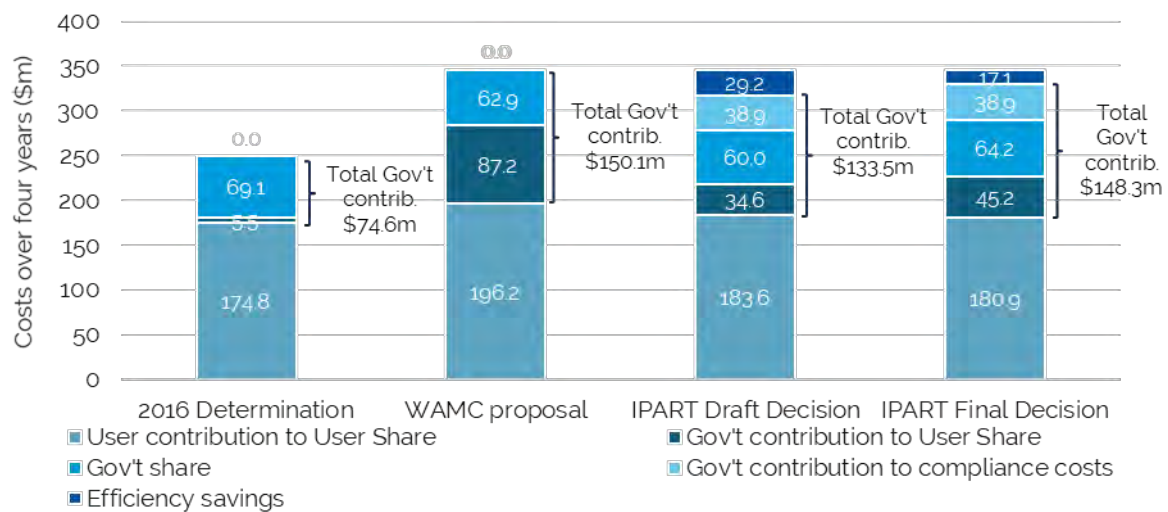
11.5 NSW Government contributions will increase

While most prices for the 2021 determination period are higher than 2020–21 levels, we consider our decisions achieve an appropriate balance between the need to transition towards full cost recovery and limiting bill impacts on water users.

Figure 11.2 shows estimated NSW Government contributions over the 2021 determination period will be \$73.7 million higher than for the 2016 determination period. This increase includes:

- \$39 million of compliance costs to address historical compliance issues, to be paid for by the NSW Government
- \$40 million of additional Government contributions to fund the revenue shortfall from water users. Since majority of the prices are transitioning towards full cost recovery, this approach results in lower cost recovery from water users (Table 11.15). WAMC will require additional contributions from the government to meet the NRR for the 2021 determination period.
- The increases are offset by a \$4.9 million reduction in the government share of NRR. Since the 2016 Determination, we reviewed the government and user shares of WAMC's NRR. Overall, this resulted in a lower government share and a higher user share of NRR compared with our last review.

Figure 11.2 NSW Government total contributions over the 2021 determination period (\$ million, \$2020–21)



Source: IPART analysis.

Chapter 12 >>

Water consent transaction charges

12

Summary of our decisions for water consent transaction charges

Consent transaction charges are increasing

We decided to continue setting cost-reflective consent transaction charges. This approach means the water users who require these services will pay the full costs of providing these services.

We adopted WAMC's proposed consent transaction charges subject to a 20% efficiency adjustment. We recognise for most consent transactions, WAMC's new charges are higher than the current 2020–21 charges. This increase is because the 2016 Determination did not reflect the full costs (and hence charges) required to deliver these services.

WAMC's methodologies for developing its consent transaction charges are reasonable. However, considerable efficiencies can be realised over the 2021 determination period.

Only the users requiring consent transaction services will be impacted by these price increases. But we are concerned none of the WAMC agencies have engaged with customers to test the affordability or willingness to pay for such large increases.

For the next determination period, we encourage WAMC to conduct appropriate stakeholder engagement to ensure its consent transaction charges represents an informed trade-off between service delivery and cost.

We set a new charge for Water Supply (Critical Needs) assessments

Our decision is to adopt WAMC's proposed new charges for Water Supply (Critical Needs) assessments, subject to a 10% efficiency adjustment.

WAMC is required to perform a number of water licence processing activities. These activities are known as water consent transactions and they fall into 3 categories:

- **water access licences** – transactions include issuing new licences, amending existing licences and any dealings in licences such as assigning share components, consolidating, subdividing and surrendering licences under the *Water Management Act 2000*
- **water allocation assignments** – transactions include assigning water from one licensee account to another licensee account (commonly referred to as temporary trade) for unregulated and groundwater water sources
- **works approvals** – transactions include assessing and approving the construction and use of water supply works such as pumps, dams and bores, and for the application of water to the land.

Water NSW and NRAR are responsible for providing these consent transaction services on behalf of WAMC. Water consent transaction charges recoup WAMC's efficient costs of providing these services to users.

This chapter presents our decisions on WAMC's water consent transactions charges.

12.1 WAMC's consent transaction charges are increasing

Our decisions are:



46. To maintain our approach of setting cost-reflective consent transaction charges as proposed by WAMC.

47. To set WAMC's consent transactions charges as listed in Table 12.1. These charges are based on a consistent schedule for two different customer types.

Table 12.1 Decision on consent transaction charges for the 2021 determination period (\$2021–22, \$ per transaction)

| | 2021–22 to 2024–25 |
|--|-------------------------------|
| Type A consent transactions | |
| New water access licences | |
| Zero share | 1,158.71 |
| Controlled allocation | 1,518.99 |
| Specific purpose – groundwater assessment required | 5,139.77 |
| Specific purpose – no groundwater assessment required | 2,593.97 |
| Water access licence dealings | |
| Dealings – regulated rivers | 758.18 |
| Dealings – unregulated rivers and groundwater (all applications except those considered by the processing agency to be low risk or administrative) – groundwater assessment required | 4,968.24 |
| Dealings – unregulated rivers and groundwater (all applications except those considered by the processing agency to be low risk or administrative) – groundwater assessment not required | 2,422.45 |
| Dealings – unregulated rivers and groundwater with low risk | 1,097.71 |
| Dealings – unregulated rivers and groundwater – administrative | 484.88 |
| Water allocation assignments | |
| Unregulated rivers and groundwater | 143.80 |
| Approvals | |
| Application for a new approval regarding a pump where no advertising is required | 2,416.96 |
| Application for a new approval regarding a pump where advertising is required | 2,956.62 |
| Application for a new approval regarding a dam where no advertising is required | 2,391.60 |
| Application for a new approval regarding a dam where advertising is required – | 3,015.20 |
| Application for a new approval regarding groundwater where neither advertising nor a groundwater assessment is required | 1,952.95 |
| Application for a new approval regarding groundwater where advertising is required but a groundwater assessment is not | 2,300.68 |
| Application for a new approval regarding groundwater where a groundwater assessment is required but advertising is not | 4,498.75 |
| Application for a new approval regarding groundwater where both a groundwater assessment and advertising are required | 4,846.47 |
| Amend – add and change water supply works, add and change water use or changes to conditions – groundwater assessment not required | 4,043.17 |

| | 2021-22 to 2024-25 |
|--|-------------------------------|
| Amend – add and change water supply works, add and change water use or changes to conditions – groundwater assessment required | 1,497.38 |
| Amended approval – administrative – groundwater assessment required | 2,723.67 |
| Amended approval – administrative – groundwater assessment not required | 177.88 |
| Extension of approval – lodged before expiry date | 354.32 |
| Extension of approval – lodged after expiry date | 654.83 |
| Type B consent transactions | |
| New water access licences | |
| Zero share | 716.37 |
| Controlled allocation | 696.95 |
| Specific purpose – groundwater assessment required | 3,272.68 |
| Specific purpose – no groundwater assessment required | 726.89 |
| Water access licence dealings | |
| Dealings – regulated rivers | 758.18 |
| Dealings – unregulated rivers and groundwater (all applications except those considered by the processing agency to be low risk or administrative) – groundwater assessment required | 4,968.24 |
| Dealings – unregulated rivers and groundwater (all applications except those considered by the processing agency to be low risk or administrative) – groundwater assessment not required | 2,422.45 |
| Dealings – unregulated rivers and groundwater with low risk | 1,097.71 |
| Dealings – unregulated rivers and groundwater – administrative | 484.88 |
| Water allocation assignments | |
| Unregulated rivers and groundwater | 50.55 |
| Approvals | |
| New or amended works and/or use approval – groundwater assessment required (except those considered by the processing agency to be low risk or administrative) | 7,044.48 |
| New or amended works and/or use approval – groundwater assessment not required (except those considered by the processing agency to be low risk or administrative) | 4,498.68 |
| New or amended works and/or use approval – low risk – groundwater assessment required | 4,983.31 |
| New or amended works and/or use approval – low risk – groundwater assessment not required | 2,437.52 |
| New basic rights bore approval – groundwater assessment required | 1,037.24 |
| New basic rights bore approval – groundwater assessment not required | 893.27 |
| Amended approval – administrative – groundwater assessment required | 3,082.24 |
| Amended approval – administrative – groundwater assessment not required | 536.44 |
| Extension of approval – lodged before expiry date | 515.97 |
| Extension of approval – lodged after expiry date | 953.62 |

Note: With the exception of water access licence dealings, Type A consent transactions are currently regulated by NRAR and Type B consent transactions are regulated by Water NSW.

Source: Cardno, *WAMC Expenditure Review – Final Report for IPART*, March 2021, Table 9–12, pp 172–173 and IPART analysis.

For the 2021 determination period we are maintaining our approach of setting cost-reflective fee-for-service consent transaction charges. We decided to apply a 20% efficiency reduction to WAMC's proposed consent transaction charges for the 2021 determination period, consistent with Cardno's recommendation. Our schedule of charges is set out in Table 12.1.

WAMC considers the 20% efficiency challenge unachievable and not cost reflective of its actual costs of providing consent transaction services.²⁰⁷ It also notes that reduced costs will impact on service levels and its ability to achieve its performance measure targets.²⁰⁸ Other stakeholders supported the efficiency reduction, noting there have been slower processing times due to the additional complexity of having multiple agencies involved in processing particular transactions.²⁰⁹

Our efficiency adjustment is derived from Cardno's review of Water NSW and NRAR's approach to estimating the costs and requisite service levels to deliver each transaction charge category and the requisite service levels. Cardno also benchmarked the charges against other jurisdictions.

While we consider WAMC's methodologies used to derive these consent transaction charges are reasonable, we have concerns that WAMC has not validated some key assumptions used to estimate the costs and derive the charges.²¹⁰ We also consider its approach to estimating costs is still relatively immature, and therefore actual costs are not an appropriate basis to establish the efficient costs of delivering these services.

Cardno has identified several areas where Water NSW and NRAR could make material improvements to its processes and move towards the efficiency frontier over time:

- Increasing engagement with customers on the desired level of service and affordability of the proposed consent transaction charges.
- Improving business processes and ensuring these are well documented.
- Improving the methodology used to determine consent transaction charges including appropriate allocation of staff time and costs
- Regular management review and independent (internal) audit of costs and the methodology used.
- Detailed recording of actual costs for different transactions, where practical.
- Ensuring staff undertaking the activities have the right capabilities and training and resourcing mix is optimised.²¹¹

Most of our consent transaction charges are higher than 2020–21 charges. This increase is because the 2016 Determination did not reflect the full costs and charges required to perform consent transaction activities.

We recognise our decisions on the consent transaction charges will result in significant increases in fees paid by customers for these services. We are concerned none of the WAMC agencies have engaged with customers to test the affordability or willingness to pay for such large increases. We agree with Cardno that if appropriate stakeholder consultation had occurred, WAMC may have arrived at a different trade-off and balance between cost and service.²¹²

For the next determination period, we encourage WAMC to conduct appropriate stakeholder engagement to ensure its consent transaction charges represent an informed trade-off between service delivery and cost.

12.1.1 We set a consistent schedule of charges for different customer types

We accepted WAMC's proposal to have 2 separate schedules of consent transaction charges. This approach distinguishes between different types of customers and different works/activities (Box 12.1).

Box 12.1 Consent transactions are for different customer types

Under the current regulatory arrangements, NRAR is responsible for assessing consent transactions for a subset of WAMC's customers (around 5% of total licences issued). Water NSW assesses all other transactions (around 95% of total licences issued).

While NRAR processes consent transactions for a small volume of licences, these licence holders comprise around 43% of the total regulated water share. NRAR's customers are specified in the 2016 and 2018 Deeds of Transfer between DPIE and Water NSW. These customers include: major utilities, water supply authorities, local water utilities, irrigation corporations, state owned corporations, mining companies, aboriginal communities and businesses, major developments, floodplain harvesting and associated works.

Source: Cardno, *WAMC Expenditure Review – Final Report for IPART*, March 2021, pp 158–160.

Cardno reviewed WAMC's proposed charge categories and noted some categories add unnecessary complexity.²³ Cardno adjusted the transaction charge categories and set out a consistent schedule for both WAMC agencies. Customers that are currently regulated by NRAR will pay Type A consent transaction charges.^a Currently, Water NSW is responsible for providing consent transaction services to Type B customers.

^a NRAR does not perform water access licence dealings consent transaction services. Water NSW is responsible for providing water access licence dealing consent transactions to Type A customers.

12.2 We partially accepted WAMC's proposed Water Supply (Critical Needs) Assessment charges

Our decision is:



48. To adopt WAMC's proposed Water Supply (Critical Needs) Assessment charges subject to a 10% efficiency adjustment as shown in Table 12.2.

Table 12.2 Decision on Water Supply (Critical Needs) assessment charges for the 2021 determination period (\$2021–22)

| Water supply (Critical Needs) assessment | Charge per transaction |
|--|------------------------|
| Stage 1 assessment | 42,770.36 |
| Stage 2 assessment | 73,629.11 |

Source: Cardno, *WAMC Expenditure Review – Final Report for IPART*, March 2021, Table 9–13, p 174 and IPART analysis.

The *Water Supply (Critical Needs) Act 2019* allows the Minister to approve critical infrastructure that is urgently needed to prevent a town or locality from running out of water.²¹⁴ DPIE is required to undertake assessment and approval of applications for infrastructure under this Act. The Act created a new approval process for a small number of water users. WAMC proposed a new consent transaction charge to recoup its efficient costs of providing this service in the 2021 determination period.²¹⁵

Our decision is to adopt WAMC's proposal for a new consent transaction charge for Water Supply (Critical Needs) authorisation assessments, subject to a 10% efficiency adjustment. Our Water Supply (Critical Needs) Assessment charges are presented in Table 12.2.

We consider an efficiency challenge of 10% applied to the charges proposed by DPIE is appropriate, reflecting the small number of assessments completed to date and scope for considerable efficiencies for a new activity, which could be realised in future assessments.²¹⁶

12.3 WAMC will continue to report on its output measures

Consistent with our decision on operating expenditure, we require WAMC to report against a set of output measures for each year of the 2021 determination period.

Water NSW did not propose changes to the existing output measures for consent transactions. NRAR proposed having an additional 5 days to process its transactions. It also proposed loosening the standards for its consent transactions due to the additional complexity to process its applications and to align with its current processing times.

We decided to rationalise the existing output measures for consent transactions, so they focus on the main licence applications and approvals. We agree with Cardno's recommendation that NRAR's proposal is reasonable.²¹⁷ These output measures are discussed in the Output Measures Report.

Chapter 13 »

Existing metering charges

13

Summary of our decisions for existing metering charges

We decided to continue setting cost-reflective charges based on WAMC's June 2020 pricing proposal for WAMC's existing metering services. These charges are a separate fee-for-service charge and only recovered from users who use these services. These charges do not include WAMC's proposed additional costs to implement the NSW Government's metering reform.

Water users who are required to pay the existing metering charges will continue to pay these charges until they are replaced by the new metering charges set out in Chapter 14.

Except for ancillary charges, WAMC's existing metering charges are remaining constant in real terms

Our decision is to maintain WAMC's existing meter service and water take assessment charges in real terms. This means that prices will only increase by inflation.

We have increased the prices for some of WAMC's ancillary charges. This is to recognise the existing charges are too low and do not reflect the full cost of providing these services.

In its June 2020 pricing proposal, WAMC proposed recovering its ongoing metering costs via separate fee-for-service charges. As such, the costs of metering are not included in the general operating expenditure base and are not recovered from all users via water management charges. There are three categories of metering charges:

- meter service charges,
- meter reading charges, and
- ancillary charges.

In November 2020, Water NSW on behalf of WAMC and Water NSW rural bulk water proposed additional costs to implement the NSW Government's non-urban metering reforms. We have reviewed these costs and set prices to recover these additional costs in Chapter 14.

As with consent transactions and expenditure, we engaged Cardno to review and recommend WAMC's metering charges based on the June 2020 pricing proposal. Cardno has separately reviewed WAMC's additional costs and charges of implementing non-urban metering reforms.

This chapter sets out our assessment of WAMC's metering charges from WAMC's June 2020 pricing proposal.

13.1 WAMC's meter service charges will remain constant in real terms

Our decision is:



49. To accept WAMC's proposal and set WAMC's annual meter service charges for the 2021 determination period as shown in Table 13.1. We have set these charges based on meter size and telemetry of the meters.

Table 13.1 Annual meter service charge (\$2021-22)

| Meter size | Current 2020-21 | IPART decision 2021-22 to 2024-25 | Change from current to IPART decision |
|------------------------|-----------------|-----------------------------------|---------------------------------------|
| Telemetered | | | |
| 50-300 | 519.97 | 519.97 | 0% |
| 350-700 | 540.29 | 540.29 | 0% |
| 750-1,000 | 587.36 | 587.36 | 0% |
| Non-telemetered | | | |
| 50-300 | 407.91 | 407.91 | 0% |
| 350-700 | 423.85 | 423.85 | 0% |
| 750-1,000 | 460.78 | 460.78 | 0% |

Source: Water NSW, *WAMC pricing proposal to IPART*, June 2020, Tables 72 and 73, pp 134-135, and Cardno, *WAMC Expenditure Review - Final Report to IPART*, p 183.

Meter service charges apply to government-owned water meters, and recover the efficient cost of operating, maintaining and, in some cases, reading the meter. These charges are levied annually.

WAMC proposed maintaining the meter service charge in real terms. Cardno reviewed WAMC's proposed charge and considers these charges are efficient.²¹⁸ Our decision is to accept WAMC's proposed meter service charges and structure of these charges. This decision is unchanged from the draft report.

We consider these charges reflect the relationship between meter charges and meter size (i.e. the costs of servicing larger meters are higher compared to smaller meters). It also shows that the costs of telemetered or agency read sites are higher compared to non-telemetered sites with customer reading in the short term. We note the ongoing costs of servicing meters are likely to come down as more customers have telemetry installed and the costs of technology reduce.

13.2 WAMC's water take assessment charges will remain constant in real terms

Our decision is:



50. To set WAMC's annual water take assessment charges for the 2021 determination period as shown in Table 13.2 .

Table 13.2 Annual water take assessment charge (\$2021-22)

| Charge type | Current 2020-21 | Proposed 2021-22 to 2024-25 | IPART decision 2021-22 to 2024-25 | Change from current to IPART decision |
|-------------------|--------------------|--------------------------------|--------------------------------------|---|
| Water take charge | \$209.36 | \$420.58 | \$209.36 | 0% |

Source: Water NSW, *WAMC pricing proposal to IPART*, June 2020, Table 74, p 136 and Cardno, *WAMC Expenditure Review - Final Report for IPART*, March 2021, p 184.

WAMC provides water take measurement (or metering) services to licence holders in unregulated rivers and groundwater sources (in regulated rivers the services are undertaken by Water NSW).

WAMC proposed increasing the water take assessment charge to more than double the current water take assessment charge. Water NSW notes this is due to its allocation of a fixed number of staff to conduct its meter reads. Cardno considers that it is not efficient to use a fixed resource base to determine the efficient level of costs when the number of meter reads per year have decreased.²¹⁹ We agree with Cardno's recommendation and have decided not to implement WAMC's proposed increases.

13.3 Some of WAMC's ancillary charges will increase to align with Water NSW's rural valley charges

Our decision is:



51. To set WAMC's annual ancillary charges for the 2021 determination period as shown in Table 13.3 .

Table 13.3 Annual ancillary charges (\$2021-22)

| Meter size | Current 2020-21 | IPART decision 2021-22 to 2024-25 | Change from current to IPART decision |
|--|--------------------------|-----------------------------------|---------------------------------------|
| Refundable meter accuracy deposit | \$1,892.34 | \$1,769.25 | -7% |
| Verification and testing in situ ^a | \$259.31 | \$4,677.28 | 1704% |
| Lab verification and testing ^a | \$1,892.34 | \$6,999.03 | 270% |
| Meter reset fee after suspension of maintenance for a year or more, at customer request ^b | \$259.31 + cost of parts | \$259.31 + cost of parts | 0% |

a. This is Water NSW's proposed total charge if meter is found to be within accuracy standards. A water user will also be required to pay the refundable meter accuracy deposit for these services.

b. Water NSW is proposing a continuation of the meter reset fee over the next determination period. An equivalent fee has not been set under the Rural Valley 2017 Bulk Water Determination.

Source: Water NSW, *WAMC pricing proposal to IPART*, June 2020, Table 78, p 139 and Cardno, *WAMC Expenditure Review - Final Report for IPART*, March 2021, p 185.

WAMC provides ancillary services on a fee-for-service basis. WAMC proposed increasing ancillary charges in line with Water NSW's 2017 Determination ancillary charges for its rural bulk water services. This is a significant increase from the current charges. Cardno notes that existing ancillary charges are too low and do not reflect the full costs of these activities.²²⁰ Our decision is to accept WAMC's proposed ancillary charges.

Chapter 14 »

Non-urban metering reform charges

14

Summary of decisions on non-urban metering reform charges

We decided to introduce 5 new non-urban metering charges

These new charges apportion the efficient costs of the reforms across licence holders and water users with compliant meters.

- A 'scheme management charge' to apply as an annual fee to all licensed customers (\$/licence).
- A 'telemetry charge' to apply as an annual fee per metering installation for customers that use telemetry (\$/meter).
- A 'non-telemetry charge' to apply as an annual fee per metering installation for customers that do not use telemetry capacity (\$/meter).
- 2 additional charges to apply to customers with government owned meters - 'meter service charge – operating costs' and 'meter service charge – capital costs'. These charges are to be applied as an annual fee per metering installation (\$/meter).

We set charges to recover the efficient costs of implementing the reforms

We found that the efficient cost of implementing the metering reforms is \$39.4 million to \$47.8 million. The efficient costs vary depending on the number of customers that opt in to telemetry. The efficient costs are highest under Water NSW's base case when 0% of customers voluntarily opt in to telemetry (\$47.8 million) and lowest when 100% of customers voluntarily opt in to telemetry (\$39.4 million).

Our decision includes efficiency savings that Water NSW can realistically achieve when implementing the reforms and will ensure that customers are not paying for inefficient costs.

Our decisions take account of government funding to support metering uptake

The NSW Government will contribute funding to Water NSW to cover the capital costs of upgrading government owned meters. The aim of the funding is to ensure that the costs of bringing these meters into compliance with the non-urban metering rules is not borne by users. We therefore made a decision to set a 'meter service charge – capital costs' of \$0 per year for the 2021 determination period.

In addition, the NSW Government and Australian Government will each provide \$9 million in funding to deliver a telemetry rebate program across NSW. The rebate will automatically be applied as a one-off \$975 credit on a water bill and provide a financial incentive for metered non-urban water users to use telemetry to remotely transmit their water take information. At this stage, it is unclear how many customers will voluntarily opt in to telemetry because of the rebate. We therefore decided to set charges that vary based on the proportion of customers that voluntarily opt in to telemetry.

In response to the Matthews Report on improving water resource management, Water NSW is implementing a range of non-urban metering reforms. In March 2021, we released draft reports for our Water NSW and WAMC reviews. In these reports, we did not make draft decisions on Water NSW's additional charges for implementing the non-urban metering reforms. Our preliminary view was that we did not have sufficient information to include Water NSW's proposed metering costs in regulated prices over the 2021 determination period. Instead, we sought feedback on Water NSW's proposal including the efficiency of its costs, the impacts on customers, the proposed price structure and who should pay for the policy.

In response to our draft reports, Water NSW submitted a revised proposal on non-urban metering responding to the issues we raised. We decided to delay the commencement of the 2021 determination period for Water NSW and WAMC to 1 October 2021 and release a Supplementary Draft Report on Water NSW's non-urban metering reform charges. This allowed us to assess Water NSW's revised proposal and seek feedback from stakeholders on draft decisions.

After considering feedback from stakeholders, we have made final decisions on the efficient costs and charges for implementing the non-urban metering reforms. This chapter sets out our decisions. The sections below set out further information on:

- the efficient costs of implementing the NSW Government's non-urban metering reforms
- the appropriate customer share of the efficient costs
- the appropriate charge structure including which costs should be recovered from different charges, whether the charges should apply to all licences or water users with compliant meters and how charges should vary based on the proportion of users that opt in to telemetry
- the level of charges and how we adjusted for several of Water NSW's modelling parameters
- how to transition from existing metering charges to the new charges to provide incentives for compliance as the reforms are rolled out between now and December 2023
- how to deal with uncertainty including whether to introduce an unders and overs mechanism (UOM), provide for exit fees and adjust charges at the next determination, and
- the impacts of metering reforms on customer charges and bills.

14.1 The efficient cost of metering reform is up to \$47.8 million

Our decisions are:



52. That the efficient cost of implementing the NSW Government's non-urban metering reforms under Water NSW's proposed base case is \$47.8 million over the 2021 determination period (see Table 14.1).

53. That the efficient cost of implementing the NSW Government's non-urban metering reforms varies from \$39.4 million to \$47.8 million based on the proportion of customers that voluntarily opt in to telemetry (see Table 14.2).

Our final decision is to set Water NSW's efficient costs under its base case at \$47.8 million. This amount is \$8.3 million (or 14.7%) lower than Water NSW's revised proposal and comprises:

- \$4.0 million in scope adjustments
- \$3.4 million in catch-up efficiency adjustments, based on a catch-up efficiency of 3.2% per annum for operating expenditure and 1.3% per annum for capital expenditure
- \$0.8 million in continuing efficiency adjustments, based on a continuing efficiency of 0.7% per annum.

Table 14.1 summarises our decisions on Water NSW's operating and capital expenditure to implement the non-urban metering reforms under Water NSW's proposed base case.

Table 14.1 Decision on efficient costs of implementing non-urban metering reforms under Water NSW's proposed base case for the 2021 determination period (\$ millions, \$2020-21)

| | 2021-22 ^a | 2022-23 | 2023-24 | 2024-25 | Total |
|---------------------------------|----------------------|---------|---------|---------|--------|
| Water NSW proposed ^b | 16.9 | 14.5 | 13.3 | 11.4 | 56.1 |
| IPART decision | 9.3 | 15.6 | 13.7 | 9.3 | 47.8 |
| Difference | -7.6 | 1.1 | 0.3 | -2.2 | -8.3 |
| % Difference | -45.0% | 7.8% | 2.6% | -18.9% | -14.7% |

^a Including 2020-21 capital expenditure on government owned meters, which is included in the capital charge.

^b The costs are slightly lower than in the Supplementary Draft Report because the Water NSW proposal and the Supplementary Draft Report costs double counted telemetry costs for government-owned meters.

Note: Water NSW proposal is based on information provided in Water NSW's April 2021 submission to IPART. Totals may not sum due to rounding.

Source: IPART analysis using data from Cardno, *Review of Water NSW's Metering Reform Costs – Final Supplementary Report*, September 2021.

We also found that the efficient costs vary with the number of customers that voluntarily opt in to telemetry.^a Under the new metering rules, water users will need telemetry for all approved surface water works, except for those with surface pumps less than 200 mm or those directed to install telemetry by an order of the Minister. However, even if users are not required to have telemetry, they may voluntarily install telemetry equipment.

We consider that our decision should reflect the potential range of telemetry opt-in based on five scenarios modelled by Water NSW: 0%, 25%, 50%, 75% and 100% telemetry opt-in. The efficient costs are highest under Water NSW's base case when 0% of customers voluntarily opt in to telemetry (\$47.8 million) and lowest when 100% of customers voluntarily opt in to telemetry (\$39.4 million). This approach is unchanged from our draft decision.

^a There are two types of meters under the new framework: telemetry meters and non-telemetry meters. Telemetry meters record data and remotely transmit it to Water NSW's centralised data systems. Non-telemetry meters record and store data on site and require periodic manual meter reading (known as data logger download).

Table 14.2 Decision on efficient costs of implementing non-urban metering reforms for different telemetry opt-in scenarios for the 2021 determination period (\$ million, \$2020-21)

| Telemetry opt-in | 2021-22 ^a | 2022-23 | 2023-24 | 2024-25 | Total |
|------------------|----------------------|---------|---------|---------|-------|
| 0% | 9.3 | 15.6 | 13.7 | 9.3 | 47.8 |
| 25% | 8.7 | 15.1 | 13.1 | 8.8 | 45.7 |
| 50% | 8.1 | 14.6 | 12.5 | 8.4 | 43.6 |
| 75% | 7.5 | 14.1 | 11.9 | 7.9 | 41.5 |
| 100% | 7.0 | 13.6 | 11.3 | 7.5 | 39.4 |

^a Including 2020-21 capital expenditure on government owned meters, which is included in the capital charge.

Note: Totals may not sum due to rounding.

Source: IPART analysis using data from Cardno, *Review of Water NSW's Metering Reform Costs – Final Supplementary Report*, September 2021.

14.1.1 Water NSW provided sufficient information to set efficient costs

Several stakeholders considered that there was insufficient information to establish Water NSW's efficient costs. They also questioned the impact on efficient costs of delays in implementing the reform and inaccuracies in the number of sites used to set efficient costs and charges.²²¹

Our detailed review of Water NSW's expenditure found that there was sufficient information to set efficient costs including dealing with delays, uncertainty in implementing the reforms and providing incentives to Water NSW to become more efficient as they implement the reforms. Our consultant – Cardno – tested the robustness of Water NSW's assumptions and made adjustments where appropriate to arrive at the efficient costs. We consider that there is sufficient information to set efficient costs. The catch-up efficiencies also provide an incentive to Water NSW to reduce uncertainty as they implement expenditure plans over time.²²²

We also made decisions on how to address uncertainty associated with other areas raised by stakeholders including floodplain harvesting meters, delays in users with privately owned meters complying with the policy and delays in the rollout of government owned meters. The sections below set out our analysis of each of these areas.

Delays in users with privately owned meters complying with the policy

For **privately owned meters**, we decided to set efficient costs based on users meeting the required compliance dates, rather than reflecting possible non-compliance. We consider that this is an appropriate approach for two reasons:

- Water NSW considered that its discussions with various stakeholders (including duly qualified persons (DQPs), NRAR and DPIE) have not indicated any supply issues that would prevent users with privately owned meters from meeting compliance dates (such as lack of supply of meters, local intelligence devices (LIDs) or DQPs).²²³
- Although in practice some users may not meet the required compliance dates, it is our role to set charges based on the efficient costs of Water NSW implementing the reform. This should include the activities it needs to undertake to support the required compliance dates for privately owned meters. Using lower efficient costs based on delays in users becoming compliant and then to setting lower charges would not provide an appropriate incentive for users to comply with the policy.

Delays in government owned meter rollout

For **government owned meters**, we also decided to set efficient costs based on Water NSW meeting the required compliance dates. Water NSW's proposal included operating and capital expenditure forecasts based on accelerating compliance for government owned meters. Water NSW advised that it has now revised this profile to align with the compliance dates required by the Regulation.²²⁴

We decided to set efficient costs based on Water NSW's revised profile as this reflects our best estimate of the expenditure profile based on current information and is consistent with meeting the required compliance dates. We also decided that customers should not start paying charges associated with these costs until the later of the compliance date and when Water NSW makes the meter compliant (see section 14.5 for further information).

Floodplain harvesting meters

Water NSW's April proposal included the costs of 1,066 floodplain harvesting meters being compliant and telemetered in 2020-21 and 2021-22.²²⁵ However, amendments to the *Water Management (General) Regulation 2018* (the Regulation) that would require floodplain harvesting meters to comply were recently disallowed. Water NSW advised that this reduction of available meters being connected to telemetry from its original calculations will have material implications on the quantum that can be recovered from regulated charges as fixed telemetry costs will be spread across fewer meters.²²⁶

We asked Cardno to recommend efficient costs under two scenarios:

- Scenario 1 where the requirement for compliance for floodplain harvesting meters does not take effect until the next regulatory period.
- Scenario 2 where the requirement for compliance for floodplain harvesting meters takes effect from 2022-23.

Since the amendments to the Regulation were not approved, the compliance dates included in costs and charges in our Supplementary Draft Report will not be met. We decided to use Cardno's Scenario 2 as the basis for efficient costs and charges, where the compliance for floodplain harvesting meters take effect from 2022-23, as this our best estimate of the likely compliance dates based on currently available information. In addition, we consider that uncertainty around the timing of the requirements should be addressed by potentially adjusting charges at the next review (see section 14.6 for further information).

14.1.2 Water NSW's efficient expenditure is \$8.3 million less than Water NSW's base case proposal

Water NSW proposed \$56.1 million in operating and capital expenditure over the 2021 determination period to implement the NSW Government's non-urban metering reforms.^b This amount is made up of:

- \$32.4 million in scheme management costs (which Water NSW proposed are to be recovered from all customers via scheme management and telemetry/non-telemetry charges), and
- \$23.6 million in government owned meter costs (which Water NSW proposed are to be recovered only from customers with government owned meters).

Water NSW's base case proposal assumes no customers voluntarily opt in to telemetry.²²⁷ However, it also provided modelling of four additional scenarios with 25%, 50%, 75% and 100% of customers opt-in to telemetry.

Water NSW's efficient cost is \$47.8 million which is \$8.3 million less than what Water NSW proposed. Our reductions in Water NSW's proposed expenditure are comprised of:

- \$4.0 million in scope adjustments
- \$3.4 million in catch-up efficiency adjustments, based on a catch-up efficiency factor of 3.2% per annum for operating expenditure and 1.3% per annum for capital expenditure
- \$0.8 million in continuing efficiency adjustments, based on a continuing efficiency factor of 0.7% per annum.

Further analysis on our reductions to Water NSW's scheme management costs and government owned meter costs are set out in the following sections.

Scheme management costs

Scheme management costs include the wider costs of introducing the reform, such as recording and reporting, customer self-reporting, general enquiries and education. They also include metering scheme management costs such as compliance activities, water take assessments, meter reading and meter data services.

Our decisions on adjustments to Water NSW's proposed scheme management operating costs are summarised in Table 14.3.

^b These costs are slightly lower than in the Supplementary Draft Report because the Water NSW proposal and the Supplementary Draft Report costs double counted telemetry costs for government-owned meters.

Table 14.3 Decision on efficient scheme management operating and capital expenditure for the 2021 determination period (\$ millions, \$2020-21)

| | 2021-22 | 2022-23 | 2023-24 | 2024-25 | Total |
|--|------------|------------|------------|------------|-------------|
| Water NSW proposed | 7.1 | 7.8 | 9.2 | 8.4 | 32.4 |
| Scope adjustments ^a | -0.9 | -0.5 | -0.4 | -0.4 | -2.3 |
| Catch-up efficiency | -0.2 | -0.4 | -0.8 | -1.0 | -2.4 |
| Continuing efficiency | 0.0 | -0.1 | -0.2 | -0.2 | -0.5 |
| Total efficient operating and capital expenditure | 5.9 | 6.7 | 7.8 | 6.8 | 27.3 |
| Difference | -1.1 | -1.0 | -1.4 | -1.6 | -5.2 |
| Difference (%) | -16.1% | -13.4% | -15.0% | -19.0% | -15.9% |

^a Including adjustment due to delayed rollout of floodplain harvesting meters.

Note: Totals may not sum due to rounding.

Source: IPART analysis using Cardno, *Review of Water NSW's Metering Reform Costs – Final Supplementary Report*, September 2021

We consider that Water NSW can make **scope adjustment** efficiency savings of \$2.3 million, consistent with Cardno's recommendations. These adjustments include:

- An annual adjustment based on the revision of the working weeks included in Water NSW's cost model from 40.66 to 41.41. This recognises that non-field staff are not subject to the same training, down-time and leave requirements of field staff and as such have slightly higher average working weeks per year. Cardno considered that Water NSW had not provided sufficient evidence of a resourcing plan to support its proposal and on balance applied an adjustment based on 41.41 weeks to forecast efficient costs.²²⁸
- An annual adjustment based on an observation in Water NSW's cost model that the 'Other' salary costs for Team Leaders had not been revised to from \$25,000 to \$15,000 as set out in the changes that Water NSW had made to its expenditure forecasts in its April 2021 submission.²²⁹
- An annual adjustment to remove the double counting of 1 FTE salary costs for Customer Systems activities. These costs have been correctly included in the operating and maintaining the Data Acquisition Service (DAS) and DQP portal costs but were double counted in the overall Customer Serve and Systems total.²³⁰
- An annual adjustment to remove the GST component for several items included in the cost build-up.²³¹
- Removal of the \$0.3 million that Water NSW has included in 2021-22 as a capital allowance to automate upload time for initial site inspection. Cardno considered that this expenditure duplicates the WAVE program expenditure and should not be included as an uplift allowed above WAVE program.

It is our view that Water NSW has not fully demonstrated that it could not flexibly and cost effectively adapt the program with its service provider to deliver this functionality within its existing contract. WAVE is a collection of many initiatives in work streams that will be met through different systems and functionality with scope that allows Water NSW to be flexible in prioritising the overall program to meet its business needs.²³² We consider that an efficient business should work with its service provider to cost effectively adapt the program to the best available information within the contract.

- An adjustment for the compliance for floodplain harvesting meters taking effect from 2022-23 as outlined above.

We consider that Water NSW can make catch-up efficiency savings of \$2.4 million over the 2021 determination period. This is based on accepting Cardno's recommended catch-up efficiency adjustments of 3.2% per year for operating expenditure and 1.25% in 2021-21 increasing to 4.5% in 2024-25 for capital expenditure.²³³

Some areas where Water NSW can achieve these catch-up efficiencies include:

- Automating the upload of local intelligence device (LID) data into the Data Acquisition System (DAS) earlier than allowed for in Water NSW's assumptions. Water NSW's cost model currently includes a declining profile of time taken to upload data (0.4 hours in year 1, 0.2 hours in year 2 and 0 hours thereafter), reflecting its expected timeframe for implementing an automated solution.
- Optimising travelling routes, as currently Water NSW has assumed a flat 1 hour per site. More work will need to be completed by Water NSW to develop meter site rounds so that the most efficient routes can be planned for the field officers for each area.
- Achieving synergies with other field-based activities for downloading of the LID for meters not connected to telemetry to remove the need for a second visit to download the LID. The metering activities have considerable similarities with the surface water and groundwater monitoring activities in that they involve field staff undertaking activities across the State to collect information and then manage this information, which creates the potential for synergies.²³⁴

We consider that Water NSW can make **continuing efficiency** savings of \$0.5 million. This is based on continuing efficiency adjustments of 0.7% per year over the 2021 determination period.²³⁵ The continuing efficiency applied is consistent with that applied to Water NSW's expenditure for WAMC and Rural Valley activities.

Government owned meter costs

Government owned meter costs include the costs that Water NSW will incur in upgrading and maintaining existing government owned meters to ensure they are compliant with the new regulatory framework. It does not include the replacement or installation of new government owned meters.

Our decisions on adjustments to Water NSW's proposed government owned meter costs are summarised in Table 14.4.

Table 14.4 Decision on efficient government owned meter expenditure for the 2021 determination period (\$ millions, \$2020-21)

| | 2021-22 ^a | 2022-23 | 2023-24 | 2024-25 | Total |
|--|----------------------|------------|------------|------------|-------------|
| Water NSW's proposal | 9.8 | 6.7 | 4.2 | 3.0 | 23.6 |
| Scope adjustments ^b | -6.4 | 2.6 | 2.2 | -0.2 | -1.7 |
| Catch-up efficiency | 0.0 | -0.3 | -0.4 | -0.3 | -1.0 |
| Continuing efficiency | 0.0 | -0.1 | -0.1 | -0.1 | -0.3 |
| Total efficient operating and capital expenditure | 3.3 | 8.9 | 5.9 | 2.4 | 20.5 |
| Difference | -6.4 | 2.2 | 1.7 | -0.6 | -3.1 |
| Difference (%) | -65.9% | 32.3% | 41.4% | -18.7% | -13.2% |

a Including 2020-21 capital expenditure on government owned meters, which is included in the metering capital charge.

b Including adjustment due to updated rollout for government-owned meters.

Source: IPART analysis using Cardno, *Review of Water NSW's Metering Reform Costs – Final Supplementary Report*, September 2021.

Note: Totals may not sum due to rounding.

We consider that Water NSW can make **scope adjustment** efficiency savings of \$1.7 million consistent with Cardno's recommendations. These adjustments include:

- Reducing the consumables for each site visit from \$75 per visit to \$65 per visit based on Cardno's assessment of the cost build-up for this item.²³⁶
- Incorporating new information on Water NSW's profile of operating and capital expenditure for government owned meters as discussed above.

We consider that Water NSW can make **catch-up efficiency** savings of \$1.0 million over the 2021 determination period. This is based on accepting Cardno's recommended catch-up efficiency adjustments of 3.2% per year for operating expenditure and 1.25% in 2021-21 increasing to 4.5% in 2024-25 for capital expenditure. ²³⁷

We consider that Water NSW can achieve these catch-up efficiencies for example by optimising the level of testing of government-owned meters to confirm accuracy of the fleet. Water NSW has assumed that it will need to test 5% of the meter fleet to confirm overall accuracy. We consider that this may be conservative as Water NSW may be able to test fewer meters when it better understands the underlying variance in the population of meters.

We consider that Water NSW can make **continuing efficiency** savings of \$0.3 million. As noted above, this is based on a continuing efficiency adjustment of 0.7% consistent with the approach we applied for the rest of this review ²³⁸

14.1.3 Efficient costs decrease as more customers voluntarily opt in to telemetry

We found that the efficient costs of implementing the non-urban metering reforms are sensitive to changes in the number of customers that voluntarily opt in to telemetry. At the time of submitting its April revised proposal, Water NSW considered that there was no evidence to suggest that there will be any voluntary uptake of telemetry. However, the NSW Government has now decided to provide a one-off rebate for customers who use telemetry.

We consider that our decision should reflect the potential range of telemetry opt-in based on 5 scenarios modelled by Water NSW: 0%, 25%, 50%, 75% and 100% telemetry opt-in. The efficient costs are highest when 0% of customers voluntarily opt in to telemetry (\$47.8 million) and lowest when 100% of customers voluntarily opt in to telemetry (\$39.4 million).

Water NSW raised concerns about us using its telemetry modelling scenarios to set efficient costs and charges that vary with telemetry opt-in. It submitted that this analysis was based on the hypothetical long run costs of administering the reforms and would take approximately 2 years to fully implement the proposed cost reductions as more user opt in to telemetry.²³⁹

We considered the long-term nature of the costs that underpin Water NSW's scenarios when setting charges for each of the telemetry ranges. We applied a conservative approach to setting the charges for each band, using the lower end of each band to set the charge (e.g. the 0% voluntary uptake costs apply throughout the 0-24% range of voluntary uptake). It is our view that an efficient business should be able to plan appropriately and recovers its costs through the charges we set.

14.2 A customer share of 100% is appropriate

Our decision is:



54. To adopt a 100% customer share of efficient costs incurred by Water NSW implementing the NSW Government's non-urban metering reforms.

We allocate the efficient costs of Water NSW's rural bulk water services and WAMC's water management costs based on whichever party created the need for an activity (and its associated costs) to be incurred.

Irrigators generally disagreed with the draft decision for a 100% customer share. For example, NSWIC considered that the NSW Government created the need for the expenditure, in order to rebuild public confidence following Government failures in enforcing compliance. Similarly, Murray Valley Private Diverters Inc considered that southern basin participants should not incur 100% of expenditure for regulatory and compliance failures of the NSW Government or Water NSW. Coleambally Irrigation Co-operative Limited (CICL) recommended a customer share of 50% given there is some uncertainty around Water NSW's efficient costs.²⁴⁰

Our view is that it is water customers who create the need for expenditure on metering reform and therefore customers should contribute 100% of the efficient costs. This is unchanged from our draft decision.

We consider that the underlying driver for metering reform is protecting the rights of water customers and that a 100% customer share is consistent with our 2019 rural water cost shares report. We also note that the relevant policies including the National Water Initiative and the national framework for non-urban metering pre-date compliance shortcomings identified in NSW.

14.3 Water NSW's proposed metering charge structure is appropriate

Our decisions are:



55. To recover the wider costs of introducing the reform, such as recording and reporting, customer self-reporting, general enquiries and education, through a 'scheme management charge' to be applied annually to all licence holders.

56. To recover the costs of compliance activities, water take assessments, meter reading and meter data services through:

- a telemetry charge to be applied annually to customers who use telemetry
- a non-telemetry charge to be applied annually to customers who do not use telemetry.

57. To recover the costs of bringing government owned meters up to the required standard under the non-urban metering reforms through a 'meter service charge – capital costs' and maintaining these meters to ensure regulatory compliance through a 'meter service charge – operating costs'. These charges are applied annually to customers with a compliant government owned meter.

These are unchanged from our draft decisions.

14.3.1 The scheme management charge applies to all licence holders

We have decided to set a common scheme management charge for all licence holders that does not distinguish between water source and meter size. We consider that this provides a simple approach to recover Water NSW's costs of scheme management over the metering lifecycle.

In response to our draft decision, Water NSW agreed that the scheme management charge should be levied on those customers who benefit from the metering scheme, such as all billable licence holders and Zero Share Water Access Licences (WAL).²⁴¹ Coleambally Irrigation Co-Operative Limited agreed that it is appropriate that WALs that are not linked to a works approval also make some contribution to the costs incurred by Water NSW to administer the reform as all Water Access Licence holders are beneficiaries of robust metering.²⁴²

However, Murray Valley Private Diverters did not support a universal scheme management charge. It considered that Southern Basin Government owned meter holders should not bear the cost burden of bringing Northern Basin irrigators into national metering standards and NSW regulatory compliance regime.²⁴³

We consider that all users are driving the need to improve water resource management and associated compliance management, not just those that need to comply with the new policy.^c These activities are similar to the compliance and enforcement activities of NRAR where the need is driven by all licence holders rather than just those with meters. We consider it appropriate that the charge is applied to all licence holders.

14.3.2 A telemetry or non-telemetry charge applies based on meter technology

There are two types of compliant meters under the metering reforms:

- telemetry meters – meters with data recording and remote transmitting of meter data reads to Water NSW's centralised data systems
- non-telemetry meters – meters without remote transmitting systems that store meter data on-site and require periodic manual data logger download.²⁴⁴

Water users are required to have telemetry installed on their meters if they relate to surface water works, except for pumps below 200mm in diameter or those directed to install telemetry by an order of the Minister.²⁴⁵

We set separate telemetry and non-telemetry charges that vary by level of telemetry opt-in

Water NSW proposed separate telemetry and non-telemetry charges for the 2021 determination period, based on the meter technology applied to the metering installation. The charges would be applied as an annual \$/per metering installation.²⁴⁶

Although the charges would be separate, Water NSW proposed these charges should be set at the same level over the 2021 determination period. This is because the initial telemetry costs are higher than the costs of non-telemetry. It would not provide a price signal to incentivise telemetry uptake.²⁴⁷

We consider that a separate telemetry and non-telemetry charge structure takes account of uncertainty over how many users will voluntarily opt in to telemetry, provides an incentive for users to opt in to telemetry and better reflects the efficient costs of providing services.

Using information from Water NSW and Cardno, we have modelled the telemetry and non-telemetry charges required to recover the efficient costs of providing services using 4 bands of telemetry opt-in (see Table 14.5). We considered the long-term nature of the costs that underpin Water NSW's scenarios and applied a conservative approach to setting the charges for each band, using the lower end of each band to model the charge (e.g. the 0% voluntary uptake costs apply throughout the 0-24% range of voluntary uptake).

^c Only users with meters >100 mm are required to comply.

Table 14.5 Charges and bills for different telemetry opt-in proportions (\$2021-22)

| Telemetry opt-in | Up to 24% | 25-49% | 50-74% | 75% or more |
|---|-----------|--------|--------|-------------|
| Charges | | | | |
| Scheme management charge | 73 | 66 | 59 | 51 |
| Telemetry charge | 251 | 209 | 191 | 182 |
| Non-telemetry charge | 219 | 219 | 219 | 219 |
| Blended telemetry/non-telemetry charge | 226 | 214 | 202 | 189 |
| Bills (one meter plus one licence) | | | | |
| Scheme management charge <i>plus</i> telemetry charge | 324 | 275 | 250 | 234 |
| Scheme management charge <i>plus</i> non-telemetry charge | 292 | 285 | 277 | 270 |
| Scheme management charge <i>plus</i> blended telemetry/non-telemetry charge | 300 | 280 | 260 | 240 |

Note: The non-telemetry charge does not vary as telemetry uptake increases since the underlying costs are all variable (i.e. staff time for site inspections and downloading LIDs).

Source: IPART analysis using information provided by Water NSW and Cardno.

Stakeholders had mixed views on a telemetry and non-telemetry price structure that varies with the number of users that opt in to telemetry. For example:

- Murray Valley Private Diverters did not support the introduction of a new telemetry charge to apply as a new annual fee to existing meters for government owned meters (Southern Basin).²⁴⁸
- NSWIC raised concerns about assumptions of voluntary uptake of telemetry given government rebates. It is highly concerned that this pricing structure is designed to shift people to 'voluntarily' opt-in to telemetry when they are not required under regulation to do so. It considered that there will be relatively low rates of voluntary opt-in to telemetry because the rebate is relatively small in the scheme of total costs for purchasing, installing and maintaining telemetry equipment.²⁴⁹
- PIAC considered that greater incentives to opt in to telemetry should be created using the price structure. It submitted that there should be a differential between telemetry and non-telemetry charges and that the telemetry charge should be set at a level according with more than 75% of meters opting-in from the outset.²⁵⁰

We consider that our decision to set charges that vary with the number of customers that opt in to telemetry appropriately balances incentives to opt in to telemetry, the costs of providing telemetry and non-telemetry and takes account of government rebates to accelerate uptake of telemetry (see Box 14.1). This recommendation is unchanged from the draft decision.

Our analysis indicates that telemetry is more expensive than non-telemetry when voluntary uptake is less than 25%. Further, it gets progressively less expensive at even higher levels of voluntary uptake, as fixed costs – such as IT systems – are spread over a greater number of water users. Non-telemetry costs do not vary as telemetry uptake increases. However, a blended telemetry/non-telemetry charge would decrease as telemetry uptake increases given the contribution of telemetry charges to the blended charge. The scheme management charge (levied on all water licence holders) would also be lower if more customers opt in to telemetry.

When the proportion of customers that opt in is low (up to 24%), the telemetry costs per meter are higher than the non-telemetry costs per meter. However, to ensure that these charges do not provide a disincentive for customers to opt in to telemetry, we decided to set the same charge of \$226 for up to 24% telemetry opt-in. Once telemetry opt-in is 25% or more, the telemetry and non-telemetry charges will reflect the efficient costs of providing these services.

Box 14.1 Government rebate for customers that use telemetry

In June 2021, the NSW Government and Australian Government decided that they will each provide \$9 million in funding to deliver an \$18 million telemetry rebate program across NSW over the rollout of the non-urban metering rules. The rebate will automatically be applied as a one-off \$975 credit on a water bill when an eligible water user with a meter connects to the NSW Government's telemetry system. This will provide a financial incentive for metered non-urban water users to use telemetry to remotely transmit their water take information.

The rebate program aims to accelerate uptake of telemetry in NSW, increasing transparency of water take, supporting on-farm management, and positioning NSW to better deliver efficiencies in water management.

At this stage, it is unclear how many customers will voluntarily opt in to telemetry because of the rebate. However, we expect that the proportion would be greater than the 0% adopted in Water NSW's proposed base case which was developed prior to government's decision on the rebate.

14.3.3 Government owned meter charges recover operating and capital costs

There are around 2,800 water users with government owned meters (i.e. the meters are owned and maintained by Water NSW). Government owned meters are located in the Southern Basin, Hawkesbury-Nepean and Bega Bemboka regions.²⁵¹

We decided to adopt Water NSW's proposed price structure and set separate meter service charges for capital costs and operating costs for all water users. However, we decided not to embed the telemetry or non-telemetry charge within the meter service charges to create a more transparent price structure. This is unchanged from our draft decision.

In relation to the meter service charges, Water NSW proposed to:

- have separate charges for capital costs and operating costs
- not vary these charges by meter size, telemetry use or water source.

The 'meter service charge – operating costs' recovers Water NSW's ongoing operating costs for the maintenance and repair of government owned meters to ensure they are in a condition that complies with the new metering requirements. It includes activities such as onsite accuracy testing, calibration and resealing of meters. Some key cost drivers for these activities include contract administration costs to manage staff conducting field visits and travel time because of the distance between meters.

The 'meter service charge – capital costs' recovers the capital expenditure Water NSW will incur to bring the government owned meters up to a standard that complies with the new metering requirements.

Coleambally Irrigation Council Limited supported water users with government owned meters being charged a meter service charge to recover the costs of the ongoing maintenance of these meters. It considered that it is important going forward that cross subsidisation or socialisation does not occur (in either direction) between water users who own their meter and water users with government owned meters.²⁵²

However, Murray Valley Private Diverters did not support the two proposed additional charges to customers with government owned meters. It considered that there is insufficient explanation of why these additional charges are needed when Water NSW already recovers its operational costs under existing meter service charges. It was also concerned that there is likely to be a capital cost in the future if the government funding for the next determination period is removed.²⁵³

We consider that separate charges for government owned meters are a transparent way of recovering the different capital and operating costs for this service. The charges recover the additional costs of implementing the new policy, which are incremental to those recovered from existing meter service charges. We also support moving to a simpler charge structure that does not vary between different water users because:

- This is consistent with the approach we have used to set the scheme management, telemetry and non-telemetry charges. For example, none of these charges vary by meter size.
- The existing meter service charges are relatively complex and may imply an overly precise level of cost-reflectiveness. They vary not only by meter size, but also by telemetry use and whether the water source is regulated, unregulated or groundwater. This price structure was proposed by Water NSW for the 2017 and 2021 Determinations, which we then accepted. We consider the new meter service charges proposed by Water NSW presents an opportunity to reduce this complexity.

14.3.4 Meter service charge for channel meters

Water NSW has proposed an updated meter service charge for 19 government owned channel meters. These meters are all open channel construction with sensors in the channels, each site with more than one sensor in-situ. Water NSW proposed a new charge of \$9,500 compared to existing charges of \$6,237 (\$2020-21).²⁵⁴ This does not include telemetry and non-telemetry costs.

Under the new policy, there is a requirement for annual validation of the accuracy of channel meters. However, Water NSW's build-up for the channel meter costs is based on three visits each year to each site.

Cardno considered Water NSW's proposed costs and charges for channel meters. It was unable to conclude that the proposed costs are efficient as no evidence could be provided to substantiate further site visits. Cardno recommended maintaining the current channel meter charge. We agree with Cardno's conclusion and decided to maintain the charge in real terms giving a charge \$6,306 (\$2021-22) from 1 October 2021.

14.4 We set metering charges to reflect our decisions on efficient costs and charge structure

Our decision is:



58. To set charges for Water NSW's non-urban metering reforms as set out in Table 14.6 and Table 14.7.

Table 14.6 compares our final decision on non-urban metering charges to Water NSW's revised proposal.

Table 14.6 Decision on non-urban metering charges compared to Water NSW's revised proposal (\$/year, \$2021-22)

| | Charge (\$/year) Water NSW 2021 revised proposal | Charge (\$/year) IPART final decision | Privately owned meter | Government owned meter |
|---|--|---|--------------------------|---------------------------|
| Scheme management charge | 79 | 73 | ✓ | ✓ |
| Telemetry charge | 257 | 226 | ✓ | ✓ |
| Non-telemetry charge | 257 | 226 | ✓ | ✓ |
| Meter service charge – operating costs | 934 | 899 | ✗ | ✓ |
| Meter service charge – capital costs | 608 | 0 | ✗ | ✓ |

Note: Totals may not sum due to rounding. Water NSW's April 2021 proposed charges are shown in \$2021-22. The scheme management charges, telemetry charge and non-telemetry charge will vary if more customers use telemetry. See Table 14.7 for further information. Source: Water NSW, Response to the IPART Draft Determination on Rural Bulk Water and WAMC Pricing – Metering Reform, April 2021, p 21, 28, 29. Cost for telemetry/non-telemetry is not included in the 'meter service charge – operating costs' for government owned meters.

We decided that the level of the scheme management charge, telemetry charge and non-telemetry charge should vary as the proportion of customers that voluntarily opt in to telemetry increases, as set out in Table 14.7. This is consistent with our draft decision.

Table 14.7 Decision on scheme management, telemetry and non-telemetry charges for different telemetry opt-in proportions (\$2021-22)

| Telemetry opt-in | Up to 24% | 25-49% | 50-74% | 75% or more |
|--------------------------|-----------|--------|--------|-------------|
| Scheme management charge | 73 | 66 | 59 | 51 |
| Telemetry charge | 226 | 209 | 191 | 182 |
| Non-telemetry charge | 226 | 219 | 219 | 219 |

Note: The non-telemetry charge for 25-49%, 50-74% and 75-100% does not vary since the underlying costs are all variable (i.e. staff time for site inspections and downloading LIDs).

Source: IPART analysis using information provided by Water NSW and Cardno.

When the proportion of customers that opt in is low (up to 24%), the telemetry costs per meter are higher than the non-telemetry costs per meter. However, to ensure that these charges do not provide a disincentive for customers to opt in to telemetry, we recommend setting the same charge of \$226 for up to 24% telemetry opt-in. Once telemetry opt-in is 25% or more, the telemetry and non-telemetry charges will reflect the efficient costs of providing these services.

PIAC considered that there should be greater incentives to opt in to telemetry. It proposed a differential between telemetry and non-telemetry charges from the outset, with the telemetry charge initially based on more than 75% of meters opting in.²⁵⁵

Water NSW submitted that while the sliding telemetry scale is based on Water NSW's sensitivity analysis on the impact of telemetry uptake rates, this analysis was based on the hypothetical long run costs of administering the non-urban metering reforms. Water NSW proposed a one-year lag is introduced between when the telemetry take-up rates move into the next higher band and when the new tariff band takes effect.²⁵⁶

We do not consider that the adjustment proposed by PIAC is necessary and that our approach is more cost reflective. As noted above, the NSW and Australian Governments are funding a telemetry rebate program which already provides a financial incentive to opt in to telemetry.

Further, we do not consider that a one-year lag should be introduced between when the telemetry take-up occurs and the relevant telemetry opt-in charge commences. We considered the long-term nature of the costs that underpin Water NSW's modelling when setting charges for each of the telemetry ranges and have applied a conservative approach, using the lower end of each band to set the charge (e.g. the 0% voluntary uptake costs apply throughout the 'Up to 24%' range of voluntary uptake). We consider that an efficient business should be able to plan appropriately and recover its costs through the charges we have set.

Water NSW will notify IPART of the proportion of customers that opt in to telemetry before the beginning of each year. Its estimate will be based on the best available information. If Water NSW does not provide this information, we decided that the price in the next band up from the previous year should be applied. For example, if the proportion of voluntary telemetry uptake in 2022 is 20%, and there is a failure to notify in 2023, then the presumption for that year will be that the proportion is in the range of 25% - 49%. On balance, we consider that this should provide an appropriate incentive for Water NSW to provide an estimate based on the best available information each year.

Charges under our final decisions are:

- 11% or \$36 lower than Water NSW's revised proposal for water customers with privately owned meters

- 36% of \$679 lower than Water NSW's revised proposal for water customers with government owned meters.

There are 5 main reasons for these differences:

- We adopted Cardno's recommended levels of efficient operating and capital expenditure which are 15% lower than Water NSW's revised proposal. These estimates are based on:
 - forecasting the efficient costs of the activities required to implement the policy for of all users (privately owned and government owned meters) consistent with compliance dates required by the *Water Management (General) Regulation 2018*.
 - incorporating new information on Water NSW's proposed deferral of operating and capital expenditure for government owned meters. Water NSW's April proposal included operating and capital expenditure forecasts based on accelerating compliance for government owned meters. Water NSW has provided a revised profile where expenditure aligns with the compliance dates required by the Regulation.
 - including the costs of compliance for floodplain harvesting meters from 2022-23.
- We applied a WACC of 1.8% real post-tax, calculated with regard to the ACCC's pricing principles as required under the WCR. Water NSW applied a higher WACC, calculated using IPART's standard approach and submitted that the return on corporate system and vehicle assets should be calculated using a weighted average of the approaches to reflect the nature of these costs.²⁵⁷ To prevent over-recovery of costs for customers in Murray-Darling Basin valleys (if we use the higher WACC), we have applied the lower WACC to all customers.
- We calculated charges to apply from 1 October 2021 rather than from 1 July 2021.
- We adjusted the 'meter service charge – capital costs' to reflect government funding which offsets Water NSW's capital costs for upgrading government owned meters. We have set 'meter service charge – capital costs' of \$0 per year for the 2021 determination period (see Table 14.6). In the absence of this funding, water customers with government owned meters would have faced a higher 'meter service charge – capital costs' of \$602 per year.

The 'scheme management charge', 'telemetry' and 'non-telemetry charge' are either the same or slightly lower than our draft decisions. The 'meter service charge – operating costs' is \$68 (or 8%) higher than our draft decision. Although this charge is higher, under our final decisions, customers will not pay this charge until the later of the compliance date or when Water NSW makes meters compliant.

14.5 We have a framework to transition metering charges

Our decision is:



59. To apply the following transitional arrangements in moving from existing to new metering charges:
- Scheme management charge to apply annually from the start of the determination period, 1 October 2021.

- Telemetry or non-telemetry charge for customers with privately owned meters to be prorated using the number of days remaining in the financial year from the relevant compliance date set out in the *Water Management (General) Regulation 2018*.
- Telemetry or non-telemetry charge and government owned 'meter service charge – operating costs' for customers with government owned meters to be prorated using the number of days remaining in the financial year from the later of the relevant compliance date set out in the *Water Management (General) Regulation 2018* or the date the meter is made compliant.

Our decision ensures the transition to new charges is transparent and that there are appropriate incentives in place for water customers with privately owned meters and Water NSW, who is responsible for government owned meters, to achieve compliance with the required roll out dates. This is unchanged from the draft decision.

Stakeholders generally supported these transitional arrangements. NSWIC agreed with the transitory approach for new charges coming into effect, aligned with the various rollout dates (but noting delays in implementation will almost certainly cause issues).²⁵⁸ Coleambally Irrigation Co-operative Limited supported the scheme management charge applying from the start of the determination period, and new charges applying from the compliance date. It noted that commencement of the new charges in parallel with the compliance date will provide the incentive required for water customers to make decisions about their works.²⁵⁹

Water NSW proposed two amendments to the arrangements for new charges:

- Scheme management charges should be charged in full in Year 1 when the charge is applicable.
- For those customers subject to the 1 December 2020 compliance date which is prior to the commencement of the upcoming determination, the full non-telemetry/telemetry charges should be levied from Year 1.²⁶⁰

Our proposed approach to pro-rating charges addresses Water NSW's concerns. We have set annual equivalent charges that, when pro-rated from 1 October 2021, recover Water NSW's efficient costs from 1 July 2021. This means that the sum of the prorated charge in 2021-22 plus the full year charges in 2022-23 to 2024-25 is equal to the efficient costs from 1 July 2021 to 30 June 2025 (on a net present value basis).

14.5.1 Water NSW cannot charge users both existing and new metering charges

Water NSW advised that there may be circumstances where it needs to charge a user both the existing and new metering charges.²⁶¹ It considered that if a customer fails to self-report their water usage throughout the year, Water NSW will be required to visit the site to determine water take. Water NSW will incur additional labour costs to provide this service. This is in addition to the new metering services (i.e. site visit to complete a data download of the meter). Water NSW proposed to recover these additional costs by applying the existing metering charge to these customers.

We do not agree with Water NSW's proposal. We consider that if a customer has failed to self-report their water usage, this is considered non-compliance with the new water metering rules. NRAR is responsible for enforcing metering compliance. On NRAR's website it notes that it will first provide directions to water users to ensure compliance before issuing fines and further responses to non-compliance. We consider that NRAR is the appropriate regulator to ensure metering compliance.

In addition, we note that the circumstances identified by Water NSW may not occur and we are unable to quantify the amount of additional costs involved or determine the efficiency of these costs as these costs vary depending on the location of the non-complying customer. There may also be other unforeseen circumstances if we allow Water NSW to recover both the existing and new metering charges from a particular water user. Therefore, we decided not to allow Water NSW to charge both existing and new charges under the final determinations.

14.6 We considered different ways to deal with uncertainty

Our decisions are:



60. Not to provide an unders and overs mechanism to Water NSW for the rollout of the non-urban metering reforms.

61. That the Tribunal intends to consider the impact of any further deferral of the floodplain harvesting policy and potentially make an adjustment to future charges if needed at the next determination.

62. To set an exit charge for the 2021 determination period of \$0.

14.6.1 An unders and overs mechanism is not appropriate

Water NSW submitted that an unders and overs (UOM) mechanism provides a reasonable and balanced solution for the potential risks and uncertainty of the roll out of the non-urban metering reform. It considered that there is uncertainty attached to the program roll out and the cost estimates, due to potential changes in the policy landscape and the roll out schedule and volumes, which is ultimately outside of Water NSW's reasonable control.²⁶²

We do not consider that it is appropriate for Water NSW to have a UOM to mitigate its financial risks arising from cost uncertainty or other factors that are within its control, higher or lower unit costs or a delay in the rollout for government owned meters based on its ability to deliver the program.

However, we consider that we may need to make an adjustment to charges at the next review for uncertainty surrounding floodplain harvesting meters. While it is still government policy for floodplain harvesting meters to use telemetry, there is uncertainty over when the policy will take effect. If the policy takes effect earlier (or later) than what we have assumed when setting costs and charges, Water NSW may materially over (or under) recover its costs. Water NSW has no control over the timing of when the changes may take effect.

14.6.2 Exit fees for the 'meter service charge – capital cost' for government owned meters may be needed in future reviews

We consider that an exit fee may be needed to mitigate the financial risks Water NSW faces associated with customers leaving the government owned meters program after investment has occurred.

Stakeholders generally supported our draft decision that exit fees may be needed in future determinations. For example:

- Coleambally Irrigation Co-operative Limited supported the approach in principle. It understands that currently the exit fee would be zero because government is funding the upgrade of the meter and it is only in the future that an exit fee may apply.²⁶³
- Water NSW supported the introduction of exit fees at a future determination to recoup any unfunded costs (including capital costs not covered by government funding).²⁶⁴

In theory, we consider that an exit fee is needed to mitigate the financial risks Water NSW faces from customers leaving the government owned meters program after investment has occurred. However, our modelling indicates that the NSW Government's funding for government owned meters will cover Water NSW's capital costs for upgrading these meters. As a result, we have set the exit charge for the 2021 determination period at \$0.

In future determination periods, if Water NSW incurs prudent and efficient capital expenditure that is greater than the level of government funding, it may be appropriate for Water NSW to charge customers an exit fee. In this case, we consider that customers should be charged an exit fee based on the residual value of the RAB for each meter.

When a customer opts out after WNSW have incurred costs, then it is reasonable for the customer to pay a fee which is equivalent to the outstanding amount of principal paid for that meter – that is the capital expenditure less cumulative depreciation. Water NSW advised that when users opt out of the government owned meter program, they will have the option of retaining the meter with this to be decided on a case by case basis.²⁶⁵

We consider that the exit fee should be calculated based on the residual value of the RAB for each meter on the day a customer opts out. The exit fee would be calculated as:

Exit fee = Average capital expenditure per meter (\$) – depreciation since meter made compliant (\$)

If Water NSW incurred \$1,000 of efficient and prudent expenditure that was not covered by government funding, an exit fee could be calculated as follows. The determination would specify the following formula (see Box 14.2 for further details)

$$\text{Exit fee } (\$2020-21) = \$1,000 - (\$0.27 \times \text{Days since meter made compliant})$$

Murray Valley Private Diverters raised concerns that 'un-burying' the meters is a vital requirement if individual landholders wish to opt out of government meters. This issue also relates to arrangements once government owned meters reach 'end of life' and who would wear the costs of future inspection requirements (meters would need to be on the surface of land not buried).²⁶⁶

The policy requires that customers with privately owned meters that are not on the surface need to excavate meters to for testing and compliance. However, Water NSW, as a government agency, is permitted to use a fleet-based approach to compliance, meaning that only a percentage of sites need to be 'un-buried' or excavated for testing. If a water user opts out of the government owned meter program, they would no longer be part of the government owned fleet. Their meter would not be included in the fleet-based approach and hence the meter would need to be excavated for compliance purposes.

Water NSW confirmed that that end of life arrangements for government owned meters have not yet been decided. It does not anticipate any meters reaching end of life during the 2021 determination period.²⁶⁷

Box 14.2 Calculating an exit fee for meter service charge – capital costs

This example of how to calculate an exit fee is based on capital expenditure of \$1,000 per meter depreciated over a ten-year asset life. This equates to annual depreciation of \$100 a year or \$0.27 a day. The table below sets out the exit fee that would apply through the determination period.

| | RBA value of meter on | Cumulative depreciation at end of day | Exit fee (end of day) |
|-------|---|--|------------------------------|
| 1 | Day 1 | 0.27 | 1,000 |
| 90 | Day 90 | 24.66 | 975 |
| 180 | Day 180 | 49.32 | 951 |
| 270 | Day 270 | 73.97 | 926 |
| 360 | Day 360 | 98.63 | 901 |
| ... | ... | ... | ... |
| ... | ... | ... | ... |
| 1,080 | Day 1,080 | 295.89 | 704 |
| 1,170 | Day 1,170 | 320.55 | 679 |
| 1,260 | Day 1,260 | 345.21 | 655 |
| 1,350 | Day 1,350 | 369.86 | 630 |
| 1,440 | Day 1,440 | 394.52 | 605 |
| 1,461 | Day 1,461 (end of determination period) | 400.27 | 600 |
| 3,650 | Day 3,650 (end of asset life) | 1,000.00 | - |

Note: \$2020-21

14.7 New metering charges will increase bills for customers

The change in meter charges and customers' total bills depend on the water source (regulated, unregulated or ground water), whether the meter is privately owned or government owned, entitlement and usage volumes and meter size. In addition, if more customers opt in to telemetry, then metering charges and customer bills will be lower than if fewer customers opt in to telemetry.

We considered these impacts across a range of customers and for different levels of telemetry opt-in. Appendix D sets out the combined impact of our decisions on non-urban metering reform charges and Water NSW and WAMC bulk water and water management charges.

14.7.1 Customers with government owned meters face larger increases

The additional costs faced by customers relative to their existing bills are greatest for customers with government owned meters. For example, if up to 24% of customers opt in to telemetry, general security licence holders on regulated rivers with a 500 ML entitlement and 100mm meter with telemetry:

- that is **government owned** would face additional metering charges of \$720 (or an increase of up to 20%) in their bills caused by metering.
- that is **privately owned** would face additional metering charges of \$300 (or an increase of up to 10% in their bills caused by metering).

Customers with privately owned meters will also be required to purchase and maintain a new or replacement meter at their own expense. These costs would be borne by customers and have not been included in our impact analysis.

Several stakeholders were very concerned about the affordability of the increases proposed by Water NSW. The NSW Government has acknowledged these concerns and is providing funding of \$14.6 million to Water NSW to cover the capital costs of upgrading government owned meters. This funding reduces the 'meter service charge – capital costs' to \$0 for the 2021 determination period. In the absence of this funding, users with government owned meters would have faced a higher 'meter service charge – capital costs' of \$602 per year.

14.7.2 Impacts will be smaller if more users opt in to telemetry

If more customers opt in to telemetry, then metering charges and customer bills will be lower than if fewer customers opt in to telemetry. For example, if 75-99% of customers opt in to telemetry then general security licence holders on regulated rivers with a 500 ML entitlement and a 100mm meter with telemetry:

- that is **government owned** and uses telemetry would face additional metering charges of \$654 (or an increase of up to 18% in their bills caused by metering).
- that is **privately owned** and uses telemetry would face additional metering charges of \$234 (or an increase of 8% in their bills caused by metering).

As discussed above, the NSW Government and Australian Government are providing funding to deliver a telemetry rebate program across NSW. This will provide a financial incentive for a user to install a telemetered meter to remotely transmit their water take information by providing funding for the capital costs of telemetry. We expect that this rebate will encourage users to opt in to telemetry and over time will reduce the scheme management and telemetry charges.

14.7.3 Impacts are relatively larger for customers with smaller entitlements

The percentage impacts increase with smaller licence entitlement volumes and usage. This is because the fixed nature of the meter charge means that the lower the water charge bill, the greater the increase caused by the proposed metering charges. For example, if up to 24% of customers opt in to telemetry, general security licence holders on regulated rivers with a 100mm meter with telemetry with a privately owned meter:

- with an entitlement of 500 ML in the Murray would face a 7% increase resulting from the \$300 increase caused by metering
- with an entitlement of 250 ML in the Murray would face a 13% increase caused by metering resulting from the \$300 increase caused by metering.

Appendices



Appendix A >>

Matters to be considered by IPART



A

This appendix explains how we have considered certain matters we are required to consider under the *Independent Pricing and Regulatory Tribunal Act 1992* (the IPART Act).

A.1 Matters under section 15(1) of the IPART Act

IPART is required under section 15(1) of the IPART Act to have regard to the following matters in making determinations and recommendations:

- a. The cost of providing the services concerned
- b. The protection of consumers from abuses of monopoly power in terms of prices, pricing policies and standard of services
- c. The appropriate rate of return on public sector assets, including appropriate payment of dividends to the Government for the benefit of the people of New South Wales
- d. The effect on general price inflation over the medium term
- e. The need for greater efficiency in the supply of services so as to reduce costs for the benefit of consumers and taxpayers
- f. The need to maintain ecologically sustainable development (within the meaning of section 6 of the *Protection of the Environment Administration Act 1991*) by appropriate pricing policies that take account of all the feasible options available to protect the environment
- g. The impact on pricing policies of borrowing, capital and dividend requirements of the government agency concerned and, in particular, the impact of any need to renew or increase relevant assets
- h. The impact on pricing policies of any arrangements that the government agency concerned has entered into for the exercise of its functions by some other person or body
- i. The need to promote competition in the supply of the services concerned
- j. Considerations of demand management (including levels of demand) and least cost planning
- k. The social impact of the determinations and recommendations
- l. Standards of quality, reliability and safety of the services concerned (whether those standards are specified by legislation, agreement or otherwise).

Table A.1 outlines the sections of the report that address each matter.

Table A.1 Consideration of section 15(1) matters by IPART

| Section 15(1) | Report reference |
|---|---|
| Cost of providing the services | Chapter 6 sets out WAMC's total efficient costs to deliver its monopoly services over the determination period. Further detail is provided in Chapters 3 and 4 and Appendix C. Chapter 5 sets out MDBA and BRC's total efficient costs allocated to WAMC and its water users. |
| Protection of consumers from abuses of monopoly power | We consider our decisions would protect water users from abuses of monopoly power, because they reflect the efficient costs WAMC requires to deliver its monopoly services. This is addressed throughout the report, particularly in Chapter 2 (where we establish the scope of its monopoly services), Chapters 3 to 5 (where we establish the efficient historical and forecast expenditure), and Chapters 9 to 11 (where we set out our pricing decisions and impacts). |
| Appropriate rate of return and dividends | Chapter 6 outlines that we have allowed a market-based rate of return on debt and equity that would enable a benchmark business to return an efficient level of dividends. |
| Effect on general price inflation | Chapter 11 considers the potential impact of our pricing decisions on WAMC, its water users and the NSW Government (on behalf of the broader community). While prices and bills for most water users are increasing, the impact on general price inflation is likely minimal. This is because the impact of WAMC's charges and bills is relatively small when assessed against farming businesses and the value of water entitlements and allocations (as determined through the water trading market). |
| Need for greater efficiency in the supply of services | Chapters 3 to 5 and 12 set out our decisions on WAMC's efficient historical and forecast expenditure. These decisions would promote greater efficiency in the supply of WAMC's monopoly services. |
| Ecologically sustainable development | Chapters 3 to 5 set out WAMC's efficient historical and forecast expenditure that allows it to meet all of its regulatory requirements, including its environmental obligations. |
| Impact on borrowing, capital and dividend requirements | Chapters 6 and 11 explain how we have provided WAMC with an allowance for a return on and of capital; our assessment of its cost recovery levels and our assessment of impact on Consolidated Funds. |
| Impact on pricing policies of any arrangements that the government agency concerned has entered into for the exercise of its functions by some other person or body | Chapters 3 to 5 determine the prudent and efficient cost of construction and operational contracts that WAMC has entered into and costs associated with these over the next period. |
| Need to promote competition | In determining efficient costs, we have been mindful of relevant principles such as competitive neutrality (e.g. we have included a tax allowance for WAMC as set out in Chapter 6). |
| Considerations of demand management and least cost planning | Chapters 3 to 5 outline how we have assessed WAMC's efficient historical and forecast expenditure required to deliver its monopoly services at least cost. Chapters 9 and 10 outline how we have set prices to reflect efficient costs. |
| Social impact | Chapter 11 considers the potential impact of our pricing decisions on WAMC, its water users and the NSW Government (on behalf of the broader community). |
| Standards of quality, reliability and safety | Chapters 3 to 5 detail our consideration of WAMC's efficient historical and forecast expenditure so it can meet the required standards of quality, reliability and safety in delivering its services. |

A.2 Matters under section 16 of the IPART Act

The determination that accompanies this report increases a maximum price for a government monopoly service, or determines a methodology that would or might increase such a price.

If the prices were not increased to the maximum we set (as outlined in the determination and in this report), this could have a negative impact on Treasury's consolidated fund. This scenario would likely result in higher government contributions to fund the revenue shortfall from water users. Chapter 11 provides further information.

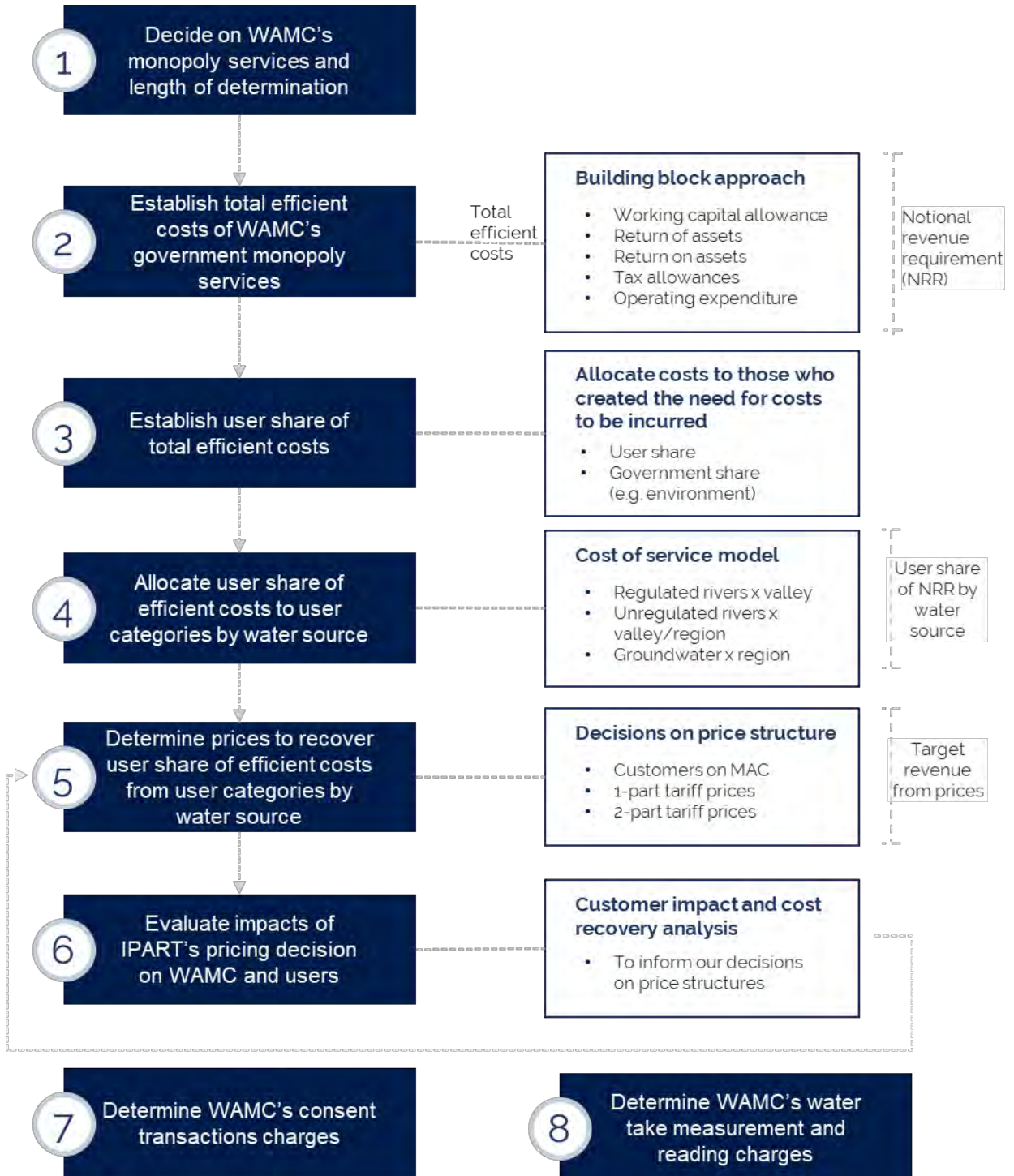
Appendix B

Our approach when setting prices
for WAMC

B

Our review can be represented as a sequence of steps. Each step involves making decisions on methods and key parameters. The process we undertake to conduct the review is presented in Figure B.1.

Figure B.1 IPART's approach to the review of WAMC's prices



As an additional step to our determination of prices, we also establish WAMC's output measures and performance indicators for the 2021 determination period.

Step 1 – Decide on monopoly services and length of determination

We start our review by making a decision on the scope of government monopoly services currently provided by the Department of Planning, Industry and Environment (DPIE), Water NSW and the Natural Resources Access Regulator (NRAR), under the *Independent Pricing and Regulatory Tribunal (Water Services) Order 2004*.

We also decide on the length of the determination period (Chapter 2).

Step 2 – Establish total efficient costs, or notional revenue requirement

For this review, we broadly determine efficient costs for water management services (including costs by interjurisdictional agencies such as the Murray Darling Basin Authority (MDBA) and Dumaresq–Barwon Border Rivers Commission (BRC), consent transaction services, and water take measurement and reading services (or metering services).

For water management services we use the building block approach to establish the total efficient costs or the notional revenue requirement (NRR) to provide the monopoly services over the determination period. We use expenditure consultants to inform our assessment of efficient costs. The building block approach and its components are discussed further in Chapter 2. Our evaluation of the building block components is presented in Chapters 3 to 6, with total efficient costs presented in Chapter 6.

For consent transaction and metering services, we determine the efficient costs through our expenditure review with our expenditure consultants. Our evaluation of efficient costs for consent transactions and metering services is presented in Chapters 12 to 13.

Step 3 – Establish user share of efficient costs

Total efficient costs for water management services are then shared between water entitlement holders ('users') and the NSW Government (on behalf of the broader community), based on who created the need to incur those costs (Chapter 7).

This allocation occurs at the activity code level. That is, each activity code is assigned a user share (percentage), and the efficient costs of that activity code are shared between users and the Government according to that share.

As outlined below, water management charges are set to recover the user share of costs (or user share of NRR).

Step 4 – Allocate user share of efficient costs across water sources

The user share of total efficient costs for water management services is then allocated to 'water sources', defined as the combination of water type (i.e. regulated rivers, unregulated rivers and groundwater) and geographic location (i.e. valley or region).

We use a cost allocation model that uses cost drivers (or allocators) for each activity code to allocate the user share of each activity's costs to water sources (Chapter 7).

Step 5 – Determine water management prices to recover the user share of efficient costs

We set water management prices for each water source, to recover the user share of NRR requirement allocated to that water source. The NRR for each water source recovers the allocated efficient costs for water management services provided by WAMC and other interjurisdictional agencies such as MDBA and BRC.

We make a series of decisions on the structure of water management prices, including decisions such as (Chapter 9):

- unbundling of water management prices into 3 components: WAMC's water management, MDBA and BRC charges (collectively referred to as combined water management charges)
- geographic differentiation (i.e. defining the geographic boundaries for a common price level to apply)
- tariff structure (1-part and 2-part tariffs, including a decision on the relative shares of fixed and variable charges in 2-part tariff revenue)
- the level of the minimum access charge.

To set prices for 1-part and 2-part tariffs, we also need to establish the forecast volume of entitlement and water take for each water source to use as a basis of distributing the user share of revenue requirements. We determine these forecasts in Chapter 8.

We endeavour to set cost reflective prices, so revenue raised through combined water management charges from a water source covers the user share of the NRR for that water source. Combined water management charges can be set so revenue matches the user share of the NRR in each year of the determination period, or they can be set so revenue matches the user share of the NRR on a present value basis over the determination period.

For some water sources, setting charges at full cost recovery may have large impacts on water users. To mitigate these impacts, we may choose to set charges below full cost recovery over the 2021 determination period, and transition towards full cost recovery over several determinations. This approach relates to the trajectory of prices over a period, or the 'glide path' of prices (Chapters 9 and 10). It is also linked to customer impacts, which is discussed in Step 6 below and also in Chapter 11.

Our water management prices by water source are presented in Chapter 10.

Step 6 – Evaluate impacts of our pricing decisions

Step 5 may result in prices set at full cost recovery level or below the full cost recovery level for some water sources. The total revenue recovered through the combined water management charges is called target revenue.

The share of target revenue as a percentage of the user share of the NRR is called the level of cost recovery. The shortfall is funded by the Government as a community service obligation (CSO). We evaluate the level of cost recovery and the amount of CSO, to establish the impact of our pricing decisions on WAMC.

We use typical bill analysis to evaluate the impact of our pricing decisions on water users (Chapter 11).

Step 7 – Determine consent transactions charges

In this step, we determine consent transactions charges, which are set separately to our determination of water management prices. These charges are set based on efficient incremental costs (Chapter 12).

Step 8 – Determine water take measurement service charges

In this step, we determine charges related to water take measurement, which are set separately to our determination of water management prices. These are meter service charges (for government-owned meters in unregulated rivers and groundwater sources), water take reading/assessment charges (for privately owned meters), and ancillary service charges. These charges are set based on efficient incremental costs (Chapters 13 and 14).

Appendix C 

Weighted average cost of capital



C

To calculate an allowance for the return on assets in the revenue requirement, we multiply the value of the regulatory asset base in each year of the determination period by an appropriate rate of return. To do this, we determine the rate of return using a weighted average cost of capital (WACC).

This appendix shows the parameters we used to calculate the WACC and explains our decision about how to treat annual changes in the WACC over the determination period. Our decisions on the WACC for WAMC are set out in Chapter 6.

C.1 We use our standard approach to calculate the WACC

We used our standard methodology to calculate the WACC for WAMC. Under our approach we estimate one WACC based on current market data and one based on long-term average data. When our uncertainty index, which indicates the level of volatility in capital markets, is within one standard deviation of its mean value, we select the mid-point of the current and long-term WACC values. The uncertainty index is currently within this range.

Section C.2 explains our methodology for each parameter in more detail. Table C.1 sets out the parameters used to derive the 3.0% post-tax real WACC for WAMC.

Table C.1 WACC calculation using IPART's standard approach

| | Step 1 – Market data | | Step 2 – Final WACC range | | |
|---|----------------------|-------------|---------------------------|-------------|-------------|
| | Current | Long term | Lower | Mid-point | Upper |
| Nominal risk-free rate | 1.60% | 2.70% | | | |
| Inflation | 2.20% | 2.20% | | | |
| Implied Debt Margin | 1.40% | 2.50% | | | |
| Market Risk premium | 7.9% | 6.0% | | | |
| Debt funding | 60% | 60% | | | |
| Equity funding | 40% | 40% | | | |
| Total funding (debt + equity) | 100% | 100% | | | |
| Gamma | 0.25 | 0.25 | | | |
| Corporate tax rate | 30% | 30% | | | |
| Effective tax rate for equity | 30% | 30% | | | |
| Effective tax rate for debt | 30% | 30% | | | |
| Equity beta | 0.70 | 0.70 | | | |
| Cost of equity (nominal post-tax) | 7.1% | 6.9% | | | |
| Cost of equity (real post-tax) | 4.8% | 4.6% | | | |
| Cost of debt (nominal pre-tax) | 3.0% | 5.2% | | | |
| Cost of debt (real pre-tax) | 0.8% | 2.9% | | | |
| Nominal vanilla (nominal post-tax) WACC | 4.7% | 5.9% | 4.7% | 5.3% | 5.9% |
| Post-tax real WACC | 2.4% | 3.6% | 2.4% | 3.0% | 3.6% |
| Pre-tax nominal WACC | 5.5% | 6.7% | 5.5% | 6.1% | 6.7% |
| Pre-tax real WACC point estimate | 3.2% | 4.4% | 3.2% | 3.8% | 4.4% |

Source: IPART calculations.

C.2 Our methodology to calculate WACC parameters

This section sets out the methodologies we use to derive the component parameters used to calculate the WACC under our standard approach.

C.2.1 Gearing and beta

In selecting proxy industries, we consider the type of business the firm is in. If we can't directly identify proxy firms that are in the same business, we would consider what other industries exhibit returns that are comparably sensitive to market returns.

We adopted the standard values of 60% gearing and an equity beta of 0.7. We undertook preliminary proxy company analysis on several different types of industries with risk profiles that appear similar to water utilities. The results for the electric utilities industry and the multiline utilities activity support continuing to use an equity beta of 0.7 when 60% gearing is used. While some other industries and activities analysed suggest a higher beta, the sample sizes for those proxy groupings are too small to warrant making what would be a major change from the status quo.

C.2.2 Sampling dates for market observations

We sampled all market observations as of 31 March 2021.^a We decided not to sample at a later date even though we had a 3-month delay to our decisions because:

- sampling at a different time of year creates unnecessary complexity and may introduce seasonal effects
- failing to use the most up-to-date market data is not a particular problem given we use the trailing average cost of debt, which minimises the impact of any one interest rate sample
- any movements in the cost of debt within the regulatory period will be picked up in our true-up calculation.

For earlier years in the trailing average calculation of the historic cost of debt we also sampled to the end of March in each year.

Our inflation forecast was produced using IPART's standard approach, with the Reserve Bank of Australia 1-year ahead forecast sourced from the February 2021 Statement of Monetary Policy.²⁶⁸

C.2.3 Tax rate

We assumed the Benchmark Equivalent Entity is a large public water utility. The scale economies that are important to firms of this type suggested the Benchmark Equivalent Entity would be likely to be well above the turnover threshold at which a firm becomes ineligible for a reduced corporate income tax rate. Therefore, we used a tax rate of 30%.

^a In our Draft Report, we used a post-tax real WACC of 2.8% based on market observations as of 31 December 2020.

C.2.4 Regulatory period

We applied the WACC estimate for the duration of the determination period.

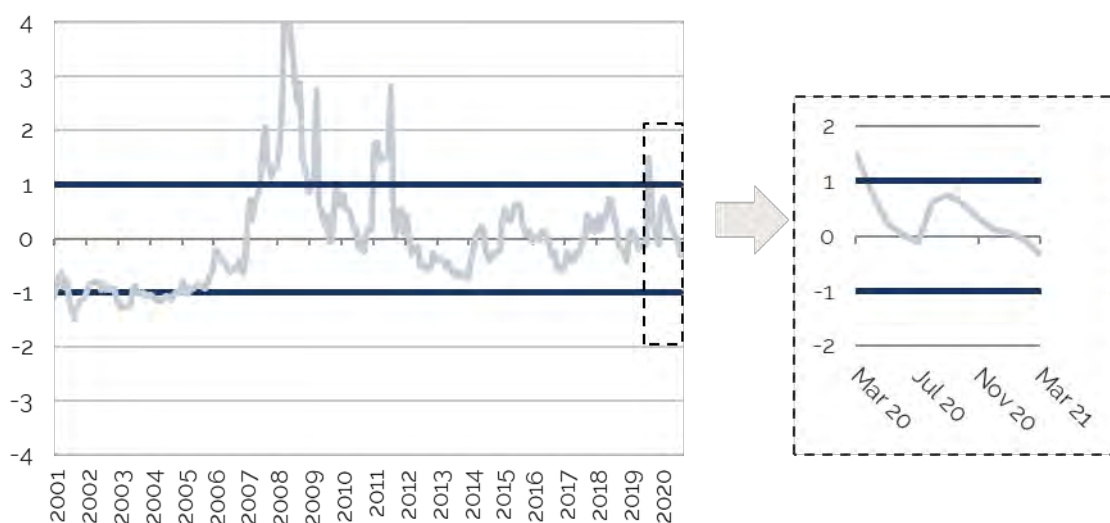
C.2.5 Application of trailing average method

Our [2018 review of the WACC method](#) introduced a decision to estimate both the long-term and current cost of debt using a trailing average approach, which updates the cost of debt annually over the regulatory period. As foreshadowed in our 2018 review of the WACC method, we employed a transition to trailing average in the calculations presented above.

C.2.6 Uncertainty index

We tested the uncertainty index for market observations to the end of March 2021. It was within the bounds of plus and minus one standard deviation of the long-term mean value of zero. The uncertainty index for July 2021 also remains within the normal change. Therefore we maintained the default 50%/50% weighting between current and historic market estimates of the cost of debt and the cost of equity (Figure C.1).

Figure C.1 IPART's uncertainty index



Data sources: Refinitiv; Bloomberg; and IPART calculations.

Appendix D

Impacts of our decisions on non-urban
metering reform charges



D.1 Impacts on customers in regulated rivers

D.1.1 Government owned meters

Table D.1 Indicative impact of our decisions on bills on regulated rivers with government owned meters with telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage (%) | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|-------------------------|----------------|-----------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| High Security | | | | | | | | | |
| Murray | 500 | 100% | 8,377 | 9,931 - 9,881 | 19% - 18% | 10,519 - 10,452 | 26% - 25% | 9% - 8% | 18% |
| Murrumbidgee | 500 | 100% | 6,059 | 7,645 - 7,595 | 26% - 25% | 8,244 - 8,177 | 36% - 35% | 12% - 11% | 26% |
| South Coast | 500 | 100% | 30,704 | 31,577 - 31,528 | 3% - 3% | 32,209 - 32,142 | 5% - 5% | 2% - 2% | 3% |
| General Security | | | | | | | | | |
| Murray | 500 | 60% | 4,998 | 5,923 - 5,874 | 19% - 18% | 6,290 - 6,223 | 26% - 25% | 14% - 13% | 13% |
| Murrumbidgee | 500 | 60% | 3,557 | 4,586 - 4,537 | 29% - 28% | 4,988 - 4,921 | 40% - 38% | 20% - 18% | 23% |
| South Coast | 500 | 60% | 18,030 | 18,796 - 18,746 | 4% - 4% | 19,309 - 19,242 | 7% - 7% | 4% - 4% | 3% |

a. Includes Water NSW bulk water charges, WAMC charges, MDBA and BRC charges and meter service charge (MSC). Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

Table D.2 Indicative impact of our decisions on bills on regulated rivers with government owned meters without telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage (%) | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|-------------------------|----------------|-----------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| High Security | | | | | | | | | |
| Murray | 500 | 100% | 8,377 | 9,931 - 9,908 | 19% - 18% | 10,519 - 10,489 | 26% - 25% | 9% - 8% | 18% |
| Murrumbidgee | 500 | 100% | 6,059 | 7,645 - 7,623 | 26% - 26% | 8,244 - 8,214 | 36% - 36% | 12% - 11% | 26% |
| South Coast | 500 | 100% | 30,704 | 31,577 - 31,555 | 3% - 3% | 32,209 - 32,179 | 5% - 5% | 2% - 2% | 3% |
| General Security | | | | | | | | | |
| Murray | 500 | 60% | 4,998 | 5,923 - 5,901 | 19% - 18% | 6,290 - 6,260 | 26% - 25% | 14% - 13% | 13% |
| Murrumbidgee | 500 | 60% | 3,557 | 4,586 - 4,564 | 29% - 28% | 4,988 - 4,958 | 40% - 39% | 20% - 18% | 23% |
| South Coast | 500 | 60% | 18,030 | 18,796 - 18,773 | 4% - 4% | 19,309 - 19,279 | 7% - 7% | 4% - 4% | 3% |

a. Includes Water NSW bulk water charges, WAMC charges, MDBA and BRC charges and meter service charge (MSC). Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

D.1.2 Privately owned meters

Table D.3 Indicative impact of our decisions on bills on regulated rivers with privately owned meters with telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage (%) | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges | |
|-------------------------|----------------|-----------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|--|
| High security | | | | | | | | | | |
| Border | 500 | 100% | 10,736 | 12,359 - 12,309 | 15% - 15% | 13,025 - 12,959 | 21% - 21% | 3% - 2% | 19% | |
| Gwydir | 500 | 100% | 13,874 | 18,011 - 17,961 | 30% - 29% | 19,485 - 19,419 | 40% - 40% | 2% - 2% | 38% | |
| Namoi | 500 | 100% | 22,244 | 29,966 - 29,916 | 35% - 34% | 32,540 - 32,474 | 46% - 46% | 1% - 1% | 45% | |
| Peel | 500 | 100% | 35,989 | 44,476 - 44,426 | 24% - 23% | 47,495 - 47,429 | 32% - 32% | 1% - 1% | 31% | |
| Lachlan | 500 | 100% | 20,212 | 27,695 - 27,646 | 37% - 37% | 30,300 - 30,234 | 50% - 50% | 1% - 1% | 48% | |
| Macquarie | 500 | 100% | 16,473 | 21,428 - 21,378 | 30% - 30% | 23,195 - 23,129 | 41% - 40% | 2% - 1% | 39% | |
| Murray | 500 | 100% | 7,899 | 9,137 - 9,087 | 16% - 15% | 9,620 - 9,554 | 22% - 21% | 4% - 3% | 18% | |
| Murrumbidgee | 500 | 100% | 5,581 | 6,851 - 6,802 | 23% - 22% | 7,345 - 7,279 | 32% - 30% | 5% - 4% | 26% | |
| North Coast | 500 | 100% | 20,773 | 21,262 - 21,212 | 2% - 2% | 21,825 - 21,759 | 5% - 5% | 1% - 1% | 4% | |
| Hunter | 500 | 100% | 16,507 | 21,047 - 20,997 | 27% - 27% | 22,770 - 22,704 | 38% - 38% | 2% - 1% | 36% | |
| South Coast | 500 | 100% | 30,226 | 30,784 - 30,734 | 2% - 2% | 31,310 - 31,244 | 4% - 3% | 1% - 1% | 3% | |
| General security | | | | | | | | | | |
| Border | 500 | 60% | 5,674 | 6,851 - 6,802 | 21% - 20% | 7,347 - 7,281 | 29% - 28% | 5% - 4% | 24% | |
| Gwydir | 500 | 60% | 6,945 | 8,438 - 8,389 | 21% - 21% | 9,013 - 8,947 | 30% - 29% | 4% - 3% | 25% | |
| Namoi | 500 | 60% | 12,663 | 15,588 - 15,538 | 23% - 23% | 16,563 - 16,497 | 31% - 30% | 2% - 2% | 28% | |
| Peel | 500 | 60% | 10,861 | 12,955 - 12,905 | 19% - 19% | 13,797 - 13,731 | 27% - 26% | 3% - 2% | 24% | |
| Lachlan | 500 | 60% | 8,916 | 11,864 - 11,815 | 33% - 33% | 12,929 - 12,863 | 45% - 44% | 3% - 3% | 42% | |
| Macquarie | 500 | 60% | 7,395 | 9,530 - 9,481 | 29% - 28% | 10,333 - 10,267 | 40% - 39% | 4% - 3% | 36% | |
| Murray | 500 | 60% | 4,520 | 5,130 - 5,080 | 13% - 12% | 5,391 - 5,325 | 19% - 18% | 7% - 5% | 13% | |
| Murrumbidgee | 500 | 60% | 3,079 | 3,793 - 3,743 | 23% - 22% | 4,089 - 4,023 | 33% - 31% | 10% - 8% | 23% | |
| North Coast | 500 | 60% | 14,365 | 14,855 - 14,806 | 3% - 3% | 15,329 - 15,263 | 7% - 6% | 2% - 2% | 5% | |
| Hunter | 500 | 60% | 11,774 | 14,994 - 14,944 | 27% - 27% | 16,243 - 16,177 | 38% - 37% | 3% - 2% | 35% | |
| South Coast | 500 | 60% | 17,552 | 18,002 - 17,952 | 3% - 2% | 18,410 - 18,344 | 5% - 5% | 2% - 1% | 3% | |

a. Includes Water NSW bulk water charges, WAMC charges and MDBA and BRC charges. Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

Table D.4 Indicative impact of our decisions on bills on regulated rivers with privately owned meters without telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage (%) | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|-------------------------|----------------|-----------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| High security | | | | | | | | | |
| Border | 500 | 100% | 10,736 | 12,359 - 12,337 | 15% - 15% | 13,025 - 12,995 | 21% - 21% | 3% - 3% | 19% |
| Gwydir | 500 | 100% | 13,874 | 18,011 - 17,989 | 30% - 30% | 19,485 - 19,455 | 40% - 40% | 2% - 2% | 38% |
| Namoi | 500 | 100% | 22,244 | 29,966 - 29,944 | 35% - 35% | 32,540 - 32,510 | 46% - 46% | 1% - 1% | 45% |
| Peel | 500 | 100% | 35,989 | 44,476 - 44,453 | 24% - 24% | 47,495 - 47,465 | 32% - 32% | 1% - 1% | 31% |
| Lachlan | 500 | 100% | 20,212 | 27,695 - 27,673 | 37% - 37% | 30,300 - 30,270 | 50% - 50% | 1% - 1% | 48% |
| Macquarie | 500 | 100% | 16,473 | 21,428 - 21,406 | 30% - 30% | 23,195 - 23,165 | 41% - 41% | 2% - 2% | 39% |
| Murray | 500 | 100% | 7,899 | 9,137 - 9,115 | 16% - 15% | 9,620 - 9,590 | 22% - 21% | 4% - 3% | 18% |
| Murrumbidgee | 500 | 100% | 5,581 | 6,851 - 6,829 | 23% - 22% | 7,345 - 7,315 | 32% - 31% | 5% - 5% | 26% |
| North Coast | 500 | 100% | 20,773 | 21,262 - 21,240 | 2% - 2% | 21,825 - 21,795 | 5% - 5% | 1% - 1% | 4% |
| Hunter | 500 | 100% | 16,507 | 21,047 - 21,024 | 27% - 27% | 22,770 - 22,740 | 38% - 38% | 2% - 2% | 36% |
| South Coast | 500 | 100% | 30,226 | 30,784 - 30,761 | 2% - 2% | 31,310 - 31,280 | 4% - 3% | 1% - 1% | 3% |
| General security | | | | | | | | | |
| Border | 500 | 60% | 5,674 | 6,851 - 6,829 | 21% - 20% | 7,347 - 7,317 | 29% - 29% | 5% - 5% | 24% |
| Gwydir | 500 | 60% | 6,945 | 8,438 - 8,416 | 21% - 21% | 9,013 - 8,983 | 30% - 29% | 4% - 4% | 25% |
| Namoi | 500 | 60% | 12,663 | 15,588 - 15,566 | 23% - 23% | 16,563 - 16,533 | 31% - 31% | 2% - 2% | 28% |
| Peel | 500 | 60% | 10,861 | 12,955 - 12,933 | 19% - 19% | 13,797 - 13,767 | 27% - 27% | 3% - 2% | 24% |
| Lachlan | 500 | 60% | 8,916 | 11,864 - 11,842 | 33% - 33% | 12,929 - 12,899 | 45% - 45% | 3% - 3% | 42% |
| Macquarie | 500 | 60% | 7,395 | 9,530 - 9,508 | 29% - 29% | 10,333 - 10,303 | 40% - 39% | 4% - 4% | 36% |
| Murray | 500 | 60% | 4,520 | 5,130 - 5,107 | 13% - 13% | 5,391 - 5,361 | 19% - 19% | 7% - 6% | 13% |
| Murrumbidgee | 500 | 60% | 3,079 | 3,793 - 3,770 | 23% - 22% | 4,089 - 4,059 | 33% - 32% | 10% - 9% | 23% |
| North Coast | 500 | 60% | 14,365 | 14,855 - 14,833 | 3% - 3% | 15,329 - 15,299 | 7% - 7% | 2% - 2% | 5% |
| Hunter | 500 | 60% | 11,774 | 14,994 - 14,971 | 27% - 27% | 16,243 - 16,213 | 38% - 38% | 3% - 2% | 35% |
| South Coast | 500 | 60% | 17,552 | 18,002 - 17,980 | 3% - 2% | 18,410 - 18,380 | 5% - 5% | 2% - 2% | 3% |

a. Includes Water NSW bulk water charges, WAMC charges and MDBA and BRC charges. Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

D.2 Impacts on customers in unregulated rivers

D.2.1 Government owned meters

Table D.5 Indicative impact of our decisions on bills on unregulated rivers with government owned meters with telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage (%) | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|--------------|----------------|-----------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| Murray | 500 | 60% | 3,096 | 3,580 - 3,531 | 16% - 14% | 3,922 - 3,855 | 27% - 25% | 22% - 20% | 5% |
| Murrumbidgee | 500 | 60% | 3,893 | 4,446 - 4,396 | 14% - 13% | 4,887 - 4,820 | 26% - 24% | 18% - 16% | 9% |
| South Coast | 500 | 60% | 1,836 | 2,216 - 2,166 | 21% - 18% | 2,343 - 2,276 | 28% - 24% | 37% - 34% | -13% |

a. Includes Water NSW bulk water charges, WAMC charges and MDBA and BRC charges. Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

Table D.6 Indicative impact of our decisions on bills on unregulated rivers with government owned meters without telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage (%) | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|--------------|----------------|-----------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| Murray | 500 | 60% | 3,096 | 3,580 - 3,558 | 16% - 15% | 3,922 - 3,892 | 27% - 26% | 22% - 21% | 5% |
| Murrumbidgee | 500 | 60% | 3,893 | 4,446 - 4,423 | 14% - 14% | 4,887 - 4,857 | 26% - 25% | 18% - 17% | 9% |
| South Coast | 500 | 60% | 1,836 | 2,216 - 2,194 | 21% - 19% | 2,343 - 2,313 | 28% - 26% | 37% - 36% | -13% |

a. Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

D.2.2 Privately owned meters

Table D.7 Indicative impact of our decision on bills on unregulated rivers with privately owned meters with telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|--------------|----------------|-------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| Border | 500 | 60% | 1,896 | 1,881 - 1,831 | -1% - -3% | 1,990 - 1,924 | 5% - 1% | 16% - 12% | -11% |
| Gwydir | 500 | 60% | 1,896 | 1,881 - 1,831 | -1% - -3% | 1,990 - 1,924 | 5% - 1% | 16% - 12% | -11% |
| Namoi | 500 | 60% | 1,896 | 1,881 - 1,831 | -1% - -3% | 1,990 - 1,924 | 5% - 1% | 16% - 12% | -11% |
| Peel | 500 | 60% | 1,896 | 1,881 - 1,831 | -1% - -3% | 1,990 - 1,924 | 5% - 1% | 16% - 12% | -11% |
| Lachlan | 500 | 60% | 2,219 | 2,395 - 2,345 | 8% - 6% | 2,608 - 2,542 | 18% - 15% | 14% - 11% | 4% |
| Macquarie | 500 | 60% | 2,219 | 2,395 - 2,345 | 8% - 6% | 2,608 - 2,542 | 18% - 15% | 14% - 11% | 4% |
| Far West | 500 | 60% | 2,822 | 3,504 - 3,454 | 24% - 22% | 3,731 - 3,665 | 32% - 30% | 11% - 8% | 22% |
| Murray | 500 | 60% | 2,582 | 2,777 - 2,728 | 8% - 6% | 3,023 - 2,957 | 17% - 15% | 12% - 9% | 5% |
| Murrumbidgee | 500 | 60% | 3,379 | 3,643 - 3,593 | 8% - 6% | 3,988 - 3,922 | 18% - 16% | 9% - 7% | 9% |
| North Coast | 500 | 60% | 3,773 | 4,045 - 3,995 | 7% - 6% | 4,432 - 4,366 | 17% - 16% | 8% - 6% | 10% |
| Hunter | 500 | 60% | 1,288 | 1,538 - 1,489 | 19% - 16% | 1,718 - 1,652 | 33% - 28% | 23% - 18% | 10% |
| South Coast | 500 | 60% | 1,322 | 1,413 - 1,364 | 7% - 3% | 1,444 - 1,378 | 9% - 4% | 23% - 18% | -13% |

a. Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

Table D.8 Indicative impact of our decision on bills on unregulated rivers with privately owned meters without telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|--------------|----------------|-------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| Border | 500 | 60% | 1,896 | 1,881 - 1,859 | -1% - -2% | 1,990 - 1,960 | 5% - 3% | 16% - 14% | -11% |
| Gwydir | 500 | 60% | 1,896 | 1,881 - 1,859 | -1% - -2% | 1,990 - 1,960 | 5% - 3% | 16% - 14% | -11% |
| Namoi | 500 | 60% | 1,896 | 1,881 - 1,859 | -1% - -2% | 1,990 - 1,960 | 5% - 3% | 16% - 14% | -11% |
| Peel | 500 | 60% | 1,896 | 1,881 - 1,859 | -1% - -2% | 1,990 - 1,960 | 5% - 3% | 16% - 14% | -11% |
| Lachlan | 500 | 60% | 2,219 | 2,395 - 2,373 | 8% - 7% | 2,608 - 2,578 | 18% - 16% | 14% - 12% | 4% |
| Macquarie | 500 | 60% | 2,219 | 2,395 - 2,373 | 8% - 7% | 2,608 - 2,578 | 18% - 16% | 14% - 12% | 4% |
| Far West | 500 | 60% | 2,822 | 3,504 - 3,481 | 24% - 23% | 3,731 - 3,701 | 32% - 31% | 11% - 10% | 22% |
| Murray | 500 | 60% | 2,582 | 2,777 - 2,755 | 8% - 7% | 3,023 - 2,993 | 17% - 16% | 12% - 10% | 5% |
| Murrumbidgee | 500 | 60% | 3,379 | 3,643 - 3,621 | 8% - 7% | 3,988 - 3,958 | 18% - 17% | 9% - 8% | 9% |
| North Coast | 500 | 60% | 3,773 | 4,045 - 4,023 | 7% - 7% | 4,432 - 4,402 | 17% - 17% | 8% - 7% | 10% |
| Hunter | 500 | 60% | 1,288 | 1,538 - 1,516 | 19% - 18% | 1,718 - 1,688 | 33% - 31% | 23% - 21% | 10% |
| South Coast | 500 | 60% | 1,322 | 1,413 - 1,391 | 7% - 5% | 1,444 - 1,414 | 9% - 7% | 23% - 20% | -13% |

a. Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

D.3 Impacts on customers in groundwater

D.3.1 Government owned meters

Table D.9 Indicative impact of our decisions on bills on groundwater with government owned meters with telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage (%) | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|--------------|----------------|-----------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| Inland | 500 | 60% | 3,385 | 3,735 - 3,685 | 10% - 9% | 3,852 - 3,785 | 14% - 12% | 20% - 18% | -8% |
| Murrumbidgee | 500 | 60% | 2,420 | 3,115 - 3,065 | 29% - 27% | 3,504 - 3,437 | 45% - 42% | 28% - 26% | 21% |
| Coastal | 500 | 60% | 2,383 | 2,944 - 2,894 | 24% - 21% | 3,279 - 3,212 | 38% - 35% | 29% - 26% | 11% |

a. Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

Table D.10 Indicative impact of decisions on bills on groundwater with government owned meters without telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage (%) | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|--------------|----------------|-----------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| Inland | 500 | 60% | 3,385 | 3,735 - 3,713 | 10% - 10% | 3,852 - 3,822 | 14% - 13% | 20% - 19% | -8% |
| Murrumbidgee | 500 | 60% | 2,420 | 3,115 - 3,093 | 29% - 28% | 3,504 - 3,474 | 45% - 44% | 28% - 27% | 21% |
| Coastal | 500 | 60% | 2,383 | 2,944 - 2,921 | 24% - 23% | 3,279 - 3,249 | 38% - 36% | 29% - 27% | 11% |

a. Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

D.3.2 Privately owned meters

Table D.11 Indicative impact of our decisions on bills on groundwater with privately owned meters with telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage (%) | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|--------------|----------------|-----------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| Inland | 500 | 60% | 2,871 | 2,932 - 2,883 | 2% - 0% | 2,953 - 2,887 | 3% - 1% | 10% - 8% | -8% |
| Murrumbidgee | 500 | 60% | 1,905 | 2,312 - 2,263 | 21% - 19% | 2,605 - 2,539 | 37% - 33% | 16% - 12% | 21% |
| Coastal | 500 | 60% | 1,868 | 2,141 - 2,091 | 15% - 12% | 2,380 - 2,314 | 27% - 24% | 16% - 13% | 11% |

a. Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

Table D.12 Indicative impact of our decisions on bills on groundwater with privately owned meters without telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage (%) | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|--------------|----------------|-----------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| Inland | 500 | 60% | 2,871 | 2,932 - 2,910 | 2% - 1% | 2,953 - 2,923 | 3% - 2% | 10% - 9% | -8% |
| Murrumbidgee | 500 | 60% | 1,905 | 2,312 - 2,290 | 21% - 20% | 2,605 - 2,575 | 37% - 35% | 16% - 14% | 21% |
| Coastal | 500 | 60% | 1,868 | 2,141 - 2,119 | 15% - 13% | 2,380 - 2,350 | 27% - 26% | 16% - 14% | 11% |

a. Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

Appendix E

The revenue requirement for WAMC
only by cost codes



E

In Chapter 6, we outlined our decision on the total notional revenue requirement (NRR) for the 2021 determination. We set it at \$290.4 million over the 2021-22 to 2024-25 period and is comprised of:

- \$252.3 million for the WAMC NRR
- \$34.6 million for the Murray-Darling Basin Authority NRR
- \$3.5 million for the Dumaresq-Barwon Borders River Commission NRR.

Table E.1 sets out the WAMC NRR by cost codes. It also sets out the portion of the NRR that is recovered from water users and the NSW Government.

Table E.1 Estimated contributions by water users and the NSW Government to recover the notional revenue requirement of WAMC (\$'000, \$2020-21)

| Cost code | Cost code name | User share | | | | NSW Government share | | | | Total | | | |
|-----------|--|------------|---------|---------|---------|----------------------|---------|---------|---------|---------|---------|---------|---------|
| | | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
| W01-01 | Surface water quantity monitoring | 4,959.4 | 5,352.4 | 5,612.3 | 5,909.1 | 1,507.2 | 1,622.6 | 1,702.3 | 1,788.5 | 6,466.7 | 6,975.0 | 7,314.7 | 7,697.6 |
| W01-02 | Surface water quantity data management and reporting | 534.8 | 542.8 | 539.0 | 541.5 | 170.9 | 173.1 | 172.1 | 172.5 | 705.7 | 715.8 | 711.2 | 714.0 |
| W01-03 | Surface water quality monitoring | 986.7 | 1,011.1 | 1,007.8 | 1,018.9 | 298.5 | 305.7 | 305.3 | 308.4 | 1,285.2 | 1,316.8 | 1,313.2 | 1,327.3 |
| W01-04 | Surface water algal monitoring | 586.4 | 598.5 | 596.8 | 604.2 | 176.1 | 178.5 | 178.3 | 180.4 | 762.5 | 777.0 | 775.1 | 784.7 |
| W01-05 | Surface water ecological condition monitoring | 247.9 | 242.7 | 239.0 | 211.1 | 73.2 | 71.3 | 70.2 | 62.0 | 321.0 | 314.0 | 309.3 | 273.1 |
| W02-01 | Groundwater quantity monitoring | 1,350.8 | 1,713.7 | 2,051.1 | 2,535.2 | 11.3 | 11.0 | 10.9 | 10.7 | 1,362.0 | 1,724.8 | 2,062.0 | 2,545.9 |
| W02-02 | Groundwater quality monitoring | 2,669.4 | 2,725.4 | 2,704.1 | 2,718.9 | 0.0 | 0.0 | 0.0 | 0.0 | 2,669.4 | 2,725.4 | 2,704.1 | 2,718.9 |
| W02-03 | Groundwater data management and reporting | 2.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 2.7 | 0.0 | 0.0 | 0.0 |

| Cost code | Cost code name | User share | | | | NSW Government share | | | | Total | | | |
|-----------|---|------------|---------|---------|---------|----------------------|---------|---------|---------|---------|---------|---------|---------|
| | | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
| W03-01 | Water take data collection | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| W03-02 | Water take data management and reporting | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| W04-01 | Surface water modelling | 2,524.5 | 2,505.5 | 2,491.5 | 2,475.2 | 1,079.1 | 1,071.5 | 1,068.0 | 1,060.7 | 3,603.6 | 3,577.0 | 3,559.5 | 3,535.9 |
| W04-02 | Groundwater modelling | 1,105.1 | 1,096.8 | 1,090.7 | 1,083.6 | 0.0 | 0.0 | 0.0 | 0.0 | 1,105.1 | 1,096.8 | 1,090.7 | 1,083.6 |
| W04-03 | Water resource accounting | 606.7 | 596.7 | 588.0 | 578.9 | 0.0 | 0.0 | 0.0 | 0.0 | 606.7 | 596.7 | 588.0 | 578.9 |
| W05-01 | Systems operation & water availability management | 2,817.2 | 2,796.0 | 2,780.4 | 2,762.2 | 0.0 | 0.0 | 0.0 | 0.0 | 2,817.2 | 2,796.0 | 2,780.4 | 2,762.2 |
| W05-02 | Blue-green algae management | 251.1 | 255.0 | 253.8 | 249.0 | 373.6 | 379.6 | 378.7 | 371.4 | 624.7 | 634.7 | 632.6 | 620.5 |
| W05-03 | Environmental water management | 1,044.8 | 1,026.7 | 1,007.3 | 963.3 | 261.1 | 256.7 | 252.4 | 241.3 | 1,305.9 | 1,283.4 | 1,259.7 | 1,204.6 |
| W05-04 | Water plan performance assessment and evaluation | 1,343.0 | 1,332.9 | 1,325.4 | 1,316.8 | 1,332.2 | 1,322.7 | 1,318.4 | 1,309.4 | 2,675.1 | 2,655.6 | 2,643.9 | 2,626.2 |
| W06-01 | Water plan development (coastal) | 1,243.8 | 1,217.2 | 1,193.4 | 1,169.0 | 524.1 | 513.1 | 504.2 | 493.8 | 1,767.9 | 1,730.2 | 1,697.7 | 1,662.8 |
| W06-02 | Water plan development (inland) | 2,084.9 | 2,040.3 | 2,000.5 | 1,959.6 | 890.1 | 871.4 | 856.4 | 838.6 | 2,975.0 | 2,911.8 | 2,856.9 | 2,798.3 |
| W06-03 | Floodplain management plan development | 0.0 | 0.0 | 0.0 | 0.0 | 2,165.2 | 2,119.8 | 1,483.8 | 1,379.7 | 2,165.2 | 2,119.8 | 1,483.8 | 1,379.7 |
| W06-04 | Drainage management plan development | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| Cost code | Cost code name | User share | | | | NSW Government share | | | | Total | | | |
|--------------|--|-----------------|-----------------|-----------------|-----------------|----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
| W06-05 | Regional planning and management strategies | 3,659.6 | 3,581.3 | 3,054.0 | 2,991.5 | 2,426.2 | 2,375.3 | 2,030.3 | 1,988.1 | 6,085.8 | 5,956.6 | 5,084.2 | 4,979.7 |
| W06-06 | Development of water planning and regulatory framework | 1,275.7 | 1,248.4 | 1,224.0 | 1,199.0 | 317.2 | 310.5 | 305.2 | 298.8 | 1,592.9 | 1,558.9 | 1,529.2 | 1,497.8 |
| W06-07 | Cross border and national commitments | 807.2 | 797.0 | 792.5 | 821.0 | 803.4 | 793.5 | 790.9 | 819.1 | 1,610.6 | 1,590.5 | 1,583.4 | 1,640.0 |
| W07-01 | Water management works | 1,728.1 | 1,699.7 | 1,675.0 | 1,649.0 | 433.0 | 426.0 | 420.8 | 414.2 | 2,161.1 | 2,125.7 | 2,095.8 | 2,063.2 |
| W08-01 | Regulation systems management | 41.1 | 40.1 | 4.5 | 0.0 | 13.0 | 12.6 | 14 | 0.0 | 54.1 | 52.8 | 6.0 | 0.0 |
| W08-02 | Consents management and licence conversion | 1,430.1 | 1,427.5 | 1,404.1 | 1,376.5 | 0.0 | 0.0 | 0.0 | 0.0 | 1,430.1 | 1,427.5 | 1,404.1 | 1,376.5 |
| W08-03 | Compliance management | 6,189.4 | 6,092.3 | 5,842.8 | 5,755.0 | 0.0 | 0.0 | 0.0 | 0.0 | 6,189.4 | 6,092.3 | 5,842.8 | 5,755.0 |
| W08-04 | Consent transaction Overhead | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| W08-99 | Water consents overhead | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| W09-01 | Water consents transactions | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| W10-01 | Customer management | 4,068.6 | 4,295.4 | 4,258.6 | 4,029.4 | 13.0 | 12.6 | 14 | 0.0 | 4,081.6 | 4,308.0 | 4,260.0 | 4,029.4 |
| W10-02 | Business governance and support | 3,081.4 | 3,420.3 | 3,822.3 | 4,122.3 | 1,276.0 | 1,350.0 | 1,443.5 | 1,507.4 | 4,357.4 | 4,770.3 | 5,265.9 | 5,629.8 |
| W10-03 | Billing management | 2,021.1 | 1,956.3 | 1,736.8 | 1,739.3 | 23.5 | 23.0 | 3.5 | 0.0 | 2,044.6 | 1,979.3 | 1,740.3 | 1,739.3 |
| Total | | 48,660.7 | 49,612.1 | 49,296.0 | 49,779.8 | 14,168.3 | 14,200.5 | 13,298.2 | 13,245.1 | 62,829.0 | 63,812.6 | 62,594.2 | 63,024.9 |

Source: IPART analysis.

Glossary



| | |
|---------------------------|--|
| 2016 Determination | Review of prices for the Water Administration Ministerial Corporation from 1 July 2016 – Determination and Final Report, June 2016 (Determination No. 2, 2016) |
| 2016 determination period | The period from 1 July 2016 to 30 June 2020, as set in the 2016 Determination |
| 2021 Determination | Refers to the upcoming price period – i.e. prices from 1 October 2021. |
| ABS | Australian Bureau of Statistics |
| The Basin | Murray-Darling Basin |
| BRC | Dumaresq-Barwon Border Rivers Commission |
| CSO | Community Service Obligation |
| DPIE | <p>NSW Department of Planning, Industry and Environment. DPIE is one of the agencies delivering WAMC functions. Specifically, DPIE retains responsibility for setting water management policies and undertaking water planning in NSW.</p> <p>Formerly known as the Department of Primary Industries – Water, part of the Department of Industry, Skills and Regional Development in the 2016 Determination.</p> |
| Entitlement | ML of entitlement under the <i>Water Act 1912</i> (NSW) or unit shares under the <i>Water Management Act 2000</i> (NSW). |
| Extractions | The taking of water from regulated rivers, unregulated rivers or groundwater sources for the purposes of irrigation, town water supply, use as an input for power stations, supplying stock and domestic users or any other use. |
| FCRP | Full Cost Recovery Prices |
| FPH | Floodplain harvesting |
| FTEs | Full-Time Equivalent staff |
| GL | Gigalitre |

| | |
|------------------|--|
| Government share | The share of WAMC's revenue requirement that is recovered from treasury, determined according to the 'impactor pays' principle. |
| IPART | The Independent Pricing and Regulatory Tribunal of NSW |
| IPART Act | <i>Independent Pricing and Regulatory Tribunal Act 1992</i> (NSW) |
| MAC | Minimum Annual Charge |
| MDBA | Murray-Darling Basin Authority |
| MDB Agreement | Murray-Darling Basin Agreement |
| ML | Megalitre |
| MWD | Metropolitan Water Directorate |
| MWP | Metropolitan Water Plan |
| NRAR | Natural Resources Access Regulator (NRAR) is one of the agencies delivering WAMC functions. It was established in 2018 as the independent water regulator to improve compliance and enforcement arrangements and to restore community confidence in water compliance. |
| NRR | Notional revenue requirement |
| NWI | National Water Initiative |
| RAB | Regulatory Asset Base |
| SDL | Sustainable Diversion Limits |
| Target revenue | The revenue that IPART expects an agency to recover through prices. |
| Usage | Water extracted by entitlement holders. |
| User share | The share of WAMC's revenue requirement that is recovered from users through prices, determined on an 'impactor pays' basis. |

| | |
|--------------|--|
| WACC | Weighted Average Cost of Capital |
| WAL | Water Access Licence |
| WAMC | Water Administration Ministerial Corporation |
| Water NSW | <p>Water NSW is the organisation responsible for managing raw water supply across NSW.</p> <p>Water NSW is one of the agencies delivering WAMC functions. Specifically, Water NSW is responsible for undertaking WAMC's licensing functions, providing metering services and account management services to water management customers in NSW.</p> |
| Water source | This refers to whether water is extracted from a valley/area within regulated rivers, unregulated rivers or groundwater. |
| Water type | This refers to regulated rivers, unregulated rivers or groundwater. |
| WMA | Water Management Act 2000 (NSW) |
| WSP | Water Sharing Plan |

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Water NSW

Prices for Bulk Water Services from
1 October 2021

Water Charge Rules 2010 (Cth)
Independent Pricing and Regulatory Tribunal Act 1992
(NSW)

Final Determination

September 2021

Water >>

Tribunal Members

The Tribunal members for this review are:

Ms Carmel Donnelly, Chair
Ms Deborah Cope
Ms Sandra Gamble

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IPART acknowledges the Traditional Custodians of the lands where we work and live. We pay respect to Elders, past, present and emerging.

We recognise the unique cultural and spiritual relationship and celebrate the contributions of First Nations peoples.

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Preliminary

1 Summary

This determination regulates pricing for rural bulk water services supplied by Water NSW. IPART has made this determination under two regulatory regimes:

- (a) The regulated charges for certain rural bulk water services supplied by Water NSW are set under the *Water Charge Rules 2010* (Cth) (**WCR**).¹
- (b) The maximum prices for the remaining rural bulk water services supplied by Water NSW are set under the *Independent Pricing and Regulatory Tribunal Act 1992* (NSW) (**IPART Act**).

2 Outline

This determination is divided into the following sections:

- (a) The Preliminary section provides information about the two regimes under which IPART has made this determination and explains its application.
- (b) Schedule 1 sets out the regulated charges that Water NSW may levy for supplying MDB Bulk Water Services, other than Miscellaneous Charges and New Metering Charges.
- (c) Schedule 2 sets out the maximum prices that Water NSW may levy for supplying Coastal Bulk Water Services, other than Miscellaneous Charges and New Metering Charges.
- (d) Schedule 3 sets out the regulated charges and maximum prices that Water NSW may levy for supplying bulk water services to customers in the Fish River Water Supply Scheme, other than Miscellaneous Charges.
- (e) Schedule 4 sets out the Miscellaneous Charges that Water NSW may levy, subject to any Miscellaneous Charges being replaced by New Metering Charges, for supplying various miscellaneous services across MDB Valleys, Coastal Valleys and to customers in the Fish River Water Supply Scheme.
- (f) Schedule 5 sets out the New Metering Charges that Water NSW may levy for supplying various metering services across MDB Valleys and Coastal Valleys.
- (g) Schedule 6 sets out definitions and interpretation provisions.
- (h) Schedule 7 outlines the requirements under the WCR and IPART Act for IPART's determination of regulated charges and maximum prices.

¹ IPART has determined the regulated charges set out in this determination under accreditation arrangements in Part 9 of the WCR. The ACCC approved IPART's accreditation under rule 63 of the WCR, with effect from 1 June 2016.

3 Determination under the WCR

3.1 Coverage of determination

- (a) IPART has determined the regulated charges set out in Schedules 1, 3, 4 and 5 under the WCR. These regulated charges are the maximum amounts that Water NSW may charge.
- (b) The regulated charges set out in Schedule 1 cover MDB Bulk Water Services that Water NSW supplies in Regulated Rivers in the following MDB Valleys:
 - (1) Border;
 - (2) Gwydir;
 - (3) Namoi;
 - (4) Peel;
 - (5) Lachlan;
 - (6) Macquarie;
 - (7) Murray;
 - (8) Murrumbidgee; and
 - (9) Lowbidgee.
- (c) The regulated charges set out in Schedule 3 cover rural bulk water services that Water NSW supplies to Rural Water Supply Customers in the Fish River Water Supply Scheme.
- (d) The regulated charges set out in Schedule 4 cover miscellaneous rural bulk water services that Water NSW supplies in the MDB Valleys listed in clause 3.1(b) and to Rural Water Supply Customers in the Fish River Water Supply Scheme to the extent that those rural bulk water services are Infrastructure Services.
- (e) The regulated charges set out in Schedule 5 cover metering services that Water NSW supplies in the MDB Valleys listed in clause 3.1(b).

[Note: In addition to the regulated charges described at clauses 3.1(c), 3.1(d) and 3.1(e) above, Schedules 3, 4 and 5 also contain maximum prices determined in accordance with the IPART Act. Refer to clauses 4.1(c), 4.1(d) and 4.1(e) below.]

3.2 Application and commencement

- (a) Subject to the annual review process in Division 3 of Part 6 of the WCR (as amended on 1 July 2020), the regulated charges set under this determination apply from the later of:
 - (1) 1 October 2021; or
 - (2) the date that this determination is published in the NSW Government Gazette, (**Commencement Date**).
- (b) The regulated charges set under this determination apply from the Commencement Date to 30 June 2025. The regulated charges prevailing at 30 June 2025 may apply beyond 30 June 2025 in accordance with rule 33 of the WCR.

3.3 Nil charge for Aboriginal Cultural Licences

Despite anything in this determination, the regulated charge that Water NSW may charge for rural bulk water services in respect of an Aboriginal Cultural Licence is nil.

[Note: For the avoidance of doubt, clause 3.3 applies to the services in Schedules 4 and 5.]

4 Determination under the IPART Act

4.1 Coverage of determination

- (a) IPART has determined the maximum prices set out in Schedules 2, 3, 4 and 5 under the IPART Act.
- (b) The maximum prices set out in Schedule 2 cover Coastal Bulk Water Services that Water NSW supplies in Regulated Rivers in the following Coastal Valleys:
 - (1) North Coast;
 - (2) Hunter; and
 - (3) South Coast.
- (c) The maximum prices set out in Schedule 3 cover IPART Act Services that Water NSW supplies to Urban Water Supply Customers in the Fish River Water Supply Scheme.
- (d) The maximum prices set out in Schedule 4 cover miscellaneous rural bulk water services that Water NSW supplies in the Coastal Valleys listed in clause 4.1(b), to Urban Water Supply Customers in the Fish River Water Supply Scheme and to MDB valleys listed in clause 3.1(b) to the extent those rural bulk water services are not Infrastructure Services.
- (e) The maximum prices set out in Schedule 5 cover metering services that Water NSW supplies in the Coastal Valleys listed in clause 4.1(b).

[Note: In addition to the maximum prices described at clauses 4.1(c), 4.1(d) and 4.1(e) above, Schedules 3, 4 and 5 also contain regulated charges determined in accordance with the WCR. Refer to clauses 3.1(c), 3.1(d) and 3.1(e) above.]

4.2 Application and commencement

- (a) The maximum prices for IPART Act Services set under this determination apply from the Commencement Date to 30 June 2025.
- (b) The maximum prices for IPART Act Services set out in this determination prevailing at 30 June 2025 continue to apply beyond 30 June 2025 until this determination is replaced.

4.3 Nil price for Aboriginal Cultural Licences

Despite anything in this determination, the maximum price that Water NSW may charge for rural bulk water services in respect of an Aboriginal Cultural Licence is nil.

[Note: For the avoidance of doubt, clause 4.3 applies to the services in Schedules 4 and 5.]

5 Replacement of the 2017 Determination

- (a) With effect from the Commencement Date:
 - (1) IPART's determination of maximum prices under the IPART Act in this determination, replaces the 2017 Determination to the extent it was made under the IPART Act; and
 - (2) IPART's determination of regulated charges under the WCR in this determination, replaces the 2017 Determination to the extent it was made under the WCR.
- (b) The 2017 Determination ceases to have effect upon its replacement. Replacement of the 2017 Determination does not affect anything done or omitted to be done, or rights or obligations accrued, under the 2017 Determination and before the Commencement Date.

Schedule 1 Regulated Rivers in MDB Valleys

1 Application

- (a) This schedule sets out the regulated charges that Water NSW may levy on a Licence Holder for supplying rural bulk water services in relation to a Water Licence that authorises the extraction of water from a Regulated River in an MDB Valley (**MDB Bulk Water Services**), other than Miscellaneous Charges and New Metering Charges.
- (b) Subject to clause 1(c), the regulated charges that Water NSW may levy for MDB Bulk Water Services consist of the following:
 - (1) an entitlement charge calculated in accordance with clause 2;
 - (2) a water take charge calculated in accordance with clause 3, except in relation to MDB Bulk Water Services supplied in the Lowbidgee Valley;
 - (3) for the Border, Murray and Murrumbidgee Valleys:
 - (A) an MDBA/BRC entitlement charge calculated in accordance with clause 4; and
 - (B) an MDBA/BRC water take charge calculated in accordance with clause 5;
 - (4) for a Licence Holder in the Yanco Creek System, a Yanco Creek and Tributaries Advisory Council charge calculated in accordance with clause 7;
 - (5) any relevant Miscellaneous Charges calculated in accordance with Schedule 4; and
 - (6) any relevant New Metering Charges calculated in accordance with Schedule 5.
- (c) In levying regulated charges on a Licence Holder listed in Table 5, Water NSW must apply the discount calculated in accordance with clause 6.

2 Entitlement charge

For MDB Bulk Water Services, Water NSW may levy an entitlement charge calculated as follows:

$$EC \times E$$

where:

- (a) **EC** is the entitlement charge expressed in dollars per megalitre of Entitlement or in dollars per unit share for the relevant MDB Valley, relevant year and relevant licence type in Table 1; and
- (b) **E** is a Licence Holder's Entitlement for that year.

[Note: Refer to Schedule 6, clause 2.7 for the calculation of the entitlement charge, and Schedule 6, clause 2.9(c) for the meaning of 'relevant MDB Valley'.]

3 Water take charge

- (a) For MDB Bulk Water Services, Water NSW may levy a water take charge for the relevant MDB Valley (excluding the Lowbidgee Valley) calculated as follows:

$$WTC \times WT$$

where:

- (1) **WTC** is the water take charge expressed in dollars per megalitre of water taken for the relevant MDB Valley and relevant year in Table 2; and
 - (2) **WT** is a Licence Holder's water take for that year.
- (b) Water NSW must not recover more than one water take charge in respect of any water taken.

[Note: Refer to Schedule 6, clause 2.1(i) for the calculation of a Licence Holder's water take, and Schedule 6, clause 2.9(c) for the meaning of 'relevant MDB Valley'.]

[Note: For the avoidance of doubt, the charge in clause 3 may be levied on all holders of a supplementary water access licence in a relevant MDB Valley except for those in the Lowbidgee Valley.]

4 MDBA/BRC entitlement charge

For MDB Bulk Water Services supplied in the Border, Murray and Murrumbidgee Valleys, Water NSW may levy an MDBA/BRC entitlement charge calculated as follows:

$$MDBAEC \times E$$

where:

- (a) **MDBAEC** is the MDBA/BRC entitlement charge expressed in dollars per megalitre of Entitlement or in dollars per unit share for the relevant MDB Valley, relevant year and relevant licence type in Table 3; and
- (b) **E** is a Licence Holder's Entitlement for that year.

[Note: For the avoidance of doubt, the charge in clause 4 may be levied in addition to any other charges provided for in this Schedule. Refer to Schedule 6, clause 2.7 for the calculation of the entitlement charge, and Schedule 6, clause 2.9(c) for the meaning of 'relevant MDB Valley'.]

5 MDBA/BRC water take charge

- (a) For MDB Bulk Water Services supplied in the Border, Murray and Murrumbidgee valleys, Water NSW may levy an MDBA/BRC water take charge for the relevant MDB Valley calculated as follows:

$$MDBAWTC \times WT$$

where:

- (1) **MDBAWTC** is the MDBA/BRC water take charge expressed in dollars per megalitre of water taken for the relevant MDB Valley and relevant year in Table 4; and
 - (2) **WT** is a Licence Holder's water take for that year.
- (b) Water NSW must not recover more than one MDBA/BRC water take charge in respect of any water taken.

[Note: For the avoidance of doubt, the charge in clause 5 may be levied in addition to any other charges provided for in this Schedule. Refer to Schedule 6, clause 2.1(i) for the calculation of a Licence Holder's water take, and Schedule 6, clause 2.9(c) for the meaning of 'relevant MDB Valley'.]

6 Irrigation Corporations and districts discount

For a Licence Holder listed in Table 5, Water NSW must apply the discount (listed for that Licence Holder in Table 5) on that Licence Holder's total annual bill for entitlement and/or water take charges.

7 Yanco Creek and Tributaries Advisory Council charge

For a Licence Holder in the Yanco Creek System, Water NSW may also levy an entitlement charge expressed in dollars per megalitre of Entitlement or in dollars per unit share in Table 6 for the relevant year.

[Note: For the avoidance of doubt, the Yanco Creek and Tributaries Advisory Council charge may be levied in addition to any other charges provided for in this Schedule, Schedule 4 and Schedule 5. Refer to Schedule 6, clause 2.7 for the calculation of the entitlement charge.]

Tables 1-6

Table 1 Entitlement charges for MDB Valleys^a (\$/ML of Entitlement or \$/unit share)

| MDB Valley | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|---------------------------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| High Security Licence | | | | |
| Border | 6.58 | 6.58 x CPI ₁ | 6.58 x CPI ₂ | 6.58 x CPI ₃ |
| Gwydir | 17.40 | 17.40 x CPI ₁ | 17.40 x CPI ₂ | 17.40 x CPI ₃ |
| Namoi | 28.93 | 28.93 x CPI ₁ | 28.93 x CPI ₂ | 28.93 x CPI ₃ |
| Peel | 61.36 | 61.36 x CPI ₁ | 61.36 x CPI ₂ | 61.36 x CPI ₃ |
| Lachlan | 25.10 | 25.10 x CPI ₁ | 25.10 x CPI ₂ | 25.10 x CPI ₃ |
| Macquarie | 20.18 | 20.18 x CPI ₁ | 20.18 x CPI ₂ | 20.18 x CPI ₃ |
| Murray | 2.26 | 2.26 x CPI ₁ | 2.26 x CPI ₂ | 2.26 x CPI ₃ |
| Murrumbidgee | 4.17 | 4.17 x CPI ₁ | 4.17 x CPI ₂ | 4.17 x CPI ₃ |
| General Security Licence | | | | |
| Border | 2.41 | 2.41 x CPI ₁ | 2.41 x CPI ₂ | 2.41 x CPI ₃ |
| Gwydir | 4.04 | 4.04 x CPI ₁ | 4.04 x CPI ₂ | 4.04 x CPI ₃ |
| Namoi | 10.10 | 10.10 x CPI ₁ | 10.10 x CPI ₂ | 10.10 x CPI ₃ |
| Peel | 5.82 | 5.82 x CPI ₁ | 5.82 x CPI ₂ | 5.82 x CPI ₃ |
| Lachlan | 3.71 | 3.71 x CPI ₁ | 3.71 x CPI ₂ | 3.71 x CPI ₃ |
| Macquarie | 3.94 | 3.94 x CPI ₁ | 3.94 x CPI ₂ | 3.94 x CPI ₃ |
| Murray | 0.99 | 0.99 x CPI ₁ | 0.99 x CPI ₂ | 0.99 x CPI ₃ |
| Murrumbidgee | 1.43 | 1.43 x CPI ₁ | 1.43 x CPI ₂ | 1.43 x CPI ₃ |
| Lowbidgee ^b | 1.72 | 1.72 x CPI ₁ | 1.72 x CPI ₂ | 1.72 x CPI ₃ |

a. The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.5(b) of Schedule 6 for any period under this determination to which this charge applies, and that is less than a full financial year.

b. This only applies to holders of supplementary water access licences in Lowbidgee Valley

Table 2 Water take charges for MDB Valleys (excluding Lowbidgee) (\$/ML)

| MDB Valley | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Border | 7.03 | 7.03 x CPI ₁ | 7.03 x CPI ₂ | 7.03 x CPI ₃ |
| Gwydir | 17.19 | 17.19 x CPI ₁ | 17.19 x CPI ₂ | 17.19 x CPI ₃ |
| Namoi | 30.88 | 30.88 x CPI ₁ | 30.88 x CPI ₂ | 30.88 x CPI ₃ |
| Peel | 24.51 | 24.51 x CPI ₁ | 24.51 x CPI ₂ | 24.51 x CPI ₃ |
| Lachlan | 31.17 | 31.17 x CPI ₁ | 31.17 x CPI ₂ | 31.17 x CPI ₃ |
| Macquarie | 21.64 | 21.64 x CPI ₁ | 21.64 x CPI ₂ | 21.64 x CPI ₃ |
| Murray | 2.93 | 2.93 x CPI ₁ | 2.93 x CPI ₂ | 2.93 x CPI ₃ |
| Murrumbidgee | 4.97 | 4.97 x CPI ₁ | 4.97 x CPI ₂ | 4.97 x CPI ₃ |

Table 3 MDBA/BRC entitlement charges^a (\$/ML of Entitlement or \$/unit share)

| | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|---------------------------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| MDB Valley | | | | |
| High Security Licence | | | | |
| Border | 4.84 | 4.84 x CPI ₁ | 4.84 x CPI ₂ | 4.84 x CPI ₃ |
| Murray | 8.64 | 8.64 x CPI ₁ | 8.64 x CPI ₂ | 8.64 x CPI ₃ |
| Murrumbidgee | 1.86 | 1.86 x CPI ₁ | 1.86 x CPI ₂ | 1.86 x CPI ₃ |
| General Security Licence | | | | |
| Border | 1.77 | 1.77 x CPI ₁ | 1.77 x CPI ₂ | 1.77 x CPI ₃ |
| Murray | 3.80 | 3.80 x CPI ₁ | 3.80 x CPI ₂ | 3.80 x CPI ₃ |
| Murrumbidgee | 0.64 | 0.64 x CPI ₁ | 0.64 x PI ₂ | 0.64 x CPI ₃ |

a. The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.5(b) of Schedule 6 for any period under this determination to which this charge applies, and that is less than a full financial year.

Table 4 MDBA/BRC water take charges (\$/ML)

| | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|-------------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| MDB Valley | | | | |
| Border | 0.86 | 0.86 x CPI ₁ | 0.86 x CPI ₂ | 0.86 x CPI ₃ |
| Murray | 1.85 | 1.85 x CPI ₁ | 1.85 x CPI ₂ | 1.85 x CPI ₃ |
| Murrumbidgee | 0.37 | 0.37 x CPI ₁ | 0.37 x CPI ₂ | 0.37 x CPI ₃ |

Table 5 Irrigation Corporations and districts discount^a (\$)

| Licence holder | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|-----------------------------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Murray Irrigation Limited | 730,933 | 699,529 x CPI ₁ | 680,127 x CPI ₂ | 652,306 x CPI ₃ |
| Western Murray Irrigation Limited | 18,465 | 17,672 x CPI ₁ | 17,182 x CPI ₂ | 16,479 x CPI ₃ |
| West Corugan | 36,552 | 34,982 x CPI ₁ | 34,011 x CPI ₂ | 32,620 x CPI ₃ |
| Moirra Irrigation Scheme | 19,289 | 18,460 x CPI ₁ | 17,948 x CPI ₂ | 17,214 x CPI ₃ |
| Eagle Creek Scheme | 6,905 | 6,608 x CPI ₁ | 6,425 x CPI ₂ | 6,162 x CPI ₃ |
| Murrumbidgee Irrigation Limited | 625,285 | 593,966 x CPI ₁ | 584,550 x CPI ₂ | 568,933 x CPI ₃ |
| Coleambally Irrigation Limited | 267,977 | 254,554 x CPI ₁ | 250,519 x CPI ₂ | 243,826 x CPI ₃ |
| Jemalong Irrigation Limited | 56,068 | 56,350 x CPI ₁ | 52,171 x CPI ₂ | 49,768 x CPI ₃ |

a. The discounts in this table are annual discounts and must therefore be pro-rated in accordance with clause 2.5(b) of Schedule 6 for any period under this determination that is less than a full financial year.

Table 6 Yanco Creek System entitlement charge^a (\$/ML of Entitlement or \$/unit share)

| Charge | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|---------------------------------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Yanco Creek System entitlement charge | 0.90 | 0.90 | 0.90 | 0.90 |

a. The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.5(b) of Schedule 6 for any period under this determination to which this charge applies, and that is less than a full financial year.

Schedule 2 Regulated Rivers in Coastal Valleys

1 Application

- (a) This schedule sets out the maximum prices that Water NSW may levy on a Licence Holder for supplying IPART Act Services in relation to a Water Licence that authorises the extraction of water from a Regulated River in a Coastal Valley (**Coastal Bulk Water Services**), other than Miscellaneous Charges and New Metering Charges.
- (b) The maximum charges that Water NSW may levy for Coastal Bulk Water Services consist of the following:
 - (1) an entitlement charge calculated in accordance with clause 2;
 - (2) a water take charge calculated in accordance with clause 3;
 - (3) any relevant Miscellaneous Charges calculated in accordance with Schedule 4; and
 - (4) any relevant New Metering Charges calculated in accordance with Schedule 5.

2 Entitlement charge

For Coastal Bulk Water Services, Water NSW may levy an entitlement charge calculated as follows:

$$EC \times E$$

where:

- (a) **EC** is the entitlement charge expressed in dollars per megalitre of Entitlement or in dollars per unit share for the relevant Coastal Valley, relevant year and relevant licence type in Table 7; and
- (b) **E** is a Licence Holder's Entitlement for that year.

[Note: Refer to Schedule 6, clause 2.7 for the calculation of the entitlement charge, and Schedule 6, clause 2.9(c) for the meaning of 'relevant Coastal Valley'.]

3 Water take charge

- (a) For Coastal Bulk Water Services, Water NSW may levy a water take charge for the relevant Coastal Valley calculated as follows:

$$WTC \times WT$$

where:

- (1) **WTC** is the water take charge expressed in dollars per megalitre of water taken for the relevant Coastal Valley and relevant year in Table 8; and
 - (2) **WT** is a Licence Holder's water take for that year.
- (b) Water NSW must not recover more than one water take charge in respect of any water taken.

[Note: Refer to Schedule 6, clause 2.1(i) for the calculation of a Licence Holder's water take, and Schedule 6, clause 2.9(c) for the meaning of 'relevant Coastal Valley'.]

Tables 7-8

Table 7 Entitlement charges for Coastal Valleys^a (\$/ML of Entitlement or \$/unit share)

| Coastal Valley | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|---------------------------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| High Security Licence | | | | |
| North Coast | 12.82 | 12.82 x CPI ₁ | 12.82 x CPI ₂ | 12.82 x CPI ₃ |
| Hunter | 19.94 | 19.94 x CPI ₁ | 19.94 x CPI ₂ | 19.94 x CPI ₃ |
| South Coast | 33.56 | 33.56 x CPI ₁ | 33.56 x CPI ₂ | 33.56 x CPI ₃ |
| General Security Licence | | | | |
| North Coast | 9.94 | 9.94 x CPI ₁ | 9.94 x CPI ₂ | 9.94 x CPI ₃ |
| Hunter | 15.49 | 15.49 x CPI ₁ | 15.49 x CPI ₂ | 15.49 x CPI ₃ |
| South Coast | 17.60 | 17.60 x CPI ₁ | 17.60 x CPI ₂ | 17.60 x CPI ₃ |

a. The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.5(b) of Schedule 6 for any period under this determination to which this charge applies, and that is less than a full financial year.

Table 8 Water take charges for Coastal Valleys (\$/ML)

| Coastal Valley | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|----------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| North Coast | 18.98 | 18.98 x CPI ₁ | 18.98 x CPI ₂ | 18.98 x CPI ₃ |
| Hunter | 19.13 | 19.13 x CPI ₁ | 19.13 x CPI ₂ | 19.13 x CPI ₃ |
| South Coast | 18.80 | 18.80 x CPI ₁ | 18.80 x CPI ₂ | 18.80 x CPI ₃ |

Schedule 3 Fish River Water Supply Scheme

1 Application

- (a) This schedule sets out the:
- (1) regulated charges that Water NSW may levy for supplying rural bulk water services to Rural Water Supply Customers in the Fish River Water Supply Scheme; and
 - (2) maximum prices that Water NSW may levy for supplying IPART Act Services to Urban Water Supply Customers in the Fish River Water Supply Scheme, other than Miscellaneous Charges.
- (b) The regulated charges and maximum prices that Water NSW may levy on Rural Water Supply Customers and Urban Water Supply Customers in the Fish River Water Supply Scheme consist of the following:
- (1) an access charge and a water take charge for each of bulk raw water and bulk filtered water, calculated in accordance with clause 2; and
 - (2) any relevant Miscellaneous Charges calculated in accordance with Schedule 4.
- (c) Subject to paragraph (d), the minimum annual quantity (**MAQ**) for a Rural Water Supply Customer or Urban Water Supply Customer is the MAQ for that customer set out in Table 9.
- (d) Where the Fish River Licence has been amended after the Commencement Date:
- (1) to alter the water allocation for a Major Customer (including Oberon Council); or
 - (2) to include a water allocation for a new Major Customer,
- the MAQ for that Major Customer is the yearly supply availability for that Major Customer under the Fish River Licence at "Nil" restriction level.

[Note: For the avoidance of doubt, the New Metering Charges in Schedule 5 do not apply in any circumstances to customers in the Fish River Water Supply Scheme.]

2 Fish River Water Supply Customers

Water NSW may levy the following regulated charges on Rural Water Supply Customers and maximum prices on Urban Water Supply Customers in the Fish River Water Supply Scheme:

- (a) an access charge, expressed in dollars per kilolitre of MAQ, in:
- (1) Table 10 for bulk raw water; and
 - (2) Table 11 for bulk filtered water,
- for the relevant customer and relevant year in that table, multiplied by that customer's MAQ; and

- (b) a water take charge, expressed in dollars per kilolitre of water taken, calculated as follows:
- (1) for each kilolitre of water taken up to and including the MAQ for the relevant customer – the first tier water take charge in:
 - (A) Table 10 for bulk raw water; and
 - (B) Table 11 for bulk filtered water,for the relevant year in that table, multiplied by that customer's water take, up to and including that customer's MAQ; and
 - (2) for each kilolitre of water taken in excess of the MAQ for the relevant customer – the second tier water take charge in:
 - (A) Table 10 for bulk raw water; and
 - (B) Table 11 for bulk filtered water,for the relevant year in that table, multiplied by that part of the customer's water take which is in excess of that customer's MAQ.

[Note: The calculation in clause 2(a) requires multiplication by a customer's 'minimum annual quantity' and on that basis is an annual charge. In order to calculate the charge under clause 2(a) for any period under this determination that is less than a full financial year, the charge must be calculated in accordance with clause 2(a), then pro-rated in accordance with clause 2.5(b) of Schedule 6.]

[Note: Water NSW may levy the second tier water take charge in Tables 10 or 11 on a customer in the Fish River Supply Scheme who is not referred to in Table 9. For the avoidance of doubt, the calculations in clause 2 determine the maximum prices for Urban Water Supply Customers in the Fish River Water Supply Scheme and the regulated charges for Rural Water Supply Customers in the Fish River Water Supply Scheme.]

Tables 9-11

Table 9 Fish River Water Supply Scheme customers – minimum annual quantity (MAQ)

| | Bulk Raw Water | Bulk Filtered Water |
|---|----------------|---------------------|
| Rural Water Supply Customers | | |
| EnergyAustralia (ML/year) | 8,184 | 0 |
| Minor Customers (kL/year) | 200 | 200 |
| Urban Water Supply Customers (ML/year) | | |
| Oberon Council | 1,064 | 0 |
| Lithgow City Council | 100 | 1,678 |
| Water NSW (Greater Sydney) | 3,650 | 0 |

Table 10 Fish River Water Supply Scheme customers – bulk raw water (\$/kL)

| | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|---|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Access charge | | | | |
| Major Customers (except Oberon Council) | 0.49 | 0.49 x CPI ₁ | 0.49 x CPI ₂ | 0.49 x CPI ₃ |
| Minor Customers | 0.49 | 0.49 x CPI ₁ | 0.49 x CPI ₂ | 0.49 x CPI ₃ |
| Oberon Council | 0.42 | 0.42 x CPI ₁ | 0.42 x CPI ₂ | 0.42 x CPI ₃ |
| First tier water take charge | | | | |
| Major Customers (except Oberon Council) | 0.33 | 0.33 x CPI ₁ | 0.33 x CPI ₂ | 0.33 x CPI ₃ |
| Minor Customers | 0.33 | 0.33 x CPI ₁ | 0.33 x CPI ₂ | 0.33 x CPI ₃ |
| Oberon Council | 0.26 | 0.26 x CPI ₁ | 0.26 x CPI ₂ | 0.26 x CPI ₃ |
| Second tier water take charge | | | | |
| Major Customers (except Oberon Council) | 0.82 | 0.82 x CPI ₁ | 0.82 x CPI ₂ | 0.82 x CPI ₃ |
| Minor Customers | 0.82 | 0.82 x CPI ₁ | 0.82 x CPI ₂ | 0.82 x CPI ₃ |
| Oberon Council | 0.68 | 0.68 x CPI ₁ | 0.68 x CPI ₂ | 0.68 x CPI ₃ |

Table 11 Fish River Water Supply Scheme customers – bulk filtered water (\$/kL)

| | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--------------------------------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Access charge | | | | |
| Major Customers | 0.86 | 0.86 x CPI ₁ | 0.86 x CPI ₂ | 0.86 x CPI ₃ |
| Minor Customers | 0.86 | 0.86 x CPI ₁ | 0.86 x CPI ₂ | 0.86 x CPI ₃ |
| First tier water take charge | | | | |
| Major Customers | 0.53 | 0.53 x CPI ₁ | 0.53 x CPI ₂ | 0.53 x CPI ₃ |
| Minor Customers | 0.53 | 0.53 x CPI ₁ | 0.53 x CPI ₂ | 0.53 x CPI ₃ |
| Second tier water take charge | | | | |
| Major Customers | 1.39 | 1.39 x CPI ₁ | 1.39 x CPI ₂ | 1.39 x CPI ₃ |
| Minor Customers | 1.39 | 1.39 x CPI ₁ | 1.39 x CPI ₂ | 1.39 x CPI ₃ |

Schedule 4 Miscellaneous charges

1 Application

- (a) This schedule sets out the regulated charges and maximum prices that Water NSW may levy for supplying various miscellaneous rural bulk water services across MDB Valleys and Coastal Valleys, as well as to customers in the Fish River Water Supply Scheme.
- (b) For a Government-Owned Meter to which Schedule 5 applies, on and from the New Government Meter Charge Trigger Day for that meter, the:
 - (1) meter service charge in clause 2 of this Schedule will cease to apply; and
 - (2) charges in clauses 3 and 4 of Schedule 5 will instead apply.

2 Meter service charge

- (a) Water NSW may levy the relevant meter service charge set out in Table 12 on the holder of a Water Supply Work Approval with a Government-Owned Meter installed. This charge is expressed in dollars per Government-Owned Meter per annum, and is determined according to the size of the Government-Owned Meter.
- (b) The charge in clause 2(a) of this Schedule is subject to replacement by the charges in clauses 3 and 4 of Schedule 5 in respect of relevant Government-Owned Meters.

[Note: On and from the New Government Meter Charge Trigger Day for a Government-Owned Meter, the charge in clause 2(a) of this Schedule ceases to apply and the charges in clauses 3 and 4 of Schedule 5 will instead apply. The two sets of charges cannot apply simultaneously to a Government-Owned Meter.]

3 Meter accuracy testing charge

- (a) Where a Licence Holder requests that Water NSW conduct a Meter Accuracy Test, Water NSW may levy the meter accuracy deposit set out in Table 13. Water NSW must return the meter accuracy deposit to the customer if the relevant Government-Owned Meter is not found to be within relevant accuracy standards.
- (b) Where Water NSW conducts a Meter Accuracy Test and the Government-Owned Meter is found to be within the relevant accuracy standards, Water NSW may levy the balance of the total meter accuracy testing charge (that is, the total meter accuracy testing charge set out in Table 13 less the meter accuracy deposit set out in Table 13).

4 Other Miscellaneous Charges

Water NSW may levy the other Miscellaneous Charges set out in Table 14 on a Licence Holder.

Tables 12-14

Table 12 Meter service charges^a (\$ per meter)

| Size of Government-Owned Meter | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--------------------------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| 50mm | 481.16 | 481.16 x CPI ₁ | 481.16 x CPI ₂ | 481.16 x CPI ₃ |
| 80mm | 483.40 | 483.40 x CPI ₁ | 483.40 x CPI ₂ | 483.40 x CPI ₃ |
| 100mm | 483.39 | 483.39 x CPI ₁ | 483.39 x CPI ₂ | 483.39 x CPI ₃ |
| 150mm | 489.07 | 489.07 x CPI ₁ | 489.07 x CPI ₂ | 489.07 x CPI ₃ |
| 200mm | 491.88 | 491.88 x CPI ₁ | 491.88 x CPI ₂ | 491.88 x CPI ₃ |
| 250mm | 494.48 | 494.48 x CPI ₁ | 494.48 x CPI ₂ | 494.48 x CPI ₃ |
| 300mm | 501.20 | 501.20 x CPI ₁ | 501.20 x CPI ₂ | 501.20 x CPI ₃ |
| 350mm | 531.39 | 531.39 x CPI ₁ | 531.39 x CPI ₂ | 531.39 x CPI ₃ |
| 400mm | 549.37 | 549.37 x CPI ₁ | 549.37 x CPI ₂ | 549.37 x CPI ₃ |
| 450mm | 552.83 | 552.83 x CPI ₁ | 552.83 x CPI ₂ | 552.83 x CPI ₃ |
| 500mm | 567.56 | 567.56 x CPI ₁ | 567.56 x CPI ₂ | 567.56 x CPI ₃ |
| 600mm | 586.43 | 586.43 x CPI ₁ | 586.43 x CPI ₂ | 586.43 x CPI ₃ |
| 700mm | 608.85 | 608.85 x CPI ₁ | 608.85 x CPI ₂ | 608.85 x CPI ₃ |
| 750mm | 640.25 | 640.25 x CPI ₁ | 640.25 x CPI ₂ | 640.25 x CPI ₃ |
| 800mm | 661.47 | 661.47 x CPI ₁ | 661.47 x CPI ₂ | 661.47 x CPI ₃ |
| 900mm | 668.19 | 668.19 x CPI ₁ | 668.19 x CPI ₂ | 668.19 x CPI ₃ |
| 1,000mm | 680.60 | 680.60 x CPI ₁ | 680.60 x CPI ₂ | 680.60 x CPI ₃ |
| Channel | 6,306.05 | 6,306.05 x CPI ₁ | 6,306.05 x CPI ₂ | 6,306.05 x CPI ₃ |

a. The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.5(b) of Schedule 6 for any period under this determination to which this charge applies, and that is less than a full financial year.

Table 13 Meter accuracy testing charges (\$ per meter)

| Meter accuracy testing charges | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--|-----------------------------------|--|--|--|
| Meter accuracy deposit | 1,750.00 | 1,750.00 | 1,750.00 | 1,750.00 |
| Total meter accuracy testing charge (if meter is found to be within accuracy standards) | | | | |
| Verification and testing in situ | 6,427.28 | 1,750.00 + 4,677.28 x CPI ₁ | 1,750.00 + 4,677.28 x CPI ₂ | 1,750.00 + 4,677.28 x CPI ₃ |
| Lab verification and testing | 8,749.03 | 1,750.00 + 6,999.03 x CPI ₁ | 1,750.00 + 6,999.03 x CPI ₂ | 1,750.00 + 6,999.03 x CPI ₃ |

Table 14 Other Miscellaneous Charges (\$ per meter)

| Charge | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Trade processing charge per application | 49.92 | 49.92 x CPI ₁ | 49.92 x CPI ₂ | 49.92 x CPI ₃ |
| Fish River connection charge (per connection) | | | | |
| Low complexity connection ^a | 926.38 | 926.38 x CPI ₁ | 926.38 x CPI ₂ | 926.38 x CPI ₃ |
| Medium complexity connection ^b | 3,512.39 | 3,512.39 x CPI ₁ | 3,512.39 x CPI ₂ | 3,512.39 x CPI ₃ |
| High complexity connection ^c | 7,181.32 | 7,181.32 x CPI ₁ | 7,181.32 x CPI ₂ | 7,181.32 x CPI ₃ |
| Fish River disconnection charge (per disconnection) | 260.80 | 260.80 x CPI ₁ | 260.80 x CPI ₂ | 260.80 x CPI ₃ |

a. Where no tapping band or pressure reducing valve is required.

b. Where a tapping band is required.

c. Where a pressure reducing valve is required.

Schedule 5 New Metering Charges

1 Application

(a) This schedule sets out regulated charges and maximum prices that Water NSW may levy on a:

- (1) Licence Holder; and
- (2) holder of a Water Supply Work Approval,

for supplying various metering services in relation to a Water Licence or Water Supply Work Approval that authorises the taking of water from a Regulated River.

(b) For a Government-Owned Meter, on and from the New Government Meter Charge Trigger Day for that meter, the charge set out in clause 2(a) of Schedule 4 will cease to apply and the charges in clauses 3 and 4 of this Schedule will instead apply.

(c) For a Privately-Owned Meter, on and from the New Private Meter Charge Trigger Day for that meter, the charge in clause 4 of this Schedule will apply.

[Note: For the avoidance of doubt, none of the charges in this Schedule apply to customers in the Fish River Water Supply Scheme.]

2 Scheme management charge

Water NSW may levy on a person referred to in clause 1(a), the annual scheme management charge set out in Table 15 for the relevant year, and relevant Proportion of Voluntary Telemetry Uptake for that year.

[Note: For the avoidance of doubt, the scheme management charge set out in clause 2 applies regardless of whether a relevant person has a meter or not and applies from the Commencement Date. Where a person referred to in clause 1(a) holds more than one Water Licence and/or is the holder of more than one Water Supply Work Approval, then the scheme management charge may be levied in respect of each such Water Licence or Water Supply Work Approval.]

3 Government-Owned Meter service charges

(a) On and from the New Government Meter Charge Trigger Day for the relevant Government-Owned Meter, Water NSW may levy on a person referred to in clause 1(a) with:

- (1) a Government-Owned Meter that is not a channel meter installed:
 - (A) the meter service charge – operating costs; and
 - (B) the meter service charge – capital costs; and
- (2) a Government-Owned Meter that is a channel meter installed: the channel meter service charge – operating costs,

set out in Table 16 for the relevant year and expressed in dollars per relevant Government-Owned Meter per annum.

[Note: On and from the New Government Meter Charge Trigger Day for a Government-Owned Meter, the charges in clause 3 apply and the charge in clause 2(a) of Schedule 4 ceases to apply. The two sets of charges cannot apply simultaneously to a Government-Owned Meter.]

4 Telemetry and non-telemetry service charges

- (a) The charges in clause 4 apply on and from:
- (1) for a Government-Owned Meter, the New Government Meter Charge Trigger Day; and
 - (2) for a Privately-Owned Meter, the New Private Meter Charge Trigger Day.
- (b) Water NSW may levy on a person referred to in clause 1(a) the telemetry service charge expressed in dollars per meter in Table 17 for the relevant year and relevant Proportion of Voluntary Telemetry Uptake for that year, if:
- (1) the Metering Requirements require the relevant meter to use telemetry; or
 - (2) the Metering Requirements do not require the relevant meter to use telemetry and the Proportion of Voluntary Telemetry Uptake is:
 - (A) less than 25%, regardless of whether or not the relevant meter is read using telemetry; or
 - (B) equal to or greater than 25% and the relevant meter is read using telemetry.
- (c) Water NSW may levy on a person referred to in clause 1(a) the non-telemetry service charge expressed in dollars per meter in Table 18 for the relevant year and relevant Proportion of Voluntary Telemetry Uptake for that year, if:
- (1) the Proportion of Voluntary Telemetry Uptake is equal to or greater than 25%; and
 - (2) the Metering Requirements do not require the relevant meter to use telemetry; and
 - (3) the relevant meter is not read using telemetry.

[Note: On and from the New Government Meter Charge Trigger Day for a Government-Owned Meter, the charges in clause 4 of this Schedule apply and the charge in clause 2(a) of Schedule 4 ceases to apply. The two charges cannot apply simultaneously to a Government-Owned Meter.]

5 Exit fee

Water NSW may levy on a person referred to in clause 1(a) who provides notice that they no longer require services in respect of a Government-Owned Meter, an exit fee calculated as follows:

$$CX - (DD \times N)$$

where:

- (a) **CX** is Water NSW's average capital expenditure on each Government-Owned Meter expressed in dollars per meter in Table 19 for the relevant year;
- (b) **DD** is the daily depreciation of that capital expenditure expressed in dollars per meter in Table 19 for the relevant year; and
- (c) **N** is the number of days between, but not including, the dates that:
 - (1) the Government-Owned Meter became compliant with the Metering Requirements; and
 - (2) the person provides notice to Water NSW that they no longer require services in respect of the Government-Owned Meter.

6 Proportion of Voluntary Telemetry Uptake

- (a) The Proportion of Voluntary Telemetry Uptake for the period from the Commencement Date to 30 June 2022 is taken to be in the 0 - <25% Percentage Band.
- (b) Subject to clause 6(c), the Proportion of Voluntary Telemetry Uptake for each subsequent year of this determination is to be calculated as follows:

$$\frac{A}{B}$$

where:

- (1) **A** is Water NSW's estimate based on the best available information, of the total number of Voluntary Telemetric Meters that will operate by the end of that year, as notified by Water NSW to IPART before the beginning of that year, for publication on IPART's website; and
 - (2) **B** is Water NSW's estimate based on the best available information, of the total number of Potential Voluntary Telemetric Meters that will operate by the end of that year, as notified by Water NSW to IPART before the beginning of the year, for publication on IPART's website.
- (c) If, in respect of a relevant year, the value of 'B' in clause 6(b)(2) is 0, then the Proportion of Voluntary Telemetry Uptake for that year will be taken to be in the '75% or more' Percentage Band.
 - (d) If notification is not made by Water NSW in respect of a relevant year in accordance with clauses 6(b)(1) and/or 6(b)(2), then the Proportion of Voluntary Telemetry Uptake for that year will be taken to be:
 - (1) if the Proportion of Voluntary Telemetry Uptake for the previous year was less than 75%, in the next Percentage Band up from the previous year; and
 - (2) if the Proportion of Voluntary Telemetry Uptake for the previous year was equal to or greater than 75%, in the '75% or more' Percentage Band.

[Note: For example, if Water NSW fails to notify in accordance with clause 6(b)(1) in respect of a relevant year, and the Proportion of Voluntary Telemetry Uptake in the previous year was 35%, then the Proportion of Voluntary Telemetry Uptake in the relevant year will be taken to be in the 50%-<75% Percentage Band.]

Tables 15-19

Table 15 Annual scheme management charge ^a (\$)

| Proportion of Voluntary Telemetry Uptake | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| 0% - <25% | 73.26 | 73.26 x CPI ₁ | 73.26 x CPI ₂ | 73.26 x CPI ₃ |
| 25% - <50% | 66.01 | 66.01 x CPI ₁ | 66.01 x CPI ₂ | 66.01 x CPI ₃ |
| 50% - <75% | 58.75 | 58.75 x CPI ₁ | 58.75 x CPI ₂ | 58.75 x CPI ₃ |
| 75% or more | 51.49 | 51.49 x CPI ₁ | 51.49 x CPI ₂ | 51.49 x CPI ₃ |

a. The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.5(b) of Schedule 6 for any period under this determination to which this charge applies, and that is less than a full financial year.

Table 16 Annual Government-Owned Meter service charges^a

| Charge | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Meter service charge - operating costs (\$ per Government-Owned Meter that is not a channel meter) | 898.85 | 898.85 x CPI ₁ | 898.85 x CPI ₂ | 898.85 x CPI ₃ |
| Channel meter service charge - operating costs (\$ per Government-Owned Meter that is a channel meter) | 6,306.04 | 6,306.04 x CPI ₁ | 6,306.04 x CPI ₂ | 6,306.04 x CPI ₃ |
| Meter service charge - capital costs (\$ per Government-Owned Meter that is not a channel meter) | 0.00 | 0.00 x CPI ₁ | 0.00 x CPI ₂ | 0.00 x CPI ₃ |

a. The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.5(b) of Schedule 6 for any period under this determination to which this charge applies, and that is less than a full financial year.

Table 17 Annual telemetry service charge ^a (\$ per meter)

| Proportion of Voluntary Telemetry Uptake | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| 0% - <25% | 226.49 | 226.49 x CPI ₁ | 226.49 x CPI ₂ | 226.49 x CPI ₃ |
| 25% - <50% | 208.74 | 208.74 x CPI ₁ | 208.74 x CPI ₂ | 208.74 x CPI ₃ |
| 50% - <75% | 191.41 | 191.41 x CPI ₁ | 191.41 x CPI ₂ | 191.41 x CPI ₃ |
| 75% or more | 182.11 | 182.11 x CPI ₁ | 182.11 x CPI ₂ | 182.11 x CPI ₃ |

a. The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.5(b) of Schedule 6 for any period under this determination to which this charge applies, and that is less than a full financial year.

Table 18 Annual non-telemetry service charge ^a (\$ per meter)

| Proportion of Voluntary Telemetry Uptake | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| 25% - <50% | 218.57 | 218.57 x CPI ₁ | 218.57 x CPI ₂ | 218.57 x CPI ₃ |

| Proportion of Voluntary Telemetry Uptake | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|--|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| 50% - <75% | 218.57 | 218.57 x CPI ₁ | 218.57 x CPI ₂ | 218.57 x CPI ₃ |
| 75% or more | 218.57 | 218.57 x CPI ₁ | 218.57 x CPI ₂ | 218.57 x CPI ₃ |

a. The charges in this table are annual charges and must therefore be pro-rated in accordance with clause 2.5(b) of Schedule 6 for any period under this determination to which this charge applies, and that is less than a full financial year.

[Note: Water NSW may levy either a telemetry service charge or a non-telemetry service charge (not both) on a person to whom clause 4 applies, in accordance with that clause. Where the Proportion of Voluntary Telemetry Uptake is less than 25%, Water NSW may levy the telemetry service charge (not the non-telemetry service charge), even if the relevant meter is not read using telemetry.]

Table 19 Exit fee (\$ per meter)

| Input | Commencement Date to 30 June 2022 | 1 July 2022 to 30 June 2023 | 1 July 2023 to 30 June 2024 | 1 July 2024 to 30 June 2025 |
|-----------------------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Average capital expenditure | 0.00 | 0.00 x CPI ₁ | 0.00 x CPI ₂ | 0.00 x CPI ₃ |
| Daily depreciation | 0.00 | 0.00 x CPI ₁ | 0.00 x CPI ₂ | 0.00 x CPI ₃ |

Schedule 6 Definitions and interpretation

1 Definitions

1.1 General definitions

In this determination:

2017 Determination means IPART's determination of June 2017 titled *WaterNSW Prices for rural bulk water services from 1 July 2017*.

Aboriginal Cultural Licence means the category of access licence referred to in Schedule 3 of the Water Management Regulation as a 'regulated river (high security) Aboriginal cultural licence'.

ACCC means the Australian Competition and Consumer Commission.

BRC means the Dumaresq-Barwon Border Rivers Commission constituted under the New South Wales–Queensland Border Rivers Agreement made in 1946 and ratified under section 5 of the *New South Wales—Queensland Border Rivers Act 1947* (NSW).

Coastal Bulk Water Service has the meaning given in clause 1(a) of Schedule 2.

Coastal Valley has the meaning given in clause 2.9(b) of Schedule 6.

Commencement Date has the meaning given to that term in clause 3.2(a) of the Preliminary section.

CPI₁, **CPI₂** and **CPI₃** have the meanings given in clause 1.2 of Schedule 6.

Entitlement means the maximum quantity of water that a Licence Holder has a right to take from a Regulated River in a Valley by means of a Water Licence.

[Note: Clause 2.7 of this Schedule sets out how entitlement charges are calculated.]

Fish River Licence means the water management licence granted in May 2012 under Part 9 of the Water Act (NSW) pertaining to the taking and use of water from the Fish River and the Duckmaloi River, as amended or replaced from time to time (including, where replaced by a licence or approval under the Water Management Act).

Fish River Water Supply Scheme has the meaning given to that term in the Water NSW Act.

[Note: Schedule 3 sets out: (i) regulated charges in relation to the Fish River Water Supply Scheme, which are determined under the WCR and (ii) maximum prices for IPART Act Services supplied by Water NSW in the Fish River Water Supply Scheme, which are determined under the IPART Act.]

General Security Licence means a Water Licence of any of the following types (within the meaning of section 57 of the Water Management Act and the regulations made under that Act):

- (a) supplementary water access licence to the extent that it applies to the Lowbidgee Valley;
- (b) the following access licences:
 - (1) regulated river (conveyance) access licence;
 - (2) regulated river (general security) access licence;
 - (3) Murrumbidgee Irrigation (conveyance) access licence;

- (4) Coleambally Irrigation (conveyance) access licence; or
- (c) any other access licence that is not a High Security Licence or a supplementary water access licence.

Government-Owned Meter means a meter that is owned by the NSW Government and installed in connection with a Water Supply Work, including any such meter owned by Water NSW, WAMC or any other NSW government agency or state owned corporation.

High Security Licence means a Water Licence of any of the following types (within the meaning of section 57 of the Water Management Act):

- (a) local water utility access licence;
- (b) major utility access licence;
- (c) domestic and stock access licence; or
- (d) regulated river (high security) access licence.

Infrastructure Service has the meaning given to that term under the WCR.

IPART means the Independent Pricing and Regulatory Tribunal of New South Wales established under the IPART Act.

IPART Act means the *Independent Pricing and Regulatory Tribunal Act 1992* (NSW).

IPART Act Services has the meaning given to that term in clause 2.1(e) of Schedule 7.

Irrigation Corporation has the meaning given to that term under the Water Management Act.

Licence Holder means the holder of a Water Licence.

Licence Register means the Water Access Licence Register kept under the Water Management Act.

Major Customer means a customer in the Fish River Water Supply Scheme specifically identified in the Fish River Licence.

[Note: At the Commencement Date, the Major Customers are EnergyAustralia, Oberon Council, Lithgow City Council and Water NSW (Greater Sydney).]

MAQ refers to minimum annual quantity and has the meaning given in clauses 1(c) or 1(d) in Schedule 3, as the case may be.

MDB has the meaning given to the term 'Murray-Darling Basin' in section 18A of the Water Act (Cth).

[Note: An indicative map of the MDB is set out in Schedule 1A of the Water Act (Cth).]

MDB Bulk Water Services has the meaning given in clause 1(a) of Schedule 1.

MDB Valley has the meaning given in clause 2.9(a) of Schedule 6.

MDBA means the Murray-Darling Basin Authority, being the authority established under section 171 of the Water Act (Cth).

Meter Accuracy Test means a test, conducted at a customer's request, of a Government-Owned Meter to determine whether that Government-Owned Meter meets relevant accuracy standards.

Metering Requirements means the metering equipment requirements set out in the Water Management Regulation.

Minor Customer means a customer in the Fish River Water Supply Scheme that is not a Major Customer.

Miscellaneous Charge means any charge included in Schedule 4.

Monopoly Service has the meaning given to that term in clause 2.1(d) of Schedule 7.

New Government Meter Charge Trigger Day means, in respect of a Government-Owned Meter, the later of:

- (a) the day the meter becomes compliant with the Metering Requirements; and
- (b) if there is a date specified in the Water Management Regulation from which a temporary exemption from the Metering Requirements would cease to have effect in respect of the meter, that date.

New Metering Charge means any charge included in Schedule 5.

New Private Meter Charge Trigger Day means, in respect of a Privately-Owned Meter:

- (a) where a person is directed by the Minister under the Water Management Act to have a meter installed, the date by which that person is required to have an operational meter as specified in that direction; and
- (b) in all other circumstances, the date specified in the Water Management Regulation from which a temporary exemption from the Metering Requirements would cease to have effect in respect of the meter or, if no such date exists in respect of the meter, then the Commencement Date.

Percentage Band means, as the case may be:

- (a) 0-<25%;
- (b) 25%-<50%;
- (c) 50%-<75%; or
- (d) '75% or more'.

Potential Voluntary Telemetric Meter means a meter that operates (whether by telemetry or not) in respect of a person to whom Schedule 5 applies, that is not required under the Metering Requirements to use telemetry but could, in Water NSW's opinion based on the best available information, be practically read using telemetry and includes Voluntary Telemetric Meters.

[Note: For the avoidance of doubt, a meter that is subject to a temporary exemption from the Metering Requirements under the Water Management Regulation is not a Potential Voluntary Telemetric Meter.]

Pricing Principles means the *Pricing Principles for price approvals and determinations under the Water Charge (Infrastructure) Rules 2010 (July 2011)*.

Privately-Owned Meter means a meter that is not a Government-Owned Meter.

Proportion of Voluntary Telemetry Uptake means the proportion of voluntary telemetry uptake calculated in accordance with clause 6 of Schedule 5.

Regulated River has the meaning given to that term under the Water Management Act.

Rural Water Supply Customer means a customer in the Fish River Supply Scheme who is not an Urban Water Supply Customer.

Tagged Water Entitlement means a water Entitlement held by a Licence Holder that has been 'tagged' to an extraction point under section 71W of the Water Management Act.

Urban Water Supply Customer means, in relation to the Fish River Water Supply Scheme, a customer who receives IPART Act Services from Water NSW.

[Note: At the Commencement Date, the Urban Water Supply Customers are Oberon Council, Lithgow City Council and Water NSW (Greater Sydney).]

Valley means an MDB Valley or a Coastal Valley, as the case may be.

Voluntary Telemetric Meter means a meter that operates in respect of a person to whom Schedule 5 applies that uses telemetry and is not required under the Metering Requirements to use telemetry.

[Note: For the avoidance of doubt, a meter that is subject to a temporary exemption from the Metering Requirements under the Water Management Regulation is not a Voluntary Telemetric Meter.]

WAMC means the Water Administration Ministerial Corporation, being the corporation established under section 371 of the Water Management Act, and which is a continuation of, and the same legal entity as, the corporation of that name constituted by the *Water Administration Act 1986* (NSW) (by virtue of clause 17 of Schedule 9 of the Water Management Act).

Water Act (Cth) means the *Water Act 2007* (Cth).

Water Act (NSW) means the *Water Act 1912* (NSW).

Water Licence means an access licence referred to in section 56 of the Water Management Act, of any the following categories (as referred to in section 57 of that Act and the regulations made under that Act):

- (a) regulated river (high security) access licence;
- (b) regulated river (general security) access licence;
- (c) regulated river (conveyance) access licence;
- (d) supplementary water access licence;
- (e) major utility access licence;
- (f) local water utility access licence;
- (g) domestic and stock access licence;
- (h) Murrumbidgee Irrigation (conveyance) access licence;
- (i) Coleambally Irrigation (conveyance) access licence; or
- (j) any other category of access licence that authorises the extraction of water from a Regulated River.

[Note: For the avoidance of doubt, this determination does not apply to floodplain harvesting access licences.]

Water Management Act means the *Water Management Act 2000* (NSW).

Water Management Regulation means the *Water Management (General) Regulation 2018* (NSW).

Water NSW means the statutory corporation constituted under the Water NSW Act.

Water NSW Act means the *Water NSW Act 2014* (NSW).

Water Services Order means the *Independent Pricing and Regulatory Tribunal (Water Services) Order 2004*.

Water Supply Work has the meaning given to that term in the Water Management Act.

Water Supply Work Approval has the meaning given to that term in the Water Management Act.

WCR means the *Water Charge Rules 2010* (Cth). Unless stated otherwise, a reference in this determination to the WCR is a reference to those rules as in effect immediately before 1 July 2020.

Yanco Creek System has the meaning given to the term 'Yanco System' in Schedule 4 of the *Water Sharing Plan for the Murrumbidgee Regulated River Water Source 2016*.

1.2 Consumer Price Index

- (a) In this determination, CPI means the consumer price All Groups index number for the weighted average of eight capital cities, published by the Australian Bureau of Statistics, or if the Australian Bureau of Statistics does not or ceases to publish the index, then CPI will mean an index determined by IPART.
- (b) In this determination:

$$CPI_1 = \frac{CPI_{March2022}}{CPI_{March2021}}$$

$$CPI_2 = \frac{CPI_{March2023}}{CPI_{March2021}}$$

$$CPI_3 = \frac{CPI_{March2024}}{CPI_{March2021}}$$

where:

$CPI_{March2021}$ means CPI for the March quarter of 2021;

$CPI_{March2022}$ means CPI for the March quarter of 2022;

$CPI_{March2023}$ means CPI for the March quarter of 2023; and

$CPI_{March2024}$ means CPI for the March quarter of 2024.

2 Interpretation

2.1 General provisions

In this determination:

- (a) headings are for convenience only and do not affect the interpretation of this determination;
- (b) a reference to a schedule, clause, paragraph or table is a reference to a schedule to, clause of, paragraph in, or table in, this determination unless otherwise indicated;
- (c) for a regulated charge determined under the WCR, a construction that would promote the purpose or object expressly or impliedly underlying the WCR and the Pricing Principles is to be preferred to a construction that would not promote that purpose or object;

- (d) for a maximum price determined under the IPART Act, a construction that would promote a purpose or object expressly or impliedly underlying the IPART Act is to be preferred to a construction that would not promote that purpose or object;
- (e) words or expressions importing the singular include the plural and vice versa;
- (f) unless otherwise stated, a reference to a law or statute includes regulations, ordinances, by-laws, rules, codes and other instruments (including licences) under it and consolidations, amendments, re-enactments or replacements of them or of the law or statute itself;
- (g) where a word or expression is defined, other grammatical forms of that word or expression have a corresponding meaning;
- (h) a reference to a day is to a calendar day;
- (i) a reference to a Licence Holder's water take for the purposes of calculating a water take charge as that term is used in Schedules 1 and 2 (including an MDBA/BRC water take charge as that term is used in Schedule 1) means:
 - (1) where the Licence Holder has traded or transferred an allocation of water (including by "tagging" the relevant Water Licence) to a person whose extraction of water is measured by a Government-Owned Meter: the metered volume of water extracted by that person;
 - (2) where the Licence Holder has traded or transferred an allocation of water (including by "tagging" the relevant Water Licence) to a person whose extraction of water is not measured by a Government-Owned Meter:
 - (A) if Water NSW has access to relevant and reliable metering information – the metered volume of water extracted by that person; or
 - (B) if relevant and reliable metering information is not reasonably available to Water NSW – Water NSW's best estimate of the volume of water extracted by that person; or
 - (3) in any other case: the metered volume of water extracted by the Licence Holder;
- (j) a reference to a person includes a reference to the person's executors, administrators, successors, replacements (including, but not limited to, persons taking by novation), agents and assigns;
- (k) a reference to a body, whether statutory or not:
 - (1) which ceases to exist; or
 - (2) whose powers or functions are transferred to another body,is a reference to the body which replaces it or which substantially succeeds to its powers or functions; and
- (l) a reference to a business name which is replaced by a different business name is taken to be a reference to the replacement business name.

2.2 Explanatory notes, alternative text and clarification notice

- (a) Explanatory notes and examples and alternative text do not form part of this determination, but in the case of uncertainty may be relied on for interpretation purposes.
- (b) IPART may publish a clarification notice in the NSW Government Gazette to correct any manifest error in this determination. Such a clarification notice is taken to form part of this determination.

2.3 Prices exclusive of GST

Prices or charges specified in this determination do not include GST.

2.4 Water NSW's billing cycle

For the avoidance of doubt, nothing in this determination affects when Water NSW may issue a bill to a customer for charges under this determination.

2.5 Annual charges and pro-rating

- (a) The annual charges in this determination apply to each financial year (1 July to 30 June inclusive).
- (b) In respect of any period after the Commencement Date that is less than a full financial year, the annual charges and annual discounts in this determination (other than charges calculated by reference to water take) will be pro-rated for that period, based on the proportion that the number of days in that period bears to the number of days in the financial year.

[Note: For example, if this determination commences on 1 October 2021 the annual charges in this determination will be pro-rated based on the number of days in the period from 1 October 2021 to 30 June 2022 as a proportion of the total number of days in the financial year from 1 July 2021 to 30 June 2022. The annual charges for the period from 1 July 2021 to 30 September 2021 will be determined under the 2017 Determination and pro-rated in accordance with that determination.]

- (c) Different annual charges apply to Government-Owned Meters and Privately-Owned Meters. Where a person switches from a Government-Owned Meter to a Privately-Owned Meter (or vice versa), the annual charges will be pro-rated based on the proportion of days in the year that the person had a:
 - (1) Government-Owned Meter installed; and
 - (2) Privately-Owned Meter installed.
- (d) Different annual charges apply to meters that are read using telemetry and meters that are not read using telemetry. Where a person switches from a meter read using telemetry to one that is not read using telemetry (or vice versa), the annual charges will be pro-rated based on the proportion of days in the year that the person had a meter installed that was:
 - (1) read using telemetry; and
 - (2) not read using telemetry.

[Note: Clause 2.5 is not intended to prohibit Water NSW from issuing a bill for any period before the Commencement Date.]

2.6 Billing on behalf of WAMC

Nothing in this determination prevents Water NSW from billing on behalf of WAMC for services provided by WAMC.

2.7 Entitlement charges

For the purpose of calculating an entitlement charge, as that term is used in Schedules 1 and 2 (including an MDBA/BRC entitlement charge as that term is used in Schedule 1):

- (a) a reference to an Entitlement is a reference to an Entitlement without regard to any part of the Entitlement that may be carried over from a previous year;
- (b) where the share component of the Water Licence is expressed as a volume, the entitlement charge is expressed in dollars per megalitre of Entitlement; and
- (c) where the share component of the Water Licence is expressed in unit shares or as a proportion of available water, the entitlement charge is expressed in dollars per unit share.

2.8 Metering of water take charges for Irrigation Corporations

The metering of water take charges for the supply of water to an Irrigation Corporation from a Valley is to be determined at the point or points of off-take from the Regulated River or as set out in that Irrigation Corporation's Water Supply Work Approval.

2.9 MDB and Coastal Valleys

- (a) In this determination, a reference to an MDB Valley is a reference to the relevant Valley in the MDB more fully described in the following table:

| MDB Valley | Description |
|-------------------------|--|
| Regulated Rivers | |
| Border | If a relevant water sharing plan under the Water Management Act is in place for the Border Valley, then the water sources as defined in that plan. In any other case: Border Rivers including the Severn, the Macintyre and Dumaresq rivers down to Mungindi. |
| Gwydir | If a relevant water sharing plan under the Water Management Act is in place for the Gwydir Valley, then the water sources as defined in that plan. In any other case: Gwydir River and Gwydir Wetlands, Mehi river, Gil Creek and Moomin Creek to the junction with the Barwon River. |
| Namoi | If a relevant water sharing plan under the Water Management Act is in place for the Namoi, then the water sources as defined in that plan. In any other case: Namoi River to Peel River and Pian Creek to Barwon River. |

| | |
|--------------|---|
| Peel | If a relevant water sharing plan under the Water Management Act is in place for the Peel Valley, then the water sources as defined in that plan. In any other case: Peel River to junction with Namoi River. |
| Lachlan | If a relevant water sharing plan under the Water Management Act is in place for the Lachlan Valley and Belubula River, then the water sources as defined in those plans. In any other case: Lachlan and Belubula River to the Murrumbidgee River junction. |
| Macquarie | If a relevant water sharing plan under the Water Management Act is in place for the Macquarie Valley, then the water sources as defined in that plan. In any other case: Macquarie River, the Cudgegong and Bogen rivers to junction with Darling River. |
| Murray | If a relevant water sharing plan under the Water Management Act is in place for the Murray Valley, then the water sources as defined in that plan. In any other case: Murray River including the Darling River below Menindee. |
| Murrumbidgee | If a relevant water sharing plan under the Water Management Act is in place for the Murrumbidgee Valley, then the water sources as defined in that plan (excluding Lowbidgee extractions). In any other case: Murrumbidgee River to junction with Murray River, including Yanco, Columbo and Billabong Creeks and Tumut River. |
| Lowbidgee | If a relevant water sharing plan under the Water Management Act is in place for the Lowbidgee Valley, then the water sources for the Lowbidgee area as defined in that plan. In any other case: the area of the former Lowbidgee Flood Control and Irrigation District, as constituted under the former Part 7 of the Water Act (NSW), plus a small additional area required to incorporate the whole of the water body Lake Marimley in the water source. |

- (b) In this determination, a reference to a Coastal Valley is a reference to the relevant Valley more fully described in the following table:

| Coastal Valley | Description |
|-------------------------|---|
| Regulated Rivers | |
| North Coast | If a water sharing plan under the Water Management Act is in place for the North Coast Valley, then the water sources as defined in that plan. In any other case: Regulated flows for Iron Pot and Eden Creeks. |
| Hunter | If a water sharing plan under the Water Management Act is in place for the Hunter Valley and Paterson River, then the water sources as defined in those plans. In any other case: Hunter River, including Paterson River and Glennies Creek. |
| South Coast | If a water sharing plan under the Water Management Act is in place for the South Coast Valley, then the water sources as defined in that plan. In any other case: Brogo and Bega River Catchments. |

- (c) A reference in this determination to the 'relevant MDB Valley' or the 'relevant Coastal Valley' (other than in the case of the water take component of a licence) is a

reference to the MDB Valley or the Coastal Valley for a Licence Holder as set out in the Licence Register. In the case of the water take component of a licence, the 'relevant MDB Valley' or the 'relevant Coastal Valley' is:

- (1) in the case of a Tagged Water Entitlement: the MDB Valley or Coastal Valley as set out in the Licence Register for the Licence Holder whose nomination of the 'tagged' extraction point has been approved under section 71W of the Water Management Act; and
- (2) in the case of a licence transfer, or an assignment of rights or water allocations, each under Chapter 3, Part 2 of the Water Management Act: the MDB Valley or Coastal Valley as set out in the Licence Register for the transferor or assignee (as the case may be).

Schedule 7 Requirements of the WCR and IPART Act

1 Requirements of the WCR

1.1 IPART's determination under the WCR

- (a) Water NSW's pricing proposal was submitted on 30 June 2020 and is therefore a 'transitional application' under rule 81(2) (Transition for existing Part 6 operators) of the WCR (as currently in force). As such, the charges to which Water NSW's application relates are to be determined or approved in accordance with Part 6 of the WCR as in force immediately before 1 July 2020 (see the definition of WCR in Schedule 6).
- (b) Water NSW has applied under rule 25 of the WCR for approval of its regulated charges for the regulatory period commencing 1 July 2021. Under rule 29 of the WCR, IPART must not approve the regulated charges set out in Water NSW's application unless it is satisfied that:
 - (1) Water NSW's regulatory asset base, which is used to calculate the regulated charges, has been determined in accordance with Schedule 2 of the WCR;
 - (2) Water NSW's total forecast revenue (from all sources) for the regulatory period is reasonably likely to meet the prudent and efficient costs of providing Infrastructure Services in that regulatory period; and
 - (3) the forecast revenue from regulated charges is reasonably likely to meet that part of the prudent and efficient costs of providing Infrastructure Services that is not met from other revenue.
- (c) Under rule 29(3) of the WCR, if IPART is not satisfied as to the matters referred to in clause 1.1(b)(1) to (3) above, then IPART must determine Water NSW's regulated charges:
 - (1) on the basis of Water NSW's regulatory asset base, determined in accordance with Schedule 2 of the WCR; and
 - (2) so as to be satisfied as to the matters referred to in clause 1.1(b)(2) and (3) above.
- (d) IPART is not satisfied as to the matters referred to in clause 1.1(b)(1) to (3) above in relation to the regulated charges set out in Water NSW's application, and has therefore determined Water NSW's regulated charges in accordance with the requirements of rule 29(3) of the WCR.
- (e) In making this determination, IPART has also:
 - (1) had regard to whether the regulated charges would contribute to achieving the Basin water charging objectives and principles set out in Schedule 2 of the Water Act (Cth), consistent with rule 29(4) of the WCR; and
 - (2) applied the Pricing Principles in accordance with the conditions of its accreditation by the ACCC under Part 9 of the WCR.

1.2 Regulated charges

- (a) For the purposes of this determination, Water NSW's 'regulated charges' are:
 - (1) the fees or charges payable to Water NSW for access to Water NSW's irrigation network, or services provided in relation to that access; and
 - (2) Water NSW's bulk water charges.
- (b) The Regulated Rivers in MDB Valleys for which IPART has determined regulated charges are described in clause 2.9(a) of Schedule 6. In summary, Schedules 1 and 4 cover Regulated Rivers in the following MDB Valleys:
 - (1) Border;
 - (2) Gwydir;
 - (3) Namoi;
 - (4) Peel;
 - (5) Lachlan;
 - (6) Macquarie;
 - (7) Murray;
 - (8) Murrumbidgee; and
 - (9) Lowbidgee.
- (c) Under section 91(3) of the Water Act (Cth), the WCR do not apply to charges for 'urban water supply activities' beyond the point at which the water has been removed from a Basin water resource. As a result, in the Fish River Water Supply Scheme, IPART sets maximum prices for Urban Water Supply Customers under the IPART Act, and regulated charges for Rural Water Supply Customers under the WCR. The regulated charges that Water NSW may levy in the Fish River Water Supply Scheme are set out in Schedule 3, and the Miscellaneous Charges in Schedule 4.

1.3 Monitoring

The ACCC retains monitoring, enforcement and advisory functions under the Water Act (Cth) in relation to the determination of charges under the WCR.

2 Determination under the IPART Act

2.1 Coverage of this determination

- (a) Section 11 of the IPART Act provides IPART with a standing reference to conduct investigations and make reports to the Minister on the determination of the pricing for a government monopoly service that is supplied by a government agency specified in Schedule 1 to the IPART Act.
- (b) Water NSW is listed as a government agency in Schedule 1 to the IPART Act, but excluding the services provided by Water NSW in respect of which fees or charges may be approved or determined in accordance with Parts 6 or 7 of the WCR, or the applied provisions² under Part 3B of the IPART Act.
- (c) Section 4(1) of the IPART Act provides that a government monopoly service is a service supplied by a government agency and declared to be a government monopoly service. Section 4(7) of the IPART Act provides that Water NSW is taken to be the supplier of any government monopoly services for which fees and charges are payable under the Water NSW Act.
- (d) The Water Services Order declares certain services provided by the 'State Water Corporation' to be government monopoly services, namely:
 - (1) the making available of water;
 - (2) the making available of the State Water Corporation's water supply facilities; or
 - (3) the supplying of water, whether by means of the State Water Corporation's water supply facilities or otherwise,(together, **Monopoly Services**).

References to the former State Water Corporation in the Water Services Order are to be read as references to Water NSW, in accordance with clause 24 of Schedule 2 of the Water NSW Act.
- (e) Accordingly, under the IPART Act, IPART is to conduct an investigation and make a report to the Minister that determines maximum prices for Monopoly Services supplied by Water NSW for which fees and charges may not be determined under the WCR (**IPART Act Services**).
- (f) Schedules 2 and 4 cover Water NSW's IPART Act Services that are supplied in the:
 - (1) North Coast;
 - (2) Hunter; and
 - (3) South Coast.
- (g) For Urban Water Supply Customers in the Fish River Water Supply Scheme, the maximum prices that Water NSW may levy are set out in Schedule 3, and the Miscellaneous Charges in Schedule 4.

² The 'applied provisions' include, among other things, Divisions 2, 3 and 4 of Part 6 of the WCR, and Schedule 2 of the WCR. These provide for the determination of regulated charges for Water NSW.

2.2 Requirements of the IPART Act

- (a) In determining the pricing of the IPART Act Services, IPART has had regard to a broad range of matters, including the matters in section 15(1) of the IPART Act.
- (b) In accordance with section 13A of the IPART Act, IPART has fixed maximum prices for the IPART Act Services supplied by Water NSW.
- (c) Under section 18(2) of the IPART Act, Water NSW may not fix a price for IPART Act Services below that determined by IPART without the approval of the Treasurer.

2.3 Monitoring

For IPART Act Services supplied by Water NSW, IPART may monitor Water NSW's performance for the purposes of:

- (a) establishing and reporting on the level of Water NSW's compliance with this determination in relation to the supply of IPART Act Services; and
- (b) preparing a periodic review of pricing policies in respect of the IPART Act Services.



IPART Independent
Pricing and Regulatory
Tribunal | NSW

Review of Water NSW's rural bulk water
prices
From 1 October 2021 to 30 June 2025

Final Report

September 2021

Water >>

Tribunal Members

The Tribunal members for this review are:

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The Independent Pricing and Regulatory Tribunal (IPART)

We make the people of NSW better off through independent decisions and advice. IPART's independence is underpinned by an Act of Parliament. Further information on IPART can be obtained from IPART's [website](#).

Acknowledgment of Country

IPART acknowledges the Traditional Custodians of the lands where we work and live. We pay respect to Elders, past, present and emerging.

We recognise the unique cultural and spiritual relationship and celebrate the contributions of First Nations peoples.

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Chapter 1 >>

Executive summary

01

The Independent Pricing and Regulatory Tribunal of NSW (IPART) has reviewed the prices Water NSW can charge its customers for rural bulk water services. These customers include agricultural producers, environmental water holders, as well as urban water suppliers in valleys on the state's regulated river systems.

Water NSW owns and operates the dams and other assets that collect, store and deliver bulk water in NSW and provide services to bulk water customers. Sustainable, reliable and efficient provision of these services is critical to the agricultural sector and the wellbeing of communities in rural and regional areas. It is also important to the state's ability to manage the environmental impacts of drought and climate change.

The prices we set aim to recover a share of the efficient costs of providing rural bulk water services and support sustainable ongoing service delivery. The remaining share of these costs is funded by the NSW Government on behalf of the broader community. The prices include:

- **Bulk water charges**, which are annual prices to recover customers' share of the efficient costs of delivering Water NSW's rural bulk water services. They are levied as a 2-part price, comprising:
 - a fixed entitlement charge – \$ per megalitre (ML) of licensed entitlement
 - a variable usage charge^a – \$ per ML of water used (extracted from the river).
- **Murray–Darling Basin Authority (MDBA) and Dumaresq–Barwon Border Rivers Commission (BRC) charges**, which are levied on licence holders in the Murray and Murrumbidgee and Border valleys to recover some of the funds NSW contributes to these cross-jurisdictional bodies. These charges are also levied as a 2-part price, comprising fixed entitlement and variable usage charges.
- **Metering reform charges**, which are annual charges to recover some of the costs of implementing the NSW Government's non-urban metering reform requirements. These reforms strengthen metering and compliance and as a result, protect licence holder rights.
- **Miscellaneous charges**, which are fee-for-service charges for a range of other services.

In making our 2021 Determination, we are guided by different legislation in different valleys. For the 9 valleys in the Murray–Darling Basin (MDB) and rural customers in the Fish River Water Supply Scheme (FRWS),^b we must comply with the Commonwealth Government's Water Charge Rules 2010 (Cth) (WCR).^c The WCR require us to set prices that fully recover Water NSW's efficient costs that are not met from other sources.

For the 3 valleys in coastal regions of NSW (Coastal valleys) and urban customers in the FRWS,^d we must meet the requirements in the *Independent Pricing and Regulatory Tribunal Act 1992* (the IPART Act). The IPART Act provides us with more flexibility in transitioning prices to efficient costs than the WCR.

^a In our 2021 Determination, the variable usage charge is also referred to as the "water take charge".

^b Energy Australia and minor customers.

^c Previously the Water Charge Rules 2010 (Cth) (WCR) were referred to as the Commonwealth Government's Water Charge (Infrastructure) Rules 2010.

^d Oberon and Lithgow city councils, and Water NSW (Greater Sydney).

We have completed our review of these prices and made decisions on the prices to apply from 1 October 2021 to 30 June 2025 (the 2021 determination period). This report outlines these decisions and explains how and why we reached them.

1.1 Price rises are necessary for sustainable ongoing service delivery

Our review found that for Water NSW to deliver effective services into the future, its expenditure needs to be higher than we allowed for when we last set its prices in 2017. Otherwise, customers may be worse-off in the long-term, as Water NSW may not be able to deliver effective services and maintain service quality into the future. In particular, Water NSW needs higher levels of operating expenditure to maintain its assets to an acceptable quality.

Well-maintained assets are important for customers, to provide the levels of service they seek, and to the community in general. The customer share of Water NSW's efficient costs is around 19% higher than when we last set prices.

We consider it is appropriate for customers to contribute to the additional expenditure required through higher prices. However, our pricing decisions ensure that they only pay for efficient expenditure.

1.2 Prices and customer bills are generally higher

Under our pricing decisions, over the 2021 determination period:

- Bulk water charges^e increase (on average) by about 29% for entitlement charges and 31% for usage charges (plus inflation) in most valleys. This returns prices and bills to levels similar to those under the 2014 Australian Consumer and Competition Commission (ACCC) Decision. However, in the North Coast and South Coast valleys, the charges remain constant and increase by inflation only.
- MDBA charges generally increase (by up to about 15%, plus inflation, for some charges), while BRC charges decrease or increase slightly.
- Charges for FRWS customers increase (by up to 36%, plus inflation, for some charges), except for Oberon Council, where charges will be held constant and increase by inflation only.
- Most miscellaneous charges are held constant and increase by inflation only. However, we have not set an Environmental Gauging Station charge. In the past, Water NSW did not provide this service or incur any costs relating to this charge. Further, we do not expect them to be provided/incurred during the 2021 determination period.

^e Excluding MDBA and BRC charges.

1.2.1 Bulk water charges increase by 30% on average

Under our decision, bulk water charges increase (before inflation) in all valleys except the North Coast and the South Coast valleys (Table 1.1 and Table 1.2). These charges increase by an average of 29% for entitlement charges and 31% for usage charges.

The key driver of this general price increase is our decision on the customer share of Water NSW's efficient costs. These costs, to be recovered from customers, are around \$56.4 million or 19% higher than those we used to set current prices in 2017. However, they are lower than the customer share under Water NSW's proposal for most valleys. As a result, our bulk water charges are also lower than Water NSW proposed in most valleys. In some valleys, they are significantly lower.^f

The price increases vary widely across the valleys and the different types of charges. The highest increase is 104.8% for the general security entitlement charge in the Lowbidgee valley. The lowest is 1.0% for the high security entitlement charge in the North Coast valley. This variation reflects differences in Water NSW's efficient costs across valleys. It also reflects differences in the size of customer bases, the types of charge levied, and the ratio of fixed-to-variable price components across valleys.

In setting prices, we generally maintained the pricing approaches and the price structures we adopted for the 2017 Determination.

^f In its June 2020 pricing proposal, Water NSW proposed setting prices for 2021-22 that would not recover its proposed costs. However, the WCR, which we used to set prices for the MDB valleys, do not allow for prices that do not recover efficient costs. To make meaningful comparisons, we modelled what constant prices (across a 4-year determination period) for each valley would be if Water NSW fully recovered its proposed costs over a 4-year determination period. It is these modelled prices that we present in this report as 'Water NSW's proposed' prices.

Table 1.1 Decision on bulk water entitlement prices for the 2021 determination period (\$/ML, \$2021–22)

| Valley | Current 2020–21 (\$2020–21) | Decision for 2021 Determination | Change current to decision |
|--|--------------------------------|------------------------------------|-------------------------------|
| High security entitlement charge | | | |
| Border | \$5.74 | \$6.58 | 14.6% |
| Gwydir | \$11.93 | \$17.40 | 45.9% |
| Namoi | \$18.40 | \$28.93 | 57.2% |
| Peel | \$44.77 | \$61.36 | 37.1% |
| Lachlan | \$16.56 | \$25.10 | 51.6% |
| Macquarie | \$14.55 | \$20.18 | 38.7% |
| Murray | \$1.66 | \$2.26 | 36.1% |
| Murrumbidgee | \$3.18 | \$4.17 | 31.1% |
| Lowbidgee ^a | N/A | N/A | N/A |
| North Coast | \$12.69 | \$12.82 | 1.0% |
| Hunter | \$14.15 | \$19.94 | 40.9% |
| South Coast | \$33.19 | \$33.56 | 1.1% |
| General security entitlement charge | | | |
| Border | \$2.13 | \$2.41 | 13.1% |
| Gwydir | \$3.75 | \$4.04 | 7.7% |
| Namoi | \$8.58 | \$10.10 | 17.7% |
| Peel | \$4.33 | \$5.82 | 34.4% |
| Lachlan | \$2.94 | \$3.71 | 26.2% |
| Macquarie | \$3.07 | \$3.94 | 28.3% |
| Murray | \$0.81 | \$0.99 | 22.2% |
| Murrumbidgee | \$1.19 | \$1.43 | 20.2% |
| Lowbidgee ^a | \$0.84 | \$1.72 | 104.8% |
| North Coast | \$9.83 | \$9.94 | 1.1% |
| Hunter | \$10.98 | \$15.49 | 41.1% |
| South Coast | \$17.41 | \$17.60 | 1.1% |

a. Lowbidgee has only supplementary licences.

Note: Excludes MDBA/BRC costs.

Source: IPART analysis.

Table 1.2 Decision on bulk water usage prices for the 2021 determination period (\$/ML, \$2021–22)

| Valley | Current 2020–21 (\$2020–21) | Decision for 2021 Determination | Change current to decision |
|------------------------|-----------------------------|---------------------------------|----------------------------|
| Border | \$5.86 | \$7.03 | 20.0% |
| Gwydir | \$12.79 | \$17.19 | 34.4% |
| Namoi | \$21.52 | \$30.88 | 43.5% |
| Peel | \$19.78 | \$24.51 | 23.9% |
| Lachlan | \$20.51 | \$31.17 | 52.0% |
| Macquarie | \$14.84 | \$21.64 | 45.8% |
| Murray | \$2.06 | \$2.93 | 42.2% |
| Murrumbidgee | \$3.57 | \$4.97 | 39.2% |
| Lowbidgee ^a | N/A | N/A | N/A |
| North Coast | \$18.77 | \$18.98 | 1.1% |
| Hunter | \$13.60 | \$19.13 | 40.7% |
| South Coast | \$18.60 | \$18.80 | 1.1% |

a. Lowbidgee has only supplementary licences.

Note: Excludes MDBA/BRC costs.

Source: IPART analysis.

The average price increase is around 30%, but most customers' bills will not increase by this much. This is because most water usage, and customers, are in the southern valleys where price rises are lower and offset by much smaller increases in MDBA and BRC charges.

1.2.2 MDBA charges increase by up to 15%

Under our pricing decisions, MDBA high security entitlement charges and usage charges are between 7.5% and 14.9% higher than current prices (before inflation). The MBDA general security entitlement charges are slightly lower (before inflation). BRC charges are lower for both entitlement types, with the BRC usage slightly higher (Table 1.3).

However, these prices are substantially lower than those Water NSW proposed because we:

- changed how we set prices to recover the costs of new infrastructure funded by the MDBA and BRC
- set lower efficient costs for the MDBA, in line with our finding that proposed expenditure on salt interception schemes are water management costs rather than bulk water costs⁹
- set lower efficient costs for the BRC.

⁹ We have therefore included the costs of the salt interception schemes (SIS) in our prices for the Water Administration Ministerial Corporation (WAMC) which we are also reviewing. Our Final Report on WAMC's water management prices is available on our [website](#).

Table 1.3 Decision on MDBA and BRC charges for the 2021 determination period (\$/ML, \$2021–22)

| Valley | Current 2020–21 (\$2020–21) | Decision for 2021 Determination | Change current to decision |
|--|--------------------------------|------------------------------------|-------------------------------|
| High security entitlement charge | | | |
| Border | \$4.97 | \$4.84 | -2.6% |
| Murray | \$7.83 | \$8.64 | 10.3% |
| Murrumbidgee | \$1.73 | \$1.86 | 7.5% |
| General security entitlement charge | | | |
| Border | \$1.85 | \$1.77 | -4.3% |
| Murray | \$3.83 | \$3.80 | -0.8% |
| Murrumbidgee | \$0.65 | \$0.64 | -1.5% |
| Usage charge | | | |
| Border | \$0.84 | \$0.86 | 2.4% |
| Murray | \$1.61 | \$1.85 | 14.9% |
| Murrumbidgee | \$0.33 | \$0.37 | 12.1% |

Source: IPART analysis.

1.2.3 Most FWRS charges increase by between 5% and 36%

Most charges for FRWS customers increase (before inflation) (Table 1.4). The highest increase is 36% for the usage charge for filtered water major customers.

Prices for Oberon Council will be held constant at 2020–21 levels. Because we are not required to set prices at full cost recovery levels for Oberon Council, we decided Water NSW should bear the cost of holding prices constant.

We also changed how we set prices for filtered water customers. To ensure these prices reflect the chemical and energy costs of providing filtered water services, usage relates to the cost of producing an additional unit of filtered water. This is called 'short-run marginal cost' pricing.

This change means filtered customers pay higher usage charges and lower fixed charges. The shift in price structure means greater cost reductions from saving water or when water is not available. We have not changed how we set prices for unfiltered water customers.

Table 1.4 Decision on FRWS bulk water prices for the 2021 determination period (\$/kL, \$2021–22)

| | Current 2020–21 (\$2020–21) | Decision for 2021 Determination | Change current to decision |
|--|--------------------------------|------------------------------------|-------------------------------|
| Bulk raw water | | | |
| Minimum Annual Quantity (MAQ) (\$/kL) | | | |
| Major customers (other than Oberon Council) | \$0.42 | \$0.49 | 16.7% |
| Oberon Council | \$0.42 | \$0.42 | 0.0% |
| Minor customers (annual bill) | \$84.00 | \$98.00 | 16.7% |
| Usage up to MAQ (\$/kL) | | | |
| Major customers (other than Oberon Council) | \$0.26 | \$0.33 | 26.9% |
| Oberon Council | \$0.26 | \$0.26 | 0.0% |
| Minor customers | \$0.26 | \$0.33 | 26.9% |
| Usage in excess of MAQ (\$/kL) | | | |
| Major customers (other than Oberon Council) | \$0.68 | \$0.82 | 20.6% |
| Oberon Council | \$0.68 | \$0.68 | 0.0% |
| Minor customers | \$0.68 | \$0.82 | 20.6% |
| Bulk filtered water | | | |
| MAQ (\$/kL) | | | |
| Major customers | \$0.68 | \$0.86 | 26.5% |
| Minor customers (annual bill) | \$164.00 | \$172.00 | 4.9% |
| Usage up to MAQ (\$/kL) | | | |
| Major customers | \$0.39 | \$0.53 | 35.9% |
| Minor customers | \$0.50 | \$0.53 | 6.0% |
| Usage in excess of MAQ (\$/kL) | | | |
| Major customers | \$1.07 | \$1.39 | 29.9% |
| Minor customers | \$1.32 | \$1.39 | 5.3% |

Source: Water NSW pricing proposal to IPART, June 2020 and IPART analysis.

1.2.4 Most miscellaneous charges remain constant

We decided to hold most miscellaneous charges constant over the 2021 Determination and increase them by inflation only. For our 2017 Determination, we extensively reviewed Water NSW's miscellaneous charges. We generally maintained our 2017 pricing approaches for the 2021 determination period.

However, we did not set an Environmental Gauging Station (EGS) charge. While this charge has been included in previous determinations, it has never been applied because Water NSW has not provided the services or incurred the costs that relate to this charge. Our decision to not set this charge going forward reflects our view that we do not expect Water NSW to provide these services and incur these costs during the 2021 determination period.

1.3 Increases to typical annual bills vary widely

The impact of our bulk water charges (including BRC and MDBA charges) on customers' annual bills depends on their valley, and whether they hold high security or general security entitlements (Table 1.5 and Figure 1.1).

For a high security customer with 500 ML of entitlements and 100% usage, our prices would increase their annual bulk water bill for 2021–22 by between:

- 11% and 52% in MDB valleys (compared with 37% and 59% under Water NSW's proposal)
- 1% and 41% in Coastal valleys (compared with 1% and 43% under Water NSW's proposal).

For a typical general security customer with 500 ML of entitlements and 60% usage, our prices would increase their annual bulk water bill for 2021–22 by between:

- 11% and 105% in MDB valleys (compared with 30% and 102% under Water NSW's proposal)
- 1% and 41% in Coastal valleys (compared with 1% and 43% under Water NSW's proposal).

These increases generally reflect an increase in Water NSW's efficient costs.

Stakeholders' submissions to our Issues Paper expressed concerns about the affordability of Water NSW's proposed bill increases. In particular, low water allocations in recent years and the COVID-19 pandemic have affected rural and regional businesses' profitability. In addition, Water NSW's rural bulk water customers also face increases in Water Administration Ministerial Corporation (WAMC) water management charges.

For the MDB valleys, we must set prices according to the WCR. That is, we must set prices that are likely to recover the efficient costs of delivering services; we have no flexibility to set lower prices for affordability reasons.

However, our analysis of the affordability of our prices indicates that they are reasonable. This includes our analysis of:

- bills for comparable services in other jurisdictions
- prices compared with the value of farming businesses' irrigated agricultural production
- the market value of allocations and entitlements traded on the water market over the 2019–20 period.

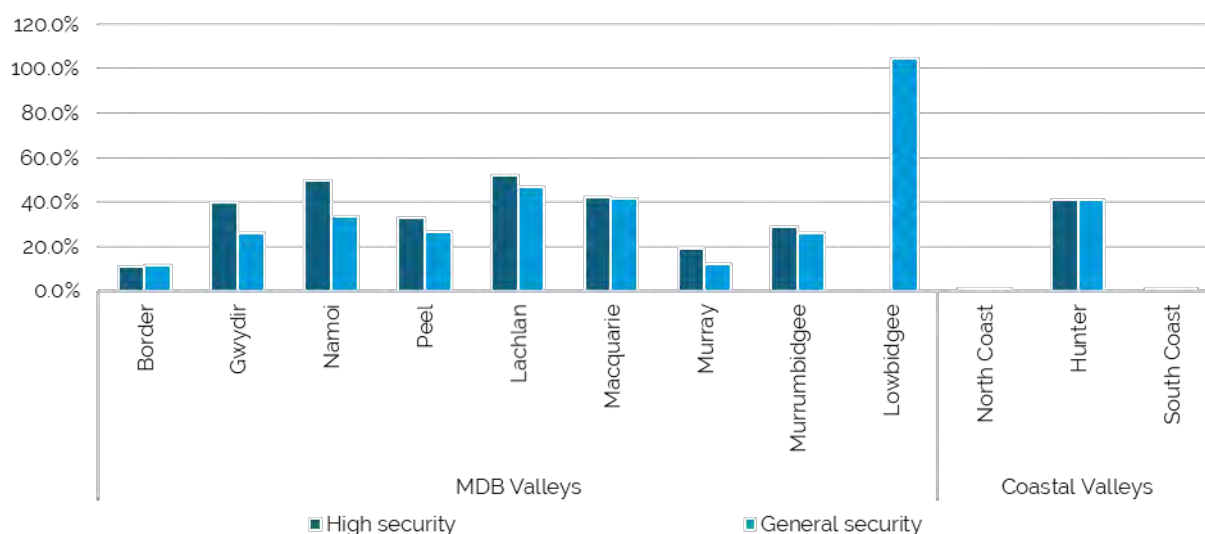
Table 1.5 Typical annual bills by valley, including MDBA and BRC costs (\$2021–22)

| | Current 2020–21 (\$2020–21) | Final Report (\$2021–22) | Change from current to Final Report |
|-------------------------|--------------------------------|-----------------------------|--|
| High security | | | |
| Border | \$8,705 | \$9,655 | 10.9% |
| Gwydir | \$12,360 | \$17,295 | 39.9% |
| Namoi | \$19,960 | \$29,905 | 49.8% |
| Peel | \$32,275 | \$42,935 | 33.0% |
| Lachlan | \$18,535 | \$28,135 | 51.8% |
| Macquarie | \$14,695 | \$20,910 | 42.3% |
| Murray | \$6,580 | \$7,840 | 19.1% |
| Murrumbidgee | \$4,405 | \$5,685 | 29.1% |
| Lowbidgee | N/A | N/A | N/A |
| North Coast | \$15,730 | \$15,900 | 1.1% |
| Hunter | \$13,875 | \$19,535 | 40.8% |
| South Coast | \$25,895 | \$26,180 | 1.1% |
| General security | | | |
| Border | \$4,000 | \$4,457 | 11.4% |
| Gwydir | \$5,712 | \$7,177 | 25.6% |
| Namoi | \$10,746 | \$14,314 | 33.2% |
| Peel | \$8,099 | \$10,263 | 26.7% |
| Lachlan | \$7,623 | \$11,206 | 47.0% |
| Macquarie | \$5,987 | \$8,462 | 41.3% |
| Murray | \$3,421 | \$3,829 | 11.9% |
| Murrumbidgee | \$2,090 | \$2,637 | 26.2% |
| Lowbidgee | \$420 | \$860 | 104.8% |
| North Coast | \$10,546 | \$10,664 | 1.1% |
| Hunter | \$9,570 | \$13,484 | 40.9% |
| South Coast | \$14,285 | \$14,440 | 1.1% |

Notes: Includes BRC costs in the Border valley and MDBA costs in the Murray and Murrumbidgee valleys. The Lowbidgee valley has supplementary licences that are charged fixed entitlement charges only.

Source: IPART analysis.

Figure 1.1 Typical annual bill impacts for customers (% change from 2020–21 to 2021–22)



Notes: Includes MDBA and BRC charges. Bill increases are based on a medium user with a 500 ML general security entitlement, and 60% usage.

Data source: IPART analysis.

1.4 Water NSW's efficient costs are higher, but less than it proposed

Water NSW's average annual cost allowance over the 2021 determination period is \$14.1 million (or 12.9%) higher than the allowance we used in 2017 to set its current prices. This allowance provides for a step change in its expenditure to help sustain key performance service areas – including maintenance, drought resilience, dam safety and fishway construction.

Although significant, the increase in the efficient cost allowance is less than what Water NSW proposed. We removed proposed expenditure from this allowance where Water NSW did not sufficiently demonstrate it is warranted and efficient. For example, we:

- reduced its proposed operating costs by \$14.9 million to reflect that we consider it can be more efficient with its day-to-day expenditure
- reduced its proposed capital expenditure by \$59.1 million, to reflect potential efficiency savings in infrastructure investment and to defer or reduce the cost of other capital projects.

We also changed how we calculate efficient MDBA and BRC costs. Passing through MDBA and BRC capital expenditure more slowly shares the capital costs with all future users of the assets. At least in the short term, this approach means MDBA and BRC charges are significantly lower than proposed.

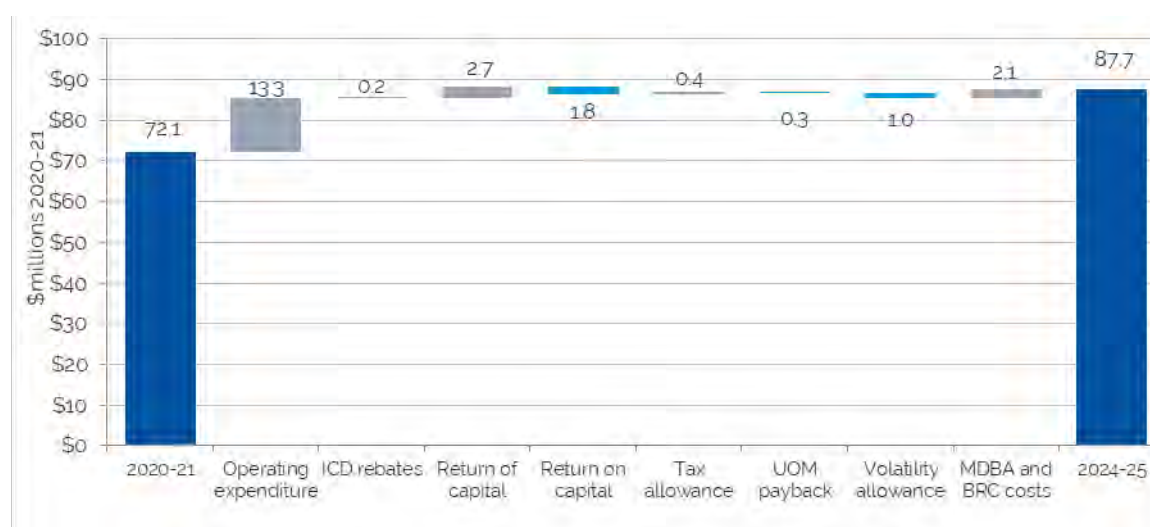
Table 1.6 compares our decision on Water NSW's efficient costs with those proposed by Water NSW. Figure 1.2 illustrates our decisions on building block costs and the impact on the customer share of notional revenue requirement (NRR). Overall cost increases mainly reflect increased efficient operating expenditure.

Table 1.6 Decision on Water NSW's total efficient costs for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|--------------------|---------|---------|---------|---------|-------|
| Water NSW proposed | 121.9 | 130.3 | 132.7 | 132.7 | 517.6 |
| IPART decision | 118.8 | 126.4 | 124.3 | 124.0 | 493.6 |
| Difference | -3.1 | -3.9 | -8.4 | -8.7 | -24.0 |
| Difference (%) | -2.5% | -3.0% | -6.3% | -6.6% | -4.6% |

Note: Includes both the user and government share of costs as well as MDBA and BRC costs.
Source: IPART analysis.

Figure 1.2 Customer share of Water NSW's NRR and building block costs (\$ millions, \$2020–21)



Note: ICD – irrigation corporation and district; UOM – unders and overs mechanism.
Data source: IPART analysis.

1.5 The Government contribution is less than Water NSW proposed

As noted above, the costs of providing Water NSW's bulk water services and funding activities of the MDBA and BRC are shared between bulk water customers and the NSW Government (on behalf of the community). Under our decisions, the NSW Government's share of these costs is \$136.8 million, or 27.7% of the total efficient costs.

1.6 Water NSW can improve its customer engagement

We found Water NSW needs to improve the quality of its customer engagement and consultation. In the 2021 determination period, it should improve engagement with customers, particularly on:


- the costs that it recovers through its MDBA and BRC charges and the services customers get in return
- price structures (at the individual valley level), including the ratio of fixed and variable components of its prices, alternative price structure options and customer impacts.

The International Association for Public Participation (IAP2) developed a spectrum of engagement, ranging from 'inform' to 'empower' (Figure 1.3). We consider Water NSW currently aligns with the 'inform' category, with opportunity to develop towards the 'involve' and 'consult' categories. There is potential for Water NSW to build a customer-focused culture that better:

- engages with customers to help shape the services it delivers
- allows customers to be more involved in informing its decision-making processes
- embeds customer preferences in its decisions and pricing proposals
- fosters genuine, ongoing improvement in its customer engagement.

IPART is also currently reviewing how we regulate water businesses. Measures are likely to come out of this review that encourage improvement in customer engagement for all utilities, including Water NSW.

Figure 1.3 Spectrum of engagement

| | | INCREASING IMPACT ON THE DECISION  | | | | |
|---------------------------|-----------------------|--|--|---|---|--|
| | | INFORM | CONSULT | INVOLVE | COLLABORATE | EMPOWER |
| PUBLIC PARTICIPATION GOAL | | To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions. | To obtain public feedback on analysis, alternatives and/or decisions. | To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered. | To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution. | To place final decision making in the hands of the public. |
| | PROMISE TO THE PUBLIC | We will keep you informed. | We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision. | We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision. | We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible. | We will implement what you decide. |

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Source: IAP2 Spectrum of Public Participation, https://iap2.org.au/wp-content/uploads/2020/01/2018_IAP2_Spectrum.pdf, accessed 3 April 2021.

1.7 Metering reforms mean new metering charges are needed

In response to the Matthews review^a on improving water resource management, Water NSW is implementing a range of non-urban metering reforms. Improving the standard and coverage of water meters in regional and rural NSW is important. It will protect water users' entitlements and build confidence that our increasingly scarce water resources are managed in a fair and equitable way.

We decided to introduce five new charges for Water NSW to recover the efficient costs of implementing the NSW Government's non-urban metering reforms:

- A 'scheme management charge' would apply as an annual fee to all licensed customers (\$/licence).
- A 'telemetry charge' would apply as an annual fee per metering installation for customers that use telemetry (\$/meter).
- A 'non-telemetry charge' would apply as an annual fee per metering installation for customers that do not use telemetry capacity (\$/meter).
- Two additional charges would apply to customers with government owned meters – 'meter service charge – operating costs' and 'meter service charge – capital costs'. These charges would be applied as an annual fee per metering installation (\$/meter).^h

We allocate the efficient costs of Water NSW's rural bulk water services and WAMC's water management costs between water customers and the NSW Government based on whichever party created the need for an activity (and its associated costs) to be incurred. We considered the underlying driver for metering reform is to protect the rights of water customers and therefore we set the metering charges to recover 100% of the efficient costs from customers.

Our decisions on the levels of non-urban metering charges, how they compare to Water NSW's proposal, and which charges are paid by customers with privately owned and government owned meters are set out in Table 1.7.

^h Customers with privately owned meters will not pay these charges because they will need to purchase and maintain a new or replacement meter themselves at their own expense.

Table 1.7 Final decisions on non-urban metering charges compared to Water NSW's proposals (\$/year, \$2021-22)

| | Charge (\$/year) Water NSW 2021 revised proposal | Charge (\$/year) IPART final decision | Privately owned meter | Government owned meter |
|--|--|---|--------------------------|---------------------------|
| Scheme management charge ^a | 79 | 73 | ✓ | ✓ |
| Telemetry charge ^a | 257 | 226 | ✓ | ✓ |
| Non-telemetry charge ^a | 257 | 226 | ✓ | ✓ |
| Meter service charge – operating costs ^{b, c} | 934 | 899 | ✗ | ✓ |
| Meter service charge – capital costs | 608 | 0 | ✗ | ✓ |

a. The scheme management charge, telemetry charge and non-telemetry charge will vary if more customers use telemetry. See Table 1.8 for further information.

b. Cost for telemetry/non-telemetry is not included in the 'meter service charge – operating costs' for government owned meters.

c. Customers with privately owned meters will not pay these charges because they will need to purchase and maintain a new or replacement meter themselves at their own expense.

Our decisions take account of the NSW and Australian Governments' suite of programs to support the uptake of metering and telemetry equipment. The NSW Government and Australian Government will each provide \$9 million in funding to deliver a telemetry rebate program across NSW. The rebate will automatically be applied as a one-off \$975 credit on a water bill when an eligible water user with a meter connects to the NSW Government's telemetry system. This will provide a financial incentive for metered non-urban water users to use telemetry to remotely transmit their water take information.

As part of our review, we found that the efficient costs to be recovered from the scheme management charge and telemetry charge decrease as more customers use telemetry. However, at this stage, it is unclear how many customers will use telemetry under the new program. We considered it important to set a charge structure that takes account of this uncertainty as well as providing an incentive for users to opt in to telemetry.

We therefore decided that the level of these charges should vary as the proportion of users that voluntarily opt in to telemetry increases, as set out Table 1.8. For example, the scheme management charge would be \$73 a year if there is 0% voluntary opt-in. However, this charge would reduce to \$51 a year if there is 75% or more voluntary opt-in.

Table 1.8 Final decisions on scheme management, telemetry and non-telemetry charges for different telemetry opt-in proportions (\$2021-22)

| Telemetry opt-in | Up to 24% | 25-49% | 50-74% | 75% or more |
|--------------------------|-----------|--------|--------|-------------|
| Scheme management charge | 73 | 66 | 59 | 51 |
| Telemetry charge | 226 | 209 | 191 | 182 |
| Non-telemetry charge | 226 | 219 | 219 | 219 |

Source: IPART using information provided by Water NSW and Cardno

Note: Telemetry gets progressively less expensive at even higher levels of telemetry opt-in, as fixed costs – such as IT systems – are spread over a greater number of water users. Non-telemetry costs do not vary as telemetry uptake increases.

Our decisions ensure that customers' metering charges reflect only those activities that are necessary, and customers pay only for the efficient costs of implementing the non-urban metering reforms. However, we acknowledge that these new charges will increase customer's bills, particularly for customers with government owned meters and relatively smaller entitlement and usage volumes.

The NSW Government has recognised these impacts and is providing funding of \$14.6 million to Water NSW to cover the capital costs of upgrading government owned meters. The aim of the funding is to ensure that the costs of bringing these meters into compliance with the non-urban metering rules is not borne by users. We therefore decided to set a 'meter service charge – capital costs' of \$0 a year for the 2021 determination period.

In addition, the one-off telemetry rebate will apply to customers that upgrade their meters to use telemetry. This scheme will also mitigate the impact of the non-urban metering reforms on water users and accelerate the uptake of telemetry in NSW, increasing transparency of water take, supporting on-farm management, and positioning NSW to better deliver efficiencies in water management.

1.8 We consulted extensively with stakeholders

This review commenced on 1 July 2020 when Water NSW submitted its pricing proposals to IPART. We conducted extensive consultation with Water NSW and other stakeholders, including releasing an Issues Paper, a Draft Report and a Supplementary Report on metering to which we invited written submissions and online feedback (Figure 1.4). In November 2020 and March 2021, we also held public hearings online. We took all stakeholder views into account in making our final decisions. Water NSW's pricing proposals, our Issues Paper, Draft Report, Supplementary Report, stakeholder submissions and the public hearing transcripts are available on our website.

Figure 1.4 Review timeline

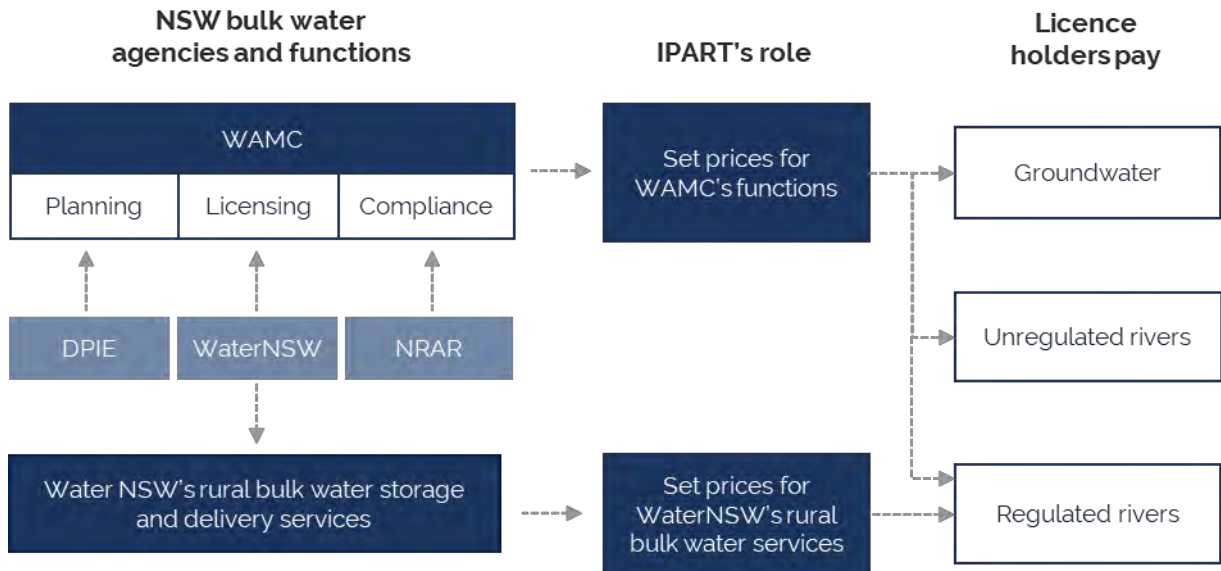


1.9 We have also released our Final Report on WAMC prices

Concurrent with this review of Water NSW's prices, we reviewed the prices WAMC can charge holders of water access licences in NSW regulated river, unregulated river and groundwater systems. Water NSW's rural bulk water customers also pay WAMC water management charges. Our Final Report on WAMC's prices is available on our [webpage](#).

Figure 1.5 illustrates how the NSW water agencies (i.e. the Department of Planning, Industry & Environment DPIE), Water NSW and the Natural Resources Access Regulator (NRAR) contribute towards WAMC functions and Water NSW's services. It also shows how IPART sets prices for WAMC's functions and Water NSW's services, and how WAMC prices apply to all water users (i.e. groundwater, unregulated rivers and regulated rivers) while Water NSW's rural prices apply only to water users on regulated rivers.

Figure 1.5 Overview of WAMC and Water NSW relationships and our role in setting prices



1.10 Structure of this report

The rest of this report provides more information on this review, our approach and our decisions:

Chapter

| | |
|----|--|
| 02 | discusses our decisions on the regulatory settings for the 2021 determination period, including the length of this period and our approach for price setting |
| 03 | explains our decisions on Water NSW's operating expenditure allowance |
| 04 | explains our decisions on Water NSW's capital expenditure allowance |
| 05 | focuses on our decisions on MDBA and BRC costs |
| 06 | explains our decisions on other costs including the volatility allowance, unders and overs mechanism (UOM) and Irrigation Corporation and Districts (ICD) discounts. |
| 07 | discusses the other building block cost allowances, and sets out Water NSW's total notional revenue requirement. |
| 08 | sets out customers' share of costs and discusses our decisions on how Water NSW's costs are allocated between customers and the NSW Government. |
| 09 | explains our decisions on the forecast customer numbers and water sales we used to set prices. |
| 10 | sets out the bulk water and MDBA/BRC charges that result from our decisions. |
| 11 | sets out our decisions on other and miscellaneous charges. |
| 12 | discusses how these decisions impact stakeholders, including customers, WAMC and the NSW Government. |
| 13 | explains our decision on Water NSW's proposed meter servicing charge. |
| 14 | discusses our decisions on new metering charges arising from the NSW Government's non-urban metering reforms. |

1.11 List of decisions

| | | |
|-----|---|----|
| 1. | To adopt a 4-year determination period. | 30 |
| 2. | To delay the commencement of new prices until 1 October 2021. | 30 |
| 3. | To set maximum prices for Water NSW's services in each year of the 2021 determination period (a price cap). | 31 |
| 4. | To set Water NSW's total operating expenditure allowance for the 2021 determination period at \$203.5 million, as shown in Table 3.1. | 38 |
| 5. | To set the efficient level of Water NSW's past capital expenditure to be included in the regulatory asset base for the 2017 determination period as shown in Table 4.1. | 51 |
| 6. | To set the efficient level of Water NSW's capital expenditure for the 2021 determination period as shown in Table 4.2. | 51 |
| 7. | The efficient level of Water NSW's Murray–Darling Basin Authority costs for the 2021 determination period is \$65.0 million as shown in Table 5.1. | 59 |
| 8. | The efficient level of Water NSW's Dumaresq–Barwon Border Rivers Commission costs for the 2021 determination period is \$2.5 million as shown in Table 5.2. | 59 |
| 9. | To use a building block approach to set the efficient Murray–Darling Basin Authority and Dumaresq–Barwon Border Rivers Commission costs. | 67 |
| 10. | To set Water NSW's operating and capital expenditure for Murray–Darling Basin Authority costs as shown in Table 5.5. | 69 |
| 11. | To set Water NSW's operating and capital expenditure for Dumaresq–Barwon Border Rivers Commission costs as shown in Table 5.6. | 70 |
| 12. | To set Water NSW's opening regulatory asset bases for Murray–Darling Basin Authority and Dumaresq–Barwon Border Rivers Commission costs to zero at 1 July 2021. | 71 |
| 13. | To include a revenue volatility allowance in the valleys listed in Table 6.1 to enable Water NSW to manage the risk that water sales are lower than forecasts. | 75 |
| 14. | To set the value of rebates provided to 8 Irrigation Corporations and Districts as shown in Table 6.2. | 80 |
| 15. | To include in prices an unders and overs mechanism payback allowance as shown in Table 6.4. | 82 |
| 16. | To set the notional revenue requirement at \$493.6 million over the 2021 determination period as shown in Table 7.1. | 87 |
| 17. | To calculate the return on assets using: | 88 |
| | – an opening regulatory asset base of \$1.2 billion for 2021–22, and the regulatory asset base for each year as shown in Table 7.2 | |
| | – Water NSW's reported historical asset disposals for the 2017 determination period as shown in Table 7.4 | |
| | – Water NSW's forecast asset disposals for the 2021 determination period as shown in Table 7.5 | |

| | |
|---|-----|
| <ul style="list-style-type: none"> - a real post-tax weighted average cost of capital of 1.8% to calculate the return on Water NSW's assets for Murray–Darling Basin valleys - a real post-tax weighted average cost of capital of 3.0% to calculate the return on Water NSW's assets for Coastal valleys - a sampling date of 31 March 2021 for market observations as outlined in Appendix C - a true-up for differences between the forecast and actual cost of debt over the 2021 determination period in the next Determination. | 88 |
| <p>18. To set an allowance for return on assets of \$99.6 million over the 2021 determination period as shown in Table 7.6.</p> | 88 |
| <p>19. For the purpose of calculating Water NSW's allowance for return of assets, to:</p> <ul style="list-style-type: none"> - calculate regulatory depreciation using a straight-line method - for existing assets, use the rolled forward asset lives from the 2017 determination period as listed in Table 7.8 - for new assets, set the asset lives listed in Table 7.9. | 93 |
| <p>20. To set Water NSW's allowance for return of assets at \$95.0 million over the 2021 determination period as shown in Table 7.7.</p> | 93 |
| <p>21. To calculate the tax allowance using:</p> <ul style="list-style-type: none"> - a tax rate of 30% - IPART's standard methodology. | 96 |
| <p>22. To adopt the regulatory tax allowance as shown in Table 7.11.</p> | 96 |
| <p>23. To set the working capital allowance for the 2021 determination period as shown in Table 7.12.</p> | 97 |
| <p>24. To set the customer share of Water NSW's notional revenue requirement (\$350.0 million) and target revenue from water prices (\$335.6 million) as shown in Table 8.1.</p> | 101 |
| <p>25. To maintain the cost shares set out in our 2019 cost shares review. These are based on the impactor pays principle and align with Water NSW's proposal.</p> | 102 |
| <p>26. To accept Water NSW's proposed water entitlements and usage forecasts for regulated rivers as shown in Table 9.1 and Table 9.2.</p> | 111 |
| <p>27. To set the Minimum Annual Quantities and usage forecasts for the Fish River Water Supply Scheme as shown in Table 9.3 and Table 9.4.</p> | 118 |
| <p>28. To maintain the valley-based approach of setting Water NSW's rural bulk water service charges for each of the 12 valleys and for the Fish River Water Supply Scheme.</p> | 124 |
| <p>29. To maintain the current 2-part price structure and fixed-to-variable ratios for Water NSW's rural bulk water service charges for each of the Murray–Darling Basin and Coastal valleys (i.e. excluding Fish River Supply Scheme) as shown in Table 10.1.</p> | 124 |
| <p>30. To:</p> <ul style="list-style-type: none"> - maintain the existing approach to calculating the high security premium - maintain the current security factors but update the reliability ratios in the high security premium - use the high security premiums as shown in Table 10.1 to calculate entitlement charges. | 124 |

| | | |
|-----|---|-----|
| 31. | To maintain the current fixed-to-variable ratios and level of prices for setting prices for the North Coast and South Coast valleys, adjusted by inflation. | 124 |
| 32. | To set Water NSW's rural bulk water prices for Murray–Darling Basin and Coastal valleys for the 2021 determination period as shown in Table 10.2 for entitlement charges and Table 10.3 for usage charges. | 124 |
| 33. | To set Water NSW's rural bulk water prices for the Fish River Water Supply Scheme for the 2021 determination period as shown in Table 10.4. | 136 |
| 34. | To maintain prices for Oberon Council at 2020–21 levels in real terms. | 136 |
| 35. | To maintain the current valley-based 2-part price structure and fixed-to-variable ratio of 80:20 for Murray–Darling Basin Authority and Dumaresq–Barwon Border Rivers Commission charges in the Murray, Murrumbidgee and Border valleys. | 144 |
| 36. | To apply the same high security premiums to these charges as for Water NSW's bulk water charges as shown in Table 10.5. | 144 |
| 37. | To set Water NSW's Murray–Darling Basin Authority and Dumaresq–Barwon Border Rivers Commission charges for the 2021 determination period as shown in Table 10.6 for entitlement charges and Table 10.7 for usage charges. | 144 |
| 38. | To exempt floodplain harvesting licences from Water NSW rural infrastructure charges. | 146 |
| 39. | To exempt Aboriginal Cultural Licences from all Water NSW rural water charges for the 2021 Determination while the NSW Government considers a policy position on charges associated with these licences. | 147 |
| 40. | To continue to set charges for Aboriginal Community Development and Aboriginal Commercial licences, as we have in previous determinations. | 147 |
| 41. | To set a maximum per year Yanco Creek levy of \$0.90 per ML of entitlement for users in the Yanco Creek system, held constant in nominal terms. | 151 |
| 42. | To set charges for meter accuracy testing as shown in Table 11.2. | 153 |
| 43. | To remove the environmental gauging station charge. | 154 |
| 44. | To set the trade processing charge as a single, fixed charge as shown in Table 11.3. | 155 |
| 45. | To set prices for the: <ul style="list-style-type: none"> – Fish River Water Supply connection charge based on the complexity of the connection service as shown in Table 11.4 – Fish River Water Supply disconnection charge as shown in Table 11.5. | 156 |
| 46. | To continue not to regulate Water NSW's credit card payment fees. | 157 |
| 47. | To accept Water NSW's proposal and set Water NSW's annual meter service charges for the 2021 determination period as shown in Table 13.1 | 187 |
| 48. | That the efficient cost of implementing the NSW Government's non-urban metering reforms under Water NSW's proposed base case is \$47.8 million over the 2021 determination period (see Table 14.1). | 191 |

| | | |
|-----|--|-----|
| 49. | That the efficient cost of implementing the NSW Government's non-urban metering reforms varies from \$39.4 million to \$47.8 million based on the proportion of customers that voluntarily opt in to telemetry (see Table 14.2). | 192 |
| 50. | To adopt a 100% customer share of efficient costs incurred by Water NSW implementing the NSW Government's non-urban metering reforms. | 199 |
| 51. | To recover the wider costs of introducing the reform, such as recording and reporting, customer self-reporting, general enquiries and education, through a 'scheme management charge' to be applied annually to all licence holders. | 200 |
| 52. | To recover the costs of compliance activities, water take assessments, meter reading and meter data services through: <ul style="list-style-type: none"> - a telemetry charge to be applied annually to customers who use telemetry - a non-telemetry charge to be applied annually to customers who do not use telemetry. | 200 |
| 53. | To recover the costs of bringing government owned meters up to the required standard under the non-urban metering reforms through a 'meter service charge – capital costs' and maintaining these meters to ensure regulatory compliance through a 'meter service charge – operating costs'. These charges are applied annually to customers with a compliant government owned meter. | 200 |
| 54. | To set charges for Water NSW's non-urban metering reforms as set out in Table 14.6 and Table 14.7. | 205 |
| 55. | To apply the following transitional arrangements in moving from existing to new metering charges: <ul style="list-style-type: none"> - Scheme management charge to apply annually from the start of the determination period, 1 October 2021. - Telemetry or non-telemetry charge for customers with privately owned meters to be prorated using the number of days remaining in the financial year from the relevant compliance date set out in the <i>Water Management (General) Regulation 2018</i>. - Telemetry or non-telemetry charge and government owned 'meter service charge – operating costs' for customers with government owned meters to be prorated using the number of days remaining in the financial year from the later of the relevant compliance date set out in the <i>Water Management (General) Regulation 2018</i> or the date the meter is made compliant. | 207 |
| 56. | Not to provide an unders and overs mechanism to Water NSW for the rollout of the non-urban metering reforms. | 210 |
| 57. | That the Tribunal intends to consider the impact of any further deferral of the floodplain harvesting policy and potentially make an adjustment to future charges if needed at the next determination. | 210 |
| 58. | To set an exit charge for the 2021 determination period of \$0. | 210 |

Chapter 2 >>

Regulatory setting

02

Summary of our decisions for regulatory settings

We set prices for a 4-year determination period

Water NSW originally proposed a 1-year determination period.

We consulted with stakeholders including Water NSW and decided to set a 4-year determination period.

We continued to set maximum prices (i.e. price caps)

Water NSW proposed maintaining this form of price control, and we consider it remains appropriate.

We used the building block approach to calculate WAMC's notional revenue requirement

This approach involves breaking down Water NSW's costs into operating allowance, capital allowance, tax and working capital allowance, and making separate calculations for these allowances.

The sum of the building blocks represents the total efficient costs Water NSW should incur in delivering its services.

We used a 3-step process to review and assess expenditure

Our 3-step process found most of Water NSW's operating and capital expenditure is efficient.

We made decisions on catch-up and ongoing efficiency improvements for Water NSW.

Before setting prices, we need to make several preliminary decisions, including for how long to set prices and decisions related to the 'form of regulation' or 'form of price control', which is the framework we use to regulate prices.

This chapter sets out these preliminary decisions and discusses the regulatory settings under which we set Water NSW's prices.

2.1 We set prices for a 4-year determination period

Our decisions are:

1. To adopt a 4-year determination period.
2. To delay the commencement of new prices until 1 October 2021.

For each water pricing review, we decide how long to set prices for (the length of the determination period).^a In general, this length can be between 1 and 5 years. In deciding on the appropriate length, we considered a range of factors (Box 2.1).

Box 2.1 Factors we consider in deciding the length of a determination

In general, we consider the following factors when deciding the length of a determination period:

- our confidence in the utility's forecasts
- the risk of structural changes in the industry
- the need for price flexibility and incentives to increase efficiency
- the need for regulatory certainty and financial stability
- the timing of other relevant reviews
- the views of stakeholders.

^a Under the Water Charge Rules 2010 (Cth) (WCR), the length of determination is set at 4 years. However, because Water NSW is also the supplier of urban water services, the WCR provides scope for Water NSW to apply for a different regulatory period for its rural water services.

Water NSW proposed a 1-year determination, from 1 July 2021 to 30 June 2022, to align it with our next price determination for the Broken Hill pipeline (BHP), which is scheduled to start on 1 July 2022.

We consulted with stakeholders by publishing an Information Paper on our website and invited comments. We also sought views through our Issues Paper and the public hearings.

Stakeholder responses were mixed, but most favoured a 4-year determination period. The main reasons are the certainty, predictability and transparency of adhering to a 4-year process.

We decided to set a 4-year determination period because it provides certainty for customers, and the 1-year determination proposed by Water NSW may under-recover costs which may result in long-term risk.

The new prices under the 2021 Determination will commence on 1 October 2021 (a delay of 3 months). Current prices will apply from 1 July 2021 until 30 September 2021. The Water Charge Rules 2010 (Cth) (WCR) require us to set prices to recover the same amount of revenue as would be required under the 2021 Determination if prices were to commence on 1 July 2021.

Under the WCR, we must undertake annual reviews of prices for Murray–Darling Basin (MDB) valleys.^b For these reviews, we must vary regulated charges to the extent that such variation is reasonably necessary given changes in demand or consumption forecasts, price stability, and the consistency of the infrastructure charges with the requirements in the WCR. In line with our WCR obligations, we will undertake annual price reviews of Water NSW's MDB valleys following applications by Water NSW.

2.2 We continued to use price caps

Our decision is:



3. To set maximum prices for Water NSW's services in each year of the 2021 determination period (a price cap).

Our decision is to retain a maximum price cap for Water NSW. We consider price caps provide transparency and pricing certainty to customers and ensure, as much as practical, prices reflect efficient costs, and where appropriate, signal the long-run cost of providing the service.

Water NSW supported our approach for the 2021 determination period. No other stakeholders proposed alternative forms of regulation.

For future regulatory periods, we may consider alternative forms of regulation such as revenue caps. We are currently reviewing these issues as part of our broader review of how we regulate water utilities, which we expect to complete in late 2021.

^b Water Charge Rules 2010 (Cth) Part 1(3) and Part 6, Division 3.

2.3 We used the building block approach

We continued to use the 'building block' approach to calculate Water NSW's notional revenue requirement (NRR). Under this approach, we break down Water NSW's costs into the following components (or building blocks):

- **operating allowance**, to cover costs such as salaries and administration costs
- **capital allowance**, comprised of:
 - return on assets that Water NSW uses to provide its services
 - regulatory depreciation (or a return of the assets that Water NSW uses to provide its services), which involves deciding on the appropriate asset lives and depreciation method
- **tax allowance**, which approximates the tax liability for a comparable commercial business
- **working capital allowance**, which represents the holding cost of net current assets.

The annual sum of these building blocks is the NRR and represents our assessment of the total efficient costs Water NSW should incur in delivering its services. Once we have calculated Water NSW's NRR, we account for any revenue that Water NSW will receive from other sources.

We then set a target revenue for each year – that is, the actual revenue we expect Water NSW to generate from prices and charges for that year. In determining target revenue, we consider several factors, including implications on price levels, the rate they would change, and any impacts on Water NSW and water users.

Figure 2.1 illustrates our approach to calculating the NRR and how we set prices.

Figure 2.1 The building block model



2.4 We assessed expenditure using a 3-step process

The 3-step process used to establish Water NSW's efficient expenditure is consistent with the approach adopted by our consultant Atkins, and our other recent water pricing reviews (Figure 2.2). It involves:

Step 1 – Reviewing changes in activities and costs:

- If the utility's proposed changes in activities (and associated costs) are not efficient, a **scope adjustment** is made.
- This step identifies any inefficiencies where the utility has proposed changes to its specific activities. It does not apply to the utility's base expenditure (to avoid double counting with step 2).
- These adjustments are clearly distinct from the types of efficiencies identified in step 2, because they correct for an inefficient proposed change to a utility's activities (and associated costs) rather than the business processes employed by the utility to deliver the utility's services.

Step 2 – Reviewing business processes relative to the frontier:

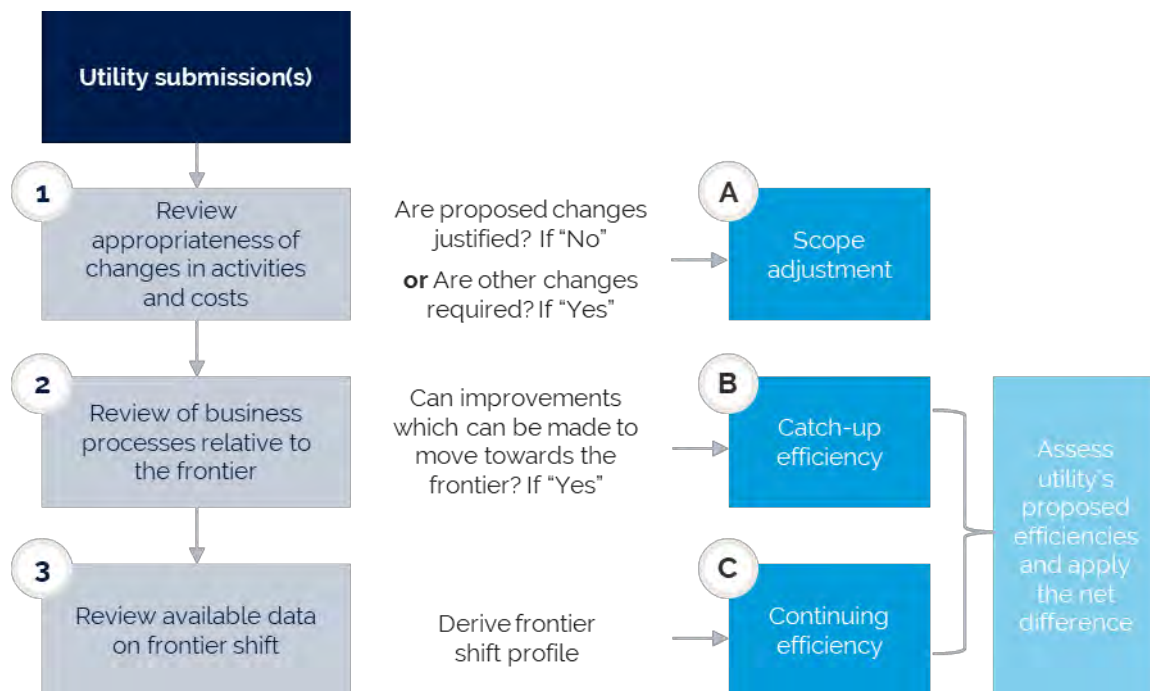
- Where we identify improvements to the utility's business processes, we apply a **catch-up efficiency adjustment**. It takes into account the efficiencies we consider the utility will be able to achieve in the 2021 determination period. This encourages the utility to move to the efficiency frontier.
- This step identifies the effectiveness of the utility's business processes (e.g. decision making and procurement processes) relative to a 'frontier' company.

Step 3 – Reviewing available data on frontier shift:

- We apply a **continuing efficiency adjustment** to take account of the ongoing improvements that even efficient utilities should be able to make over time, as more productive ways of working emerge. We refer to long-term multi-factor productivity trends to set this adjustment.
- We consider a number of data points such as the efficiency gains of well-performing utilities and broader productivity trends (e.g. multi-factor productivity).
- This step recognises that in competitive markets (which we are trying to replicate through our regulatory framework) firms must innovate to achieve continuing efficiency gains over time.

We compare the total efficiency challenge derived from steps 2 and 3 with the efficiencies applied by the utility in its own submission. We then apply the net difference as an adjustment to the utility's submission.

Figure 2.2 Our approach to assessing efficiency



Chapter 3 >>

Operating expenditure

03

Summary of decisions on operating expenditure

Water NSW's efficient operating expenditure is significantly higher than when we last set prices

We set Water NSW's efficient operating expenditure at \$203.5 million for the for the 4-year determination period. This is \$54.6 million more (or 36.7% higher) than we used to set prices in 2017.

This allowance provides for a step change in Water NSW's operating expenditure, to help sustain its performance in key areas including maintenance and dam safety.

We set operating expenditure 6.8% lower than what Water NSW proposed

Our efficient operating expenditure allowance is \$14.9 million or 6.8% less than Water NSW's proposed amount. Specifically, we reduced its proposed operating expenditure by:

- \$5.5 million in scope adjustments
- \$5.8 million in catch-up efficiency adjustments
- \$3.6 million in continuing efficiency adjustments.

Operating expenditure includes Water NSW's day-to-day costs including labour, energy, materials and external consultants and contractors. It does not include investment in infrastructure such as dams, equipment and business systems. Any expenditure on infrastructure that lasts more than a year is classed as capital expenditure.

We treat operating and capital expenditure differently when we set prices. We typically aim to set prices that recover efficient operating expenditure in the year it occurs. Efficient capital expenditure is recovered through prices over a longer period, usually over the life of the asset. Chapter 4 discusses Water NSW's capital expenditure.

This chapter sets out our decisions on Water NSW's efficient operating expenditure.^a It explains why we set the operating expenditure allowance over the 2021 determination period at the level we have. It also details how efficient expenditure changed over time and what drove those changes.

Operating expenditure is the largest building block cost for Water NSW and makes up around 50% of the user share of the notional revenue requirement (NRR) over the 2021 determination period.^b For this reason, our decisions on efficient operating expenditure are likely to immediately affect customer bills.

^a We typically set prices that recover only expenditure we consider to be efficient. Efficient expenditure represents what Water NSW *should* spend, rather than what it *does* spend. This approach protects customers from paying for any inefficient costs.

^b The user share of the NRR is the portion that customers pay for directly through prices. The total NRR is the user share plus government share. Operating expenditure makes up around 43% of the total NRR. Our draft decisions on cost shares between users and government are set out in detail in Chapter 8.

To inform our decisions on operating expenditure, we engaged Atkins to review Water NSW's expenditure and performance over the current determination period, and recommend the efficient amount of operating expenditure for the 2021 determination period. We considered the advice of Atkins, as well as relevant stakeholder submissions, in reaching our decisions.

3.1 Water NSW's efficient operating expenditure is \$203.5 million

Our decision is:



4. To set Water NSW's total operating expenditure allowance for the 2021 determination period at \$203.5 million, as shown in Table 3.1.

Water NSW proposed \$218.4 million^c in operating expenditure over the 2021 determination period.² This amount is \$69.5 million higher than the operating expenditure allowance we set over the 2017 determination period.

Our draft decision was to set Water NSW's efficient level of operating expenditure for the 4-year determination period at \$194.7 million. This reduced Water NSW's proposed operating expenditure by \$23.7 million (10.8%). We have considered stakeholder submissions to our Draft Report, and a Supplementary Report from Atkins in making our decisions.

Our decision is to set Water NSW's efficient level of operating expenditure for the 4-year determination period at \$203.5 million. This amount is \$14.9 million (or 6.8%) lower than what Water NSW proposed and comprises:

- \$5.5 million in scope adjustments
- \$5.8 million in catch-up efficiency adjustments, based on a catch-up efficiency factor of 1.1% per year
- \$3.6 million in continuing efficiency adjustments, based on a continuing efficiency factor of 0.7% per year.

Table 3.1 summarises our decisions on Water NSW's operating expenditure for the 2021 Determination.

^c This amount does not include Water NSW's additional proposed \$9.3 million for its risk transfer product (RTP) to manage revenue volatility. Chapter 6 discusses the RTP in more detail.

Table 3.1 Decision on efficient operating expenditure for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|--------------------|---------|---------|---------|---------|-------|
| Water NSW proposed | 51.1 | 56.1 | 56.6 | 54.6 | 218.4 |
| IPART decision | 50.9 | 53.7 | 50.1 | 48.7 | 203.5 |
| Difference | -0.1 | -2.3 | -6.5 | -5.9 | -14.9 |
| Difference (%) | -0.3 | -4.1 | -11.5 | -10.8 | -6.8 |

Note: All figures exclude Water NSW's costs of managing its volatility risk.
Source: IPART analysis.

3.2 Actual operating expenditure over the 2017 period was higher

Over the 2017 determination period, Water NSW's total actual operating expenditure was \$208.2 million. This amount is \$59.4 million (or 39.9%) higher than the allowance we used to set prices. In its submission to our Issues Paper, Water NSW argued its overspend primarily reflected "under forecasts" on:

- scheduled overtime
- land tax
- flood operations
- direct labour and on-costs.³

It also states it has incurred additional unforeseen costs associated with:

- consolidation of multiple enterprise agreements following the state water merger that led to higher wage costs
- additional corporate labour costs associated with responding to various investigations and reviews (such as the Matthews review⁴) as well as its expanded role in licensing and regulatory functions from the Department of Planning, Industry and Environment (DPIE) as part of its licence review
- replacement of end-of-life IT systems following the merger.⁵

Water NSW stated:

Although WaterNSW has taken measures to realise new efficiencies, the combination of circumstances that would have allowed WaterNSW to operate within its forecast operating expenditure did not eventuate, as the business incorporated new functions and responded to new challenges, including multiple industry reviews. Concurrently, WaterNSW's operating environment has continued to change, increasing the range of regulatory and administrative obligations that it is required to undertake.

This significant change within our business and the broader industry has meant that the anticipated cost reductions from efficiency initiatives have not been fully realised.⁶

In its assessment of Water NSW's historical operating expenditure over the 2017 determination period, Atkins suggested Water NSW has significant scope to become more efficient:

- When costs increased for the reasons suggested by Water NSW, it was not clear it sought to offset these increases with efficiencies.
- Ownership of determination performance is limited, particularly at the individual valley level.
- Water NSW lacks business/operational plans that demonstrate the current levels of activity, expenditure or ways of working are the most efficient or effective.⁷

Stakeholders including the Public Interest Advocacy Centre (PIAC) and Commonwealth Environmental Water Office (CEWO) considered the extent of Water NSW's overspend over the 2017 determination period reflected inefficiency.⁸ Our decisions that address Water NSW's overall efficiency are discussed at the end of this chapter.

3.3 Water NSW proposed operating expenditure of \$218.4 million

Water NSW proposed \$218.4 million in operating expenditure over the 2021 determination period.^d This amount is:

- \$69.5 million (or 46.7%) higher than we used to set prices in 2017
- \$10.2 million (or 4.9%) higher than its actual operating expenditure over the 2017 determination period.

3.4 We reduced proposed operating expenditure by \$14.9 million

Over the 4-year 2021 determination period, our decision is to reduce Water NSW's operating expenditure by \$14.9 million to \$203.5 million. This amount is:

- \$54.6 million (36.7%) higher than we used to set prices in 2017
- \$14.9 million (6.8%) lower than proposed by Water NSW
- \$1.2 million (0.6%) higher than recommended by Atkins in its Supplementary Report.

Table 3.2 summarises our adjustments to Water NSW's proposed operating expenditure for the 2021 Determination.

^d Excluding the proposed Risk Transfer Product which we discuss in Chapter 6.

Table 3.2 Decision on efficient operating expenditure for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|---|-------------|-------------|-------------|-------------|--------------|
| Water NSW proposed | 51.1 | 56.1 | 56.6 | 54.6 | 218.4 |
| Scope adjustments | | | | | |
| Removal of land tax increases | 0.0 | -0.6 | -0.6 | -0.6 | -1.8 |
| Long-term transformational strategy | 0.0 | -0.2 | -0.2 | -0.2 | -0.5 |
| Reallocate additional regulatory team resources | 0.4 | -0.4 | -0.4 | -0.4 | -0.7 |
| Cold water pollution expenditure | 1.3 | 0.6 | 0.0 | 0.0 | 1.9 |
| Reallocation of corporate overheads | -0.8 | 0.2 | -2.6 | -1.1 | -4.4 |
| Efficiency adjustments | | | | | |
| Catch-up efficiency | -0.6 | -1.2 | -1.7 | -2.3 | -5.8 |
| Continuing efficiency | -0.4 | -0.8 | -1.1 | -1.4 | -3.6 |
| Total efficient operating expenditure | | | | | |
| Total | 50.9 | 53.7 | 50.1 | 48.7 | 203.5 |
| Difference | -0.1 | -2.3 | -6.5 | -5.9 | -14.9 |
| Difference (%) | -0.3 | -4.1 | -11.5 | -10.8 | -6.8 |

Note: Water NSW's proposal excludes costs associated with managing Water NSW revenue volatility risk.

Source: Atkins, *Water NSW Expenditure Review, Final Report for IPART*, 19 February 2021, pp 86–87, Atkins, *Expenditure Review of Water NSW Rural Bulk Water Service and Corporate Cost Allocation, Supplementary Report for IPART*, 25 May 2021, pp 21–22 and IPART analysis.

The sections below set out our decisions on Water NSW's efficient operating expenditure, and the adjustments we made to operating expenditure proposed by Water NSW. They also explain changes to our draft decisions since our Draft Report.

3.4.1 We reduced corporate overheads allocated to customers by \$4.4 million

Atkins recommended an efficient level of Water NSW's total corporate overhead costs, allocated across its 5 business units:

- rural bulk water
- Greater Sydney
- Broken Hill pipeline
- the Water Administration Ministerial Corporation (WAMC)
- non-core activities.^e

^e 'Non-core' includes other activities not related to the regulated business units and includes general government commissioned works and activities undertaken for the MDBA.

Water NSW allocates its indirect corporate overheads using relative total expenditure (TOTEX) values in each of its business units.^f However, Atkins found this is not the best method to allocate indirect overhead costs to the business units that cause those costs to be incurred as:

- The total expenditure (TOTEX) method has shortcomings because the value of maintenance capital expenditure depends on the operational activities and costs in each of the regulated businesses. TOTEX is used in other regulatory domains, but not usually for cost allocation because of the independent variables.
- For a diverse business such as Water NSW, the level of capital maintenance does not drive operational and corporate costs. Rather, the drivers for operational business units relate to the number of customers, the volume of water delivered or orders fulfilled, and measures of effective catchment protection and water quality management. Using the TOTEX method is likely to result in inappropriate cost allocation and charges to customers.^g

Atkins argued corporate expenditure is driven by staff full-time equivalent (FTE) numbers and therefore employment costs. Without FTE numbers, Atkins recommended using total operating costs as a proxy for employment costs for our draft decision. This approach uses each business' direct operating costs, rather than TOTEX as proposed by Water NSW.

Our draft decision was consistent with Atkins' recommendation to use direct operating costs to allocate corporate overheads. We applied this allocation method from 2021–22, rather than from 2023–24 as recommended by Atkins, because it would lead to total costs that better reflect efficiently allocated overheads.^g Our draft decision reduced Water NSW's operating costs from overheads by \$4.9 million over 4 years and changed the notional allocation of overheads for Water NSW's other business units.¹⁰

In response to our draft decision, Water NSW maintained its TOTEX approach meets accounting standards, is consistent with IPART's cost allocation guidelines, and has been used by utilities in other jurisdictions. Water NSW also questioned whether allocating additional overheads to non-core activities is consistent with the Commonwealth Government's Water Charge Rules 2010 (WCR) and leads to unintended consequences, including allocating additional overheads to the Broken Hill pipeline.¹¹

Atkins assessed Water NSW's submission, including additional information on FTEs. Atkins concluded there was insufficient information to change its recommended approach to cost allocation. However, it reflected the need to adjust the allocation to the Broken Hill pipeline in its final recommendations.¹²

^f TOTEX or total expenditure includes expenditure on operations and capital.

^g The timing of our price reviews for Water NSW's 4 regulated businesses means a reduction in overhead costs using this approach for Water NSW cannot be matched by similar changes to costs and prices in Broken Hill pipeline and Water NSW – Greater Sydney, whose next price determinations are due to commence in 2022 and 2024 respectively.

While we maintain that FTEs will likely better allocate corporate costs, we agree with Atkins' assessment of corporate overheads. As such, we allocated overhead costs to business units using direct operating costs. In line with our draft decision, we apply this allocation method from 2021–22. We are satisfied this decision is consistent with the WCR and the adjustment to the Broken Hill pipeline allocation is reasonable. We also agree with Atkins that Water NSW can reduce uncertainty around corporate overhead allocation by applying more activity-based costing to all staff.

Table 3.3 shows the impact on the allocation of corporate costs to Water NSW's businesses using total operating expenditure, rather than TOTEX (which also includes capital expenditure). The adjustment for the Broken Hill pipeline changed our draft decision.

Table 3.3 Total impact of change to corporate allocation costs for Water NSW business units over 4 years from 2021–22 (\$ millions, \$2020–21)

| | Net change in corporate costs |
|--------------------------|--------------------------------------|
| Water NSW rural | -4.2 |
| WAMC | 2.3 |
| Water NSW-Greater Sydney | -2.2 |
| Broken Hill pipeline | 0.0 |
| Non-core ^a | 4.1 |

a. 'Non-core' includes other activities not related to the regulated business units such as general government commissioned works and activities undertaken for the MDBA.

Source: Atkins, *Expenditure Review of Water NSW Rural Bulk Water Service and Corporate Cost Allocation, Supplementary Report for IPART*, 25 May 2021, p 42.

An ex-post adjustment to the NRR may be required at the next Water NSW Greater Sydney price review. This adjustment may help ensure that Water NSW will be no better or worse off overall from adjusting the corporate allocation approach. Appendix B includes an output measure relating to the cost allocation manual.

3.4.2 We increased direct labour costs by \$3.9 million

Our draft decision was to maintain direct labour costs at 2019–20 levels, reducing these costs by \$3.9 million over the 2021 determination period relative to Water NSW's proposal. This decision was consistent with Atkins' recommendations.

In response to our draft report, Water NSW submitted that:

Compared to the 2017 Determination period, WaterNSW has implemented significant improvements to our cost coding framework and timesheet reporting practices. Reductions in overhead costs have been offset by increases in direct costs due to improvements in direct cost coding and increases in staff utilisation.¹³

Since our draft decision, Water NSW provided further information supporting the increase in direct labour costs being offset by overhead salary cost reductions. Given this, we reinstated \$3.9 million relating to direct labour costs. This is consistent with Atkins' recommendation in its Supplementary Report.

3.4.3 We removed \$1.8 million in proposed land tax increases

Our draft decision removed \$1.8 million relating to Water NSW's proposed increase in land tax liabilities. This decision was consistent with advice from Atkins that Water NSW did not sufficiently justify recovering an additional \$1.8 million from rural water customers.¹⁴ Given no further information was provided on this issue, our decision is to remove \$1.8 million in proposed land tax increases, in line with our draft decision.

3.4.4 We removed \$0.5 million for the long-term transformational strategy

In its submission to our Issues Paper, Water NSW proposed an additional \$1.5 million in consultancy fees to undertake a "long-term transformational strategy". This strategy will be aimed at identifying and implementing efficiencies over time.¹⁵

Our draft decision was to remove this item, in line with the recommendation from Atkins. Long-term strategic planning and transitional strategies are critical to improving the services delivered and how they are funded. However, we did not accept that the strategy is an incremental efficient cost that should be paid for by customers.

In response to our draft report, Water NSW submitted:

The expenditure is required to develop business plans and transformation strategies aimed at improving organisational efficiency and lowering our operating expenditure over the 2022–25 determination period. The expenditure is a material requirement focused on delivering efficiencies for the benefit of customers and meet customer expectation targets which will only grow over time.

In order to drive improved business performance, it is not uncommon for organisations to specifically allocate funds to acquire dedicated experienced expertise to support business transformation. IPART's proposed cost reductions and lower revenues arising from a lower WACC allowance, it is likely that WaterNSW will not have sufficient funding to invest in a dedicated cost transformation program.¹⁶

While Atkins did not change its recommendation based on Water NSW's submission, our decision is to allow \$1.0 million for the long-term transformational strategy. This is to be funded from the government's share of efficient costs. Based on information provided by Water NSW, we consider \$1.0 million represents a reasonably efficient cost.

Given the opportunities for efficiency identified during this review, we consider this funding would assist Water NSW plan and achieve business improvements initiatives over the 2021 Determination. It would also help Water NSW meet our continuing efficiency targets discussed below. However, we do not consider that the strategy should be funded by customers and therefore we are allocating 100% of this expenditure to the government share. We have established an output measure for this expenditure to ensure Water NSW is accountable over the 2021 determination period (Appendix B).

3.4.5 We reduced additional regulatory team resources by \$0.7 million

Water NSW proposed 3 additional FTEs be added to its regulatory team to improve performance in an environment of growing demands. This added around \$2.1 million over the determination period – starting in July 2022. Our draft decision was that the additional resources were reasonable, however the new resources should:

- apply from July 2021
- be shared between other Water NSW regulated businesses including WAMC and Greater Sydney.¹⁷

Based on advice from Atkins, we allocated 50% of the 4-year \$2.8 million increase to Water NSW's other business units including Greater Sydney and WAMC.¹⁸

In response to our draft report, Water NSW requested we reconsider the proposed allocation of this expenditure between rural bulk water, WAMC and Greater Sydney of 50:25:25. Instead, Water NSW proposed allocating the additional resources in equal shares between the rural bulk water and WAMC determinations. This is because of the extensive work involved in these reviews compared with Greater Sydney.

Atkins reviewed and agreed with Water NSW's proposed change.¹⁹ We also agree the reallocation is reasonable, and our decision is to accept a 50:50 allocation between rural bulk water and WAMC. This decision leaves the Rural Valleys' efficient expenditure unchanged (because rural bulk water still receives a 50% allocation of costs). However, it increases the share of regulatory costs allocated to WAMC, and hence included in WAMC bills that Water NSW's rural bulk water customers also pay.

3.4.6 We reinstated environmental planning and protection costs of \$1.9 million

Our draft decision excluded \$1.9 million for Water NSW's proposed increase in environmental planning and protection (EPP) expenditure. Atkins found this amount was the result of miscoding by Water NSW, which incorrectly attributed Purchasing and Procurement Management costs to EPP. Atkins could not justify this amount, regardless of the underlying expenditure category.²⁰

Since our draft decision, Atkins clarified with Water NSW that the expenditure relates to procurement and should be allocated across all of the activity areas. Water NSW provided a breakdown of the procurement expenditure which better reflects the allocation between activities. Based on this updated information, Atkins recommended reinstating the increase.²¹ We agree that Water NSW's explanation is reasonable and included the \$1.9 million increase.

3.4.7 We included cold water pollution costs of \$1.9 million

Water NSW submitted our draft decision did not address proposed additional costs of \$3.75 million for cold water pollution requirements.²² It requested that IPART consider these additional costs in making the final determination and submitted a detailed business case for investment in cold water pollution-mitigation measures. The Department of Primary Industries (DPI) Fisheries also argued for including cold water pollution costs, so Water NSW can meet requirements of water supply works approvals.²³

Upon review, Atkins considered it prudent and efficient to improve monitoring around relevant dams to better understand cold water pollution and provide a benchmark for potential future measures. In particular, it recommended allowing options assessment for high priority dams only, resulting in additional expenditure of \$1.9 million. Atkins considered that the case was not made to carry out options assessments for low and moderate priority dams, for which no mitigation measures were proposed. Atkins also recommended \$1.0 million in capital expenditure as proposed by Water NSW.²⁴

We agree with Atkins that expenditure related to cold water pollution for high priority dams is prudent and efficient. Our decision is to include \$1.9 million in EPP costs and \$1.0 million in capital expenditure as recommended by Atkins.

3.5 We made operating efficiency adjustments of \$9.4 million

We applied catch-up and continuing efficiency adjustments to Water NSW's forecast operating expenditure. In total, we made \$9.4 million in savings from catch-up and continuing efficiencies.

In making our decisions, we compared the total efficiency savings applied to Water NSW against efficiencies achieved by other water utilities when they were at a similar stage of efficiency maturity, to get a sense of the scale of efficiency that should be achievable for the 2021 Determination.^h

3.5.1 Water NSW could make catch-up efficiency savings of \$5.8 million

Catch-up efficiency reflects the efficiency needed to be achieved over time to catch up with a frontier company. Our draft decision was to accept Atkins' recommended catch-up efficiency adjustments of 1.1% per year.

Atkins found that Water NSW needs to improve to reach the level of a best-practice or frontier company. It found there was scope for improvement, with Water NSW only providing limited evidence of efficiency and performance drive in the business.

Atkins notes that:

...there is limited ownership of the cost performance of the individual regulated businesses, and limited monitoring or focus on performance against the Determinations or annual variances.²⁵

And:

Water NSW does not appear to routinely prepare, challenge and refresh business cases or plans for major opex areas or embed expected savings from initiatives in budgets, as well-run utilities do.²⁶

^h See Table 3.2 of our Draft Report for further information, IPART, *Review of Water NSW's rural bulk water prices - From 1 July 2021 to 30 June 2025 - Draft Report*, March 2021.

Water NSW did not agree with our draft decision and considers that there is no justification (or theoretical basis) given the absence of an 'efficiency frontier' on which to base these reductions. It also submitted the draft decision:

- was based on flawed benchmarking analysis applied inconsistently compared with other IPART decisions
- should not apply to water monitoring activities as recognised by Cardno in the WAMC review
- has potential for double counting given that uncontrollable costs should be excluded, as should programs that have already been specifically 'adjusted' once to ensure (scope) efficiency.²⁷

Atkins reviewed and responded to Water NSW's comments in its supplementary report and noted it already addressed some of Water NSW's issues in its final report.²⁸ We are satisfied with Atkins' responses on the methodology and application of catch up efficiency. As noted above, in making our decisions we had regard to catch-up efficiency applied to other water utilities at a similar stage of efficiency maturity.

In line with Atkins' recommendations, we consider Water NSW can take a number of initiatives to improve its efficiency, including:

- greater management focus on cost performance, including aligning incentives and embedding genuine challenge into budgeting processes
- clearer internal accountability for performance of each regulated business
- profit and loss-style accountability for corporate expenditure
- continued progress in improving procurement, including tracking benefits.²⁹

Our decision is to apply catch-up efficiency adjustments of 1.1% per year, totalling \$5.8 million in catch-up efficiency savings over the 2021 determination period. This approach is consistent with Atkins' recommendations and unchanged since our draft decision. Table 3.4 summarises our decisions on catch-up efficiency adjustments applied to Water NSW's operating expenditure.

Table 3.4 Decision on catch-up efficiency for operating expenditure for the 2021 determination period (\$ millions, \$2020–21)

| Level of catch-up efficiency | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|---|---------|---------|---------|---------|
| Catch-up efficiency (cumulative %) | -1.10% | -2.19% | -3.26% | -4.33% |
| Total catch-up efficiency (\$ million) | -0.6 | -1.2 | -1.7 | -2.3 |

Source: Atkins, *Expenditure review of Water NSW Rural Bulk Water Services and Corporate Cost Allocation, Supplementary Report for IPART*, 25 May 2021, p 22 and IPART analysis.

3.5.2 Water NSW could make ongoing continuing efficiency savings

The continuing efficiency adjustment is important because it ensures our maximum prices capture the impact of innovation and new technologies that enable firms to do more with less input. Our continuing efficiency target establishes an expectation of continuous productivity improvement that efficient businesses should reasonably be able to achieve over the 2021 determination period.

Our decision is to apply continuing efficiency adjustments of 0.7% per year, totalling \$3.6 million in efficiency savings over the 2021 determination period (Table 3.5).ⁱ This is unchanged (in percentage terms) from our draft decision.

Table 3.5 Decision on continuing efficiency for operating expenditure for the 2021 determination period (\$2020–21)

| Level of efficiency | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|--------------------------------------|---------|---------|---------|---------|-------|
| Continuing efficiency (cumulative %) | -0.70% | -1.4% | -2.09% | -2.77% | N/A |
| Continuing efficiency (\$ million) | -0.4 | -0.8 | -1.1 | -1.4 | -3.6 |

Source: Atkins, *Expenditure review of Water NSW Rural bulk water services and corporate cost allocation – Supplementary Report for IPART*, 25 May 2021, p 22; and IPART analysis.

In response to our draft decision, Water NSW submitted that including a continuing efficiency factor is not unreasonable. However, it disagreed with 0.7% and suggested a range of 0% to 0.35%. It considered that most weight should be given to the measured productivity of the utility industry (rather than the market sector) since the utility industry most closely reflects the input and output characteristics of water businesses. It also argued for giving most weight to multi-factor productivity (MFP) estimates over the most recent historical years (rather than 40 years), to produce more realistic estimates of the scope for productivity gains over the forthcoming regulatory period.³⁰

We consider that our current approach, which uses all available data, is preferable to a shorter time period. A longer time series provides more data points and helps to reduce the impacts on final estimates of unusual MFP growth over a single business cycle. Further, this approach does not require judgement about what part of the business cycle we will experience over the forthcoming regulatory period.

We also consider it is appropriate to base the continuing efficiency factor on the market sector data rather than data specific to the utilities sector or a subset of industries. This approach represents the efficiencies that could be available to utilities, through internal initiatives or incorporated through supply chains.

ⁱ The value of the continuing efficiency adjustment is derived from the compound long-run average of the Australian Bureau Statistics (ABS) multi-factor productivity (MFP) series for the Australian economy.

Chapter 4 >>

Capital expenditure

04

Summary of our decisions on capital expenditure

Water NSW's efficient level of past capital expenditure was higher than we forecast

We found Water NSW's actual capital expenditure of \$228.9 million over the 2017 determination period was efficient. This expenditure is 42% higher than we used to set prices over the determination period. (It excludes an additional \$235 million of government-funded expenditure on drought projects.)

Our decision on the efficient level of forecast capital expenditure is lower than Water NSW proposed

We found the efficient forecast capital expenditure for the 2021 determination period including drought projects is \$303.8 million. This amount is \$59.1 million or 16.3% lower than what Water NSW proposed.

We made \$41.7 million in scope adjustments, mostly for fish passageway offsets

We included capital expenditure for fish passageway construction of \$30.8 million over the 2021 determination period. This amount is \$40.9 million lower than Water NSW's original proposal, and \$12.1 million lower than its revised proposal. Our decision reflects what we consider Water NSW can realistically achieve over the 2021 determination period, including leveraging lessons learnt from one project to the next.

We made \$17.5 million in efficiency adjustments

These adjustments include:

- \$13.1 million in catch-up efficiency adjustments
- \$4.4 million in continuing efficiency adjustments.

We recognise Water NSW has taken steps to improve its efficiency in delivering capital works, most notably on renewals. But we consider it can achieve larger efficiency savings over the 2021 determination period.

This chapter sets out our decisions on Water NSW's efficient level of capital expenditure. Under the building block method, there is no explicit allowance for capital expenditure in the notional revenue requirement. Instead, the efficient capital expenditure is added to the regulatory asset base (RAB) for each valley and recovered through allowances for a return on assets and regulatory depreciation (discussed in Chapter 2 and Chapter 8).

We reviewed the efficiency of Water NSW's actual capital expenditure during the 2017 determination period and its proposed operating expenditure for the 2021 determination period. As with operating expenditure, we engaged Atkins to review Water NSW's actual and proposed capital expenditure and recommend the efficient amount to include in the RAB. We considered the advice of Atkins, as well as relevant stakeholder submissions, in reaching our decisions.

4.1 Water NSW's efficient level of capital expenditure is \$303.8 million

Our decisions are:

5. To set the efficient level of Water NSW's past capital expenditure to be included in the regulatory asset base for the 2017 determination period as shown in Table 4.1.
6. To set the efficient level of Water NSW's capital expenditure for the 2021 determination period as shown in Table 4.2.

Table 4.1 and Table 4.2 set out our decisions on Water NSW's past and proposed capital expenditure, respectively.

Table 4.1 Decision on efficient capital expenditure for the 2017 determination period (\$ millions, \$ nominal)

| | 2017–18 | 2018–19 | 2019–20 | 2020–21 | Total |
|------------------|---------|---------|---------|--------------------|-------|
| Water NSW actual | 37.1 | 43.2 | 114.0 | 263.4 ^a | 457.7 |
| IPART decision | 37.1 | 43.2 | 114.0 | 263.0 | 457.3 |
| Difference | 0.0 | 0.0 | 0.0 | -0.4 | -0.4 |
| Difference (%) | 0% | 0% | 0% | 0% | 0% |

a. 2020–21 is a forecast.

Note: Includes Government funded drought projects. None of the costs of these projects have been included in customer prices for the 2021 determination period.

Source: Atkins, *Expenditure review of Water NSW Rural Bulk Water Services and Corporate Cost Allocation, Supplementary Report for IPART*, 25 May 2021, p 32 and IPART analysis.

Table 4.2 Decision on efficient capital expenditure for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|--------------------|---------|---------|---------|---------|--------|
| Water NSW proposed | 142.7 | 67.0 | 82.9 | 70.3 | 363.0 |
| IPART decision | 144.0 | 69.3 | 53.5 | 37.1 | 303.8 |
| Difference | 1.3 | 2.2 | -29.4 | -33.2 | -59.1 |
| Difference (%) | 0.9% | 3.3% | -35.5% | -47.2% | -16.3% |

Note: Includes Government funded drought projects. None of the costs of these projects have been included in customer prices for the 2021 determination period.

Source: Atkins, *Expenditure review of Water NSW Rural Bulk Water Services and Corporate Cost Allocation, Supplementary Report for IPART*, 25 May 2021, p 33 and IPART analysis.

4.2 Actual capital expenditure over the 2017 period was higher

Capital expenditure reported in the 2017 determination period includes actuals for 2018, 2019, and 2020, and forecast expenditure for 2021. Excluding drought response expenditure, Water NSW projects to overspend its 2017 Determination on capital expenditure by \$67.6 million (or 42%).

Water NSW attributed the overspend to the 2017 Determination allowance being too low and for projects that were not foreseen at the time, particularly dam safety works.³¹

As part of its review of Water NSW's capital expenditure, Atkins reviewed and made recommendations on the efficiency of capital expenditure over the 2017 determination period.

We set prices in the MDB valleys under the Commonwealth Government's Water Charge Rules 2010 (WCR). The WCR provide little scope to make efficiency adjustments to historical capital expenditure. All actual capital expenditure must be included in the RAB, regardless of its efficiency. However, we set prices in coastal valleys under the IPART Act, and have more discretion in assessing the efficiency of historical capital expenditure.

Regardless, Atkins found that capital expenditure on infrastructure assets since 2016-17 was efficient.³² We included all historical capital expenditure in the RAB, which includes a revision of \$0.4 million relating to Water NSW's actual expenditure for fish passage offsets in 2020–21.

4.3 Water NSW proposed capital expenditure of \$363 million

Including major drought projects, Water NSW originally proposed \$363.0 million in capital expenditure over the 2021 determination period (Table 4.2). Excluding major drought projects, Water NSW proposed capital expenditure was \$260.4 million. This amount is:

- \$99.1 million (or 61%) higher than we used to set prices in 2017, excluding drought projects
- \$31.5 million (or 14%) higher than its actual capital expenditure over the 2017 determination period, excluding drought projects.

4.4 We reduced proposed capital expenditure by \$59 million

Over the 4 years of the 2021 determination period, our decision is to reduce Water NSW's capital expenditure to \$303.8 million (Table 4.3). This amount is:

- \$142.5 million (88.3%) higher than we used to set prices in 2017
- \$59.1 million (16.3%) lower than proposed by Water NSW.

Our reductions in capital expenditure comprise:

- \$41.7 million in scope adjustments, almost all of which is for fish passageway offsets
- \$13.1 million in catch-up efficiency adjustments, based on a cumulative catch-up efficiency factor of 7.4% by 2024–25
- \$4.4 million in continuing efficiency adjustments, based on a continuing efficiency factor of 0.7% per year.

Table 4.3 Decision on efficient capital expenditure by valley for the 2021 determination period (\$ millions, \$2020–21)

| Valley | Capital expenditure |
|----------------------------------|---------------------|
| Border | 26.7 |
| Gwydir | 21.5 |
| Namoi | 22.8 |
| Peel | 26.4 |
| Lachlan | 93.2 |
| Macquarie | 28.2 |
| Murray | 19.0 |
| Murrumbidgee | 30.6 |
| Lowbidgee | 5.4 |
| North Coast | 1.7 |
| Hunter | 11.4 |
| South Coast | 1.2 |
| Fish River | 15.8 |
| Total capital expenditure | 303.8 |

4.4.1 We reduced capital expenditure for proposed fishway offsets

Water NSW originally proposed \$71.6 million of capital expenditure on fishway offsets over the 2021 determination period, for 11 projects in the Gwydir, Namoi, Lachlan and Macquarie valleys.³³

Under s 218 of the *NSW Fisheries Management Act 1994*, Water NSW must construct fish passageways when it undertakes significant capital works on existing dams. Water NSW has been working with NSW DPI Fisheries on a suitable fishway offset strategy to meet its requirements under the Act.

There was significant interest in this issue at our public hearing in November 2020, with stakeholders both in favour and against constructing fishways.³⁴

Our draft decision reduced Water NSW's proposed expenditure on fishway offsets by \$56.4 million. This amount allowed Water NSW to complete 2 pilot schemes and progress the business cases and detailed design for the other 9 schemes. Given the timing and progress of these projects, Atkins recommended it was unlikely the 9 remaining projects would occur in the 2021 determination period.³⁵

In submissions on our draft decision, stakeholders again were both in favour and against this expenditure.³⁶ In response, Water NSW proposed revised expenditure of \$43.0 million over the 2021 determination period, in consultation with DPI Fisheries. The revised program provides for 3 pilot scheme fishways, leading to 4 more to be constructed in the 2021 period. The remaining 4 will be completed in the 2025 determination period.

Atkins recommended a capital expenditure program of \$30.8 million over the 2021 determination period.³⁷ Atkins found the revised expenditure was more appropriate than the original proposal, but argued Water NSW could further leverage lessons from one project into the next by taking a slightly more staggered approach to the program.

Our decision is to accept Atkins' recommendation in its Supplementary Report. We consider this amount appropriately balances recognition that compliance with fishways requirements is overdue, and the need to ensure customer prices do not reflect projects that are unlikely or not prudent to commence in the 2021 determination period. Our decision does not prevent Water NSW from commencing more projects than we anticipate. If deemed efficient at the next price review, the capital expenditure for any additional projects will be added to the RAB and future capital costs recovered.

4.4.2 We reduced Lake Cargelligo capital expenditure by \$1.3 million

Lake Cargelligo is an off-river storage in the Lachlan Valley. After floods in 2016, a risk assessment revealed an upgrade was needed to reduce the risks of failure due to internal erosion.

Our draft decision was to reduce proposed capital expenditure for this project by \$1.3 million, based on advice from Atkins. The initial cost estimate was preliminary, and a revised estimate reduced costs by around 9%.³⁸

In response to our draft decision, Water NSW supported this adjustment, which aligns with the project's updated valuation.³⁹ Our decision is to maintain the \$1.3 million reduction.

4.4.3 We reduced Yanco Weir renewal capital expenditure by \$4.4 million

Our draft decision included capital expenditure for a legacy fishway at the Murrumbidgee Yanco Weir. In response, Water NSW proposed removing \$3.9 million, based on customer feedback that a future Yanco Sustainable Diversion Limit Adjustment Mechanism project may render the works obsolete.⁴⁰

Atkins's review of this proposal recommended a reduction (before any efficiency assumptions) of \$4.4 million.⁴¹ We agree with Atkins' assessment, and removed \$4.4 million for the Yanco Weir project.

4.4.4 We approved additional capital expenditure for Chaffey Dam

In response to our Draft Report, Water NSW proposed an additional \$1.5 million in capital expenditure over the 2021 determination period to meet the environmental approvals related to the Chaffey Dam Upgrade and Augmentation project. It proposed adding this expenditure to the Government RAB under the pre-1997 dam safety activity in 2021–22.⁴²

Atkins recommended including this expenditure in the pre-1997 dam safety activity because it appears to be directly attributable to Chaffey Dam.⁴³ We agree with Atkins' assessment, and included \$1.5 million of capital expenditure, noting it will not affect customer bills.

4.4.5 We did not change WAVE program capital expenditure

In response to our Draft Report, Water NSW noted WAVE program^a capital expenditure (\$39.9 million) was understated by approximately \$3 million in the Water NSW and WAMC pricing proposals. The program estimate excluded capitalised overheads. It requested including these overheads in the two final determinations.⁴⁴

Atkins recommended no change to our draft decision, because the proposed expenditure includes an uplift for capitalised corporate overheads.⁴⁵ We agree with Atkins' assessment and did not change the capital expenditure for the WAVE program.

4.4.6 We included capital expenditure for cold water pollution

As noted in section 3.4.7 we included an additional \$1.0 million in capital expenditure for cold water pollution costs. This amount reclassified operating expenditure.

4.5 We made capital efficiency adjustments of \$17.5 million

4.5.1 Our decision includes catch-up efficiencies

Catch-up efficiency reflects the efficiency needed over time to catch up with a frontier company. Water NSW's rural bulk water services capital expenditure program for the forward period is generally based on bottom-up discrete and other unique projects.

Our draft decision adopted advice from Atkins for catch-up efficiencies across 4 areas:

- improvements to capital program development, optimisation and prioritisation
- improvements to value engineering
- improvements in cost estimating and the management of contingencies

^a The WAVE program is a significant ICT platform that Water NSW argued represents a step change in customer service, water delivery and water data management.

- the impact of new procurement processes and likely savings from more efficient program management.

Under our draft decision, catch-up efficiency adjustments totalled \$12.4 million, based on a cumulative catch-up efficiency factor of 7.4% by 2024–25.⁴⁶ In response, Water NSW argued there was no evidence to support catch-up efficiency adjustments, and that various improvements to the areas noted above were not considered.⁴⁷

Atkins did not support changing catch-up efficiency adjustments, citing insufficient evidence. Water NSW does not appear to demonstrably challenge its capital program internally and the benefits are not demonstrably linked to its expenditure proposals. Given this, Atkins considered catch-up efficiency adjustments are warranted.⁴⁸ Table 4.4 set out Atkins' total combined capital efficiency challenge for Water NSW.

Water NSW has taken, and can continue to take, steps to further improve its efficiency. As identified by Atkins, these steps include:

- developing a single version of its capital program for each determination that is managed centrally, and from which reports can be run
- further embedding its approach to value engineering, which it has applied to some projects where costs exceeded initial expectations
- realising and refining the benefits of its investment in improving its procurement approach.⁴⁹

We agree with Atkins' assessment, and adopted the catch-up efficiencies outlined in Table 4.4.

4.5.2 Our decision includes a continuing efficiency adjustment

The continuing efficiency adjustment ensures our maximum prices capture the impact of innovation and new technologies that enable firms to do more with less input. By introducing a quantitative target, we establish an expectation of continuous improvement through our price determinations.

For any capital-intensive business, some of the most important opportunities for productivity gain are in procuring and delivering capital works. If an ongoing productivity adjustment is justified, then it should be applied to capital as well as operating expenditure.

Our draft decision applied a continuing efficiency factor of 0.7% pa. As outlined in section 3.5.2, Water NSW did not agree with our draft decision. However, for the reasons outlined in section 3.5.2, we accepted Atkins's proposed continuing efficiency targets outlined in Table 4.4.

Table 4.4 Total combined capital efficiencies

| Level of catch-up efficiency | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|--|--------------|--------------|--------------|---------------|
| Continuing efficiency at the frontier | 0.70% | 1.40% | 2.09% | 2.77% |
| Catch-up: capital program development, optimisation and prioritisation | 0.11% | 0.22% | 0.33% | 0.44% |
| Catch-up: value engineering | 0.50% | 1.00% | 1.50% | 2.00% |
| Catch-up: cost-estimating | 0.50% | 1.00% | 2.00% | 2.00% |
| Procurement | 1.00% | 2.00% | 3.00% | 3.00% |
| Total catch-up efficiency | 2.11% | 4.22% | 6.83% | 7.44% |
| Total efficiency | 2.81% | 5.61% | 8.91% | 10.21% |

Source: Atkins, *Expenditure review of Water NSW rural bulk water services and corporate cost allocation – Supplementary Report for IPART*, 25 May 2021, p 31.

Table 4.5 summarises the impacts of our decision on efficiency targets.

Table 4.5 Continuing and catch-up efficiency for capital expenditure (\$ millions, \$2020-21)

| Level of efficiency | 2021-22 | 2022-23 | 2023-24 | 2024-25 | Total |
|--------------------------------------|---------|---------|---------|---------|-------|
| Continuing | | | | | |
| Continuing efficiency (cumulative %) | -0.70% | -1.4% | -2.09% | -2.77% | |
| Continuing efficiency (\$ millions) | -1.0 | -1.0 | -1.2 | -1.1 | -4.4 |
| Catch-up | | | | | |
| Catch-up efficiency (cumulative %) | 2.11% | -4.22% | -6.83% | -7.44% | |
| Catch-up efficiency (\$ millions) | -3.1 | -3.1 | -3.9 | -3.0 | -13.1 |

Source: Atkins, *Expenditure review of Water NSW Rural Bulk Water Services and Corporate Cost Allocation – Supplementary Report for IPART*, 25 May 2021, p 33; and IPART analysis.

Chapter 5 >>

Murray–Darling Basin Authority and
Dumaresq–Barwon Border Rivers
Commission costs

05

Summary of our decisions for MDBA and BRC costs

Efficient costs for MDBA and BRC are less than what Water NSW proposed

Using our building block approach, Water NSW's efficient costs for the Murray–Darling Basin Authority (MDBA) and the Dumaresq–Barwon Border Rivers Commission (BRC) are \$65.0 million and \$2.5 million respectively.

Our decision on MDBA and BRC building block costs is \$40.6 million or 37.5% lower than those proposed by Water NSW over the 2021 determination period. Most of this reduction is in the Murray valley, where MDBA costs make up most of the costs of service.

Most of the reduction is due to:

- using the impactor pays principle to shift \$13.1 million of Salt Interception Scheme costs from Water NSW rural bulk water to WAMC's water management charges
- moving to a building block approach to calculate efficient MDBA and BRC costs through a notional revenue requirement.

We applied the building block approach to Water NSW's MDBA and BRC costs

Using the building block approach recovers capital expenditure on infrastructure more slowly over time, rather than in the year it occurs. This approach reduces efficient costs over the 2021 determination period.

Water NSW contributes on behalf of the NSW Government to 2 inter-jurisdictional water management organisations – the MDBA and BRC.

We reviewed the method for allocating MDBA and BRC costs between the Water NSW and WAMC price determinations, as well as the efficiency of these costs. We engaged Atkins to assist with this review. We have taken Atkins' recommendations into account, as well as stakeholder submissions, in making our decisions.

5.1 Water NSW's efficient costs for MDBA and BRC are \$67.5 million

Our decisions are:

7. The efficient level of Water NSW's Murray–Darling Basin Authority costs for the 2021 determination period is \$65.0 million as shown in Table 5.1.
8. The efficient level of Water NSW's Dumaresq–Barwon Border Rivers Commission costs for the 2021 determination period is \$2.5 million as shown in Table 5.2.

DPIE proposed MDBA costs of \$104.0 million for the 2021 determination period (Table 5.1). Our decision to allow costs of \$65.0 million is \$38.9 million, or 37.5% lower than DPIE's proposal because we:

- reallocated Salt Interception Scheme (SIS) costs of \$13.1 million from the Water NSW rural bulk water determination to the WAMC determination (section 5.4)
- used a building block approach to calculate efficient costs (section 5.5).

Table 5.1 Decision on efficient building block MDBA costs for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|--------------------|---------|---------|---------|---------|--------|
| Water NSW proposed | 24.4 | 26.5 | 26.5 | 26.5 | 104.0 |
| IPART decision | 15.3 | 16.7 | 16.6 | 16.5 | 65.0 |
| Difference | -9.1 | -9.8 | -9.9 | -10.0 | -38.9 |
| Difference (%) | -37.4% | -37.1% | -37.5% | -37.8% | -37.5% |

Source: Atkins, *MDBA/BRC Expenditure Review – Final Report for IPART*, March 2021, p 11; and IPART analysis.

DPIE also proposed BRC costs of \$4.2 million for the 2021 determination period (Table 5.2). Our decision to allow efficient BRC costs of \$2.5 million is lower than DPIE's proposal because we:

- rebalanced the BRC's corporate costs between the WAMC and Water NSW rural bulk water determinations
- used a building block approach to calculate efficient costs (section 5.5).

Table 5.2 Decision on efficient BRC costs for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|--------------------|---------|---------|---------|---------|--------|
| Water NSW proposed | 1.0 | 1.0 | 1.0 | 1.0 | 4.2 |
| IPART decision | 0.6 | 0.6 | 0.6 | 0.6 | 2.5 |
| Difference | -0.4 | -0.4 | -0.4 | -0.4 | -1.7 |
| Difference (%) | -39.1% | -39.7% | -40.1% | -40.4% | -39.8% |

Sources: Atkins, *MDBA/BRC Expenditure Review – Final Report for IPART*, March 2021, pp 14–15; and IPART analysis.

Our decisions are unchanged from our draft decisions in March 2021.

5.2 DPIE proposed increases in total MDBA and BRC costs

DPIE proposed increases in total MDBA and BRC contributions across the WAMC and Water NSW rural bulk water reviews.^a

5.2.1 MDBA costs would increase by 8.1% overall under DPIE's proposal

DPIE proposed total MDBA contributions of \$126.8 million,⁵⁰ compared with \$117.3 million for the previous price reviews (an increase of 8.1%):

- It proposed recovering 18.0% of these costs from the WAMC determination and 82.0% from the Water NSW rural bulk water determination. This cost allocation results from DPIE assigning MDBA's non-river management costs to WAMC and river management costs to Water NSW rural bulk water.⁵¹
- In the previous price reviews, the MDBA contributions were split 33.2% to WAMC and 66.8% to Water NSW rural bulk water.

5.2.2 BRC costs would increase by 24.9% overall under DPIE's proposal

For BRC contributions, DPIE proposed contributions of \$7.2 million,⁵² compared with \$5.8 million for the previous price review (a 24.9% increase):

- Currently, 28.1% of BRC contributions are recovered from the WAMC determination and 71.9% from the Water NSW rural bulk water determination. The split is based on historical natural resource management and river operations costs.⁵³
- For the 2021 determination period, DPIE proposed revising this split (42.2% to WAMC and 57.8% to Water NSW rural bulk water), reflecting the BRC's forward work plan.

5.2.3 Stakeholders were concerned about the proposed cost increases

Several stakeholders were concerned about the magnitude and efficiency of the proposed MDBA and BRC contributions.⁵⁴ They strongly supported improving DPIE's incentive to actively engage in negotiating these contributions, so that only efficient costs are passed onto water customers.⁵⁵ Water NSW considered this engagement was already occurring.⁵⁶

In particular, some stakeholders advocated for greater transparency and efficiency requirements on MDBA contributions. They questioned the justification of MDBA charges and the efficiency of the MDBA's operations, and urged IPART to scrutinise these costs.⁵⁷

^a The MDBA stated its program costs were not proposed to increase. Rather, the NSW Government was proposing to assign a greater proportion of its contribution to the MDBA program to water users compared with past reviews (MDBA, *Submission to IPART's Draft Report for the Water NSW rural review*, April 2021, p 1).

As outlined below, we examined the efficiency of these costs and reviewed the method for allocating these costs between the WAMC and Water NSW rural bulk water reviews. We were assisted in these tasks by our consultant, Atkins.

5.3 We made efficiency adjustments to MDBA and BRC costs

Our decisions allowed for:

- Total MDBA costs of \$117.6 million for the 2021 determination period. This is \$9.2 million (7.3%) lower than DPIE proposed for the WAMC and Water NSW price reviews.
- Total BRC costs of \$7.0 million for the 2021 determination period. This is \$0.2 million (2.5%) lower than DPIE proposed for the WAMC and Water NSW price reviews.

5.3.1 We reduced total proposed MDBA costs by 7.3%

In our previous WAMC price review, we expressed concerns about the transparency and efficiency of the MDBA's operations. For example, we noted the MDBA's activities may not have been subject to a sufficient level of independent review to ensure its costs were efficient.⁵⁸

In its proposal, DPIE highlighted that the MDBA had implemented several independent review and transparency measures.⁵⁹ For example, new projects are subject to cost–benefit analysis. Further, the Commonwealth Government has committed to triennial independent reviews of the MDBA's River Murray Operations costs to provide greater transparency and assure water users that expenditure is reasonable.

We recognise improvements have been made in this area. However, we consider there is still scope to deliver efficiency savings. As such, we accepted Atkins' recommended adjustments, including:

- **Scope adjustments** of \$3.7 million, to remove MDBA corporate overheads from Water NSW MDBA costs. DPIE confirmed that corporate MDBA costs should be recovered through the government share, and not through either WAMC or Water NSW prices to customers.⁶⁰
- **Catch-up efficiency adjustments** of 1.1% per year cumulative, totalling \$3.4 million in efficiency savings over the 2021 determination period.⁶¹
- **Continuing efficiency adjustments** of 0.7% per year cumulative, totalling \$2.2 million in efficiency savings over the 2021 determination period.⁶²

The catch-up and continuing efficiency adjustments are consistent with those we have applied to WAMC expenditure.

The Public Interest Advocacy Centre (PIAC) supported our adjustments to MDBA costs in its submission to our Draft Report, noting they would facilitate greater efficiency in recovering costs for water services.⁶³ Coleambally Irrigation Co-operative Limited also supported applying catch-up and continuing efficiency adjustments to MDBA costs.⁶⁴ However, Murray Irrigation Limited considered IPART had applied only modest 'efficiency dividends' to the MDBA's operations.⁶⁵

In its submission to our Draft Report, the MDBA raised the following main objections to the efficiency adjustments:

- It was unclear how Atkins accounted for the findings of a previous independent review into efficiency improvements for River Murray Operations when recommending additional generic efficiency requirements.
- It was concerned that further untargeted reductions in expenditure would limit service delivery and increase the risk of a service failure.
- It questioned the utility of a 'continuing efficiency' at the frontier without information on a comparable frontier company.⁶⁶

In its review of the MDBA's submission, Atkins noted the previous independent review related to actual costs rather than forward looking expenditure (which was the focus of Atkins' recommendations). Further, it considered its recommended efficiency adjustments were modest and proportionate to the control the MDBA had over its costs. Finally, while it acknowledged the lack of comparator organisations for the MDBA, the concept of frontier efficiency encouraged new innovations, ways of working and a drive towards efficient outcomes.⁶⁷ It therefore maintained its recommended efficiency adjustments, which we accepted.

5.3.2 We reduced total proposed BRC costs by 2.5%

Atkins recommended several adjustments, which we accepted. These involve:

- **Scope adjustments** comprising:
 - A water infrastructure adjustment (–\$1.2 million). The BRC does not have a formalised agreement for the operation and maintenance works carried out by Sunwater. This adjustment aligns expenditure with the BRC's historical operation and maintenance costs (i.e. before Sunwater applied a significant risk premium to these costs).
 - A resource management adjustment (+\$0.2 million). BRC's costs appeared to be going down. However, this was due to problems with its accruals accounting and late invoicing by Water NSW. This adjustment means budgets are based on actual costs including accruals.
 - An Annuity Fund Contribution adjustment (–\$0.3 million). We netted off this contribution from operating expenditure because it is linked to capital expenditure. We made a separate capital expenditure allowance for the BRC.⁶⁸
- **Catch-up efficiency adjustments** of 1.1% per year cumulative, with efficiency savings totalling \$0.2 million for operating expenditure and \$0.1 million for capital expenditure over the 2021 determination period.⁶⁹
- **Continuing efficiency adjustments** of 0.7% per year cumulative, with efficiency savings totalling \$0.1 million for operating expenditure and \$0.1 million for capital expenditure over the 2021 determination period.⁷⁰

PIAC supported our efficiency adjustments in its submission to our Draft Report.⁷¹ However, the BRC considered the catch-up and continuing efficiency adjustments may be challenging to achieve during the 2021 determination period, given the governance improvement program it undertook recently.⁷²

The BRC also partly agreed with our views on the efficiency of charges under Sunwater's service contract. However, it considered a material component of the increase was justified, due to changes in approach to risk and insurances. Therefore, it disagreed with our decision to align Sunwater's costs with historical expenditure.⁷³

After considering the BRC's submission, we have decided to maintain our draft decision on its efficiency adjustments. The BRC did not provide any new information relating to how much of the additional costs related to Sunwater contract negotiations and how much the BRC considered to be unjustified. Atkins also reviewed the BRC submission and maintained its recommended efficiency adjustments.⁷⁴

5.3.3 MDBA and BRC operations could be more efficient

Atkins identified several ways the MDBA and BRC could improve their processes, which would bring them closer to how an efficient agency operates (Box 5.1).

Box 5.1 MDBA and BRC catch-up efficiencies

Decision making: Hardwire justification and timing challenge into requests to State Contracting Authorities and Murray–Darling Basin Authority (MDBA) / Dumaresq–Barwon Border Rivers Commission (BRC) decision making.

Reporting activities and expenditure: Enhance reporting of activities and expenditure from State Contracting Authorities.

Outputs and outcomes: Put in place a benefits realisation process from definition to tracking.

Incentives: Ensure efficiency is a key metric for MDBA management. Ensure BRC's management drive permeates governance processes. Consider measures such as delegated management contracts with State Contracting Authorities to formalise requirements and introduce performance incentives.

Multi-year planning: Create more detailed budget projections and formalise multi-year budget agreements, with firmer commitments for some elements where this will aid efficiency and effectiveness.

Source: Atkins, *MDBA/BRC Expenditure Review – Final Report for IPART*, March 2021, pp 9–10, 13–14.

Atkins found:

- Efficiency was not a key focus of the MDBA. The BRC was in a similar situation before the recent change in its management, but this is now changing.
- The MDBA or BRC had few incentives to pursue efficiencies, with no entity clearly accountable for efficiency.
- While MDBA has strengthened prioritising investments, the justification framework remained weak.⁷⁵

Adopting catch-up efficiencies like those outlined above would assist the MDBA and BRC address these concerns.

5.4 We changed the allocation of MDBA and BRC costs

Our main change to DPIE's proposed allocation of costs between the Water NSW and WAMC determinations involves the MDBA's SIS.^b

5.4.1 We shifted MDBA SIS costs from Water NSW to WAMC

In the previous determination period, SIS costs were borne by users through the WAMC determination. In its pricing proposal, DPIE had instead allocated these costs (\$13.1 million)⁷⁶ to Water NSW's Murray and Murrumbidgee valleys (Table 5.3). We consider these costs should remain within WAMC.

- SIS activity relates to water resource management, which is a WAMC monopoly service, rather than a part of Water NSW's bulk water storage and delivery services.
- The prices for Water NSW's rural bulk water services apply only to regulated river users. However, Atkins found that salinity issues were not just caused by regulated river licence holders. Rather, salinity was the result of basin-wide land use, drainage and water abstraction effects.⁷⁷
- Both regulated and unregulated river users across the entire Murray–Darling Basin (MDB) contribute to high salinity. Therefore, under the impactor pays principle, it is not appropriate for the regulated river licence holders alone to bear SIS costs. Rather, the SIS's efficient costs should be added to WAMC and applied to all regulated and unregulated river management costs in the MDB (Box 5.2).

PIAC supported our allocation of costs across Water NSW and WAMC.⁷⁸ The Commonwealth Environmental Water Holder (CEWO) and Coleambally Irrigation Cooperative Limited (CICL) supported the decision to move SIS costs to WAMC.⁷⁹

In contrast, Murray Valley Private Diverters (Inc) disagreed that irrigation itself is by far the dominant driver of salinity in the MDB. It argued salinity investments, land management and new modelling significantly changed predicted salinity risks.⁸⁰ What drives salinity costs was also discussed at the Public Hearing, where it was outlined that these costs are allocated 80% to users and 20% to government.⁸¹ At this stage, we have not received evidence to change this cost share.

^b The SIS is a MDBA program that aims to intercept high-salinity groundwater before it reaches river systems. Bores constructed in the Murray valley capture the groundwater, which is pumped to evaporation beds.

Box 5.2 Allocating the costs of managing salinity

In allocating the MDBA costs of the Salt Interception Scheme (SIS), we considered what factors were driving the need for the scheme.

Broadly, salinity in waterways is caused by the mobilisation of salts that are (in the undisturbed natural environment) bound to soils. Salt mobilisation is driven by 2 factors:

1. **Land clearing generally, including for agriculture:** Land clearing removes natural root systems that access groundwater, helping to keep it in a relatively steady state. This causes the groundwater table to rise and dissolve salts in the soil. Salinity costs caused by land clearing should *not* be allocated to water licence holders, because it is not the use or holding of a water licence that is causing the costs to be incurred.
2. **Irrigation specifically:** Irrigation removes water from rivers and applies it on productive land. This water percolates through soils and mobilises salts, and can increase groundwater flow rates and salt loads into rivers. Salinity costs caused by irrigation should be allocated primarily to licence holders, because water use is the primary driver of salinity and hence costs.

DPIE confirmed irrigation itself is by far the dominant driver of salinity in the Murray Darling Basin. However, it also confirmed that groundwater licence holders are unlikely to contribute to the problem, so we have ring-fenced them from these SIS costs.

Table 5.3 Allocation of MDBA contributions

| | DPIE's proposed allocation | IPART's allocation |
|--|----------------------------|--------------------|
| WAMC determination | 18.0% | 29.2% |
| Water NSW rural bulk water determination | 82.0% | 70.8% |

Source: Atkins, *MDBA/BRC Expenditure Review – Final Report for IPART*, March 2021, p 64; and IPART analysis.

5.4.2 Our scope adjustments to BRC's expenditure allocated costs differently

In allocating its proposed BRC costs between Water NSW and WAMC, DPIE used the following method:

- water infrastructure operational costs allocated 100% to Water NSW
- water resource management operational costs allocated 100% to WAMC
- BRC corporate costs then apportioned based on the relative costs from steps 1 and 2 above.⁸²

As explained in section 5.3, we adjusted proposed expenditure on water infrastructure services (reducing it by \$1.2 million). We also increased water management costs by \$0.2 million. These 2 adjustments shifted the allocation of costs between Water NSW and WAMC as shown in Table 5.4.

We used these proportions to allocate both efficient operating costs and efficient capital costs.

Table 5.4 Allocation of efficient BRC costs

| | DPIE's proposed allocation | IPART's allocation |
|--|----------------------------|--------------------|
| WAMC determination | 42.2% | 56.4% |
| Water NSW rural bulk water determination | 57.8% | 43.6% |

Source: Atkins, *MDBA/BRC Expenditure Review – Final Report for IPART*, March 2021, p 82.

5.5 We applied a building block approach to MDBA and BRC costs

Our decision is:



9. To use a building block approach to set the efficient Murray–Darling Basin Authority and Dumaresq–Barwon Border Rivers Commission costs.

Sections 5.3 and 5.4 outline how we adjusted the total MDBA and BRC expenditure proposed by DPIE:

- firstly, we reduced this expenditure to an efficient level
- secondly, we allocated it between the WAMC and Water NSW rural bulk water determinations based on the impactor pays principle.

This section explains how we applied the building block approach to Water NSW's share of these efficient MDBA and BRC costs. We consider there are efficiency and equity benefits in adopting the building block approach. Further, it means our approach to setting MDBA and BRC charges is consistent with our treatment of Water NSW's core costs.^c

^c We also applied the building block approach to WAMC's water management MDBA and BRC costs in its concurrent review.

In previous Water NSW and WAMC determinations, we included all efficient MDBA and BRC expenditure in prices in the year that expenditure occurs.^d The amounts were typically based on forecasts of NSW's annual contributions to the MDBA and BRC respectively.⁸³ We usually applied efficiency adjustments to these forecasts to ensure water users only pay for MDBA and BRC expenditure that is efficient and directly related to the rural bulk water or water management services delivered.

Because payments were passed through in the year they occurred, 100% of all efficient MDBA and BRC costs have been effectively treated as operating expenditure. However, expenditure by both the MDBA and BRC includes both operating expenditure and capital expenditure.

PIAC and CICL supported applying the building block approach for MDBA and BRC costs. PIAC considered that this approach should help facilitate greater transparency, consistency and efficiency in recovering costs for water services.⁸⁴

Water NSW submitted that the building block approach will create cash-flow issues for the NSW Government.⁸⁵ We consider that while the cash-flow implications for the NSW Government are different under the building block approach, the arrangement is no different to the NSW Government funding the capital itself. In particular, where the NSW Government holds its capital investment relating to MDBA and BRC activities, it is compensated through the allowance for return on assets (i.e. weighted average cost of capital (WACC) x RAB).

5.5.1 Capital expenditure should be recovered over its useful life

Our previous approach to including MDBA and BRC costs in prices did not recognise how and when capital expenditure is most efficiently recovered from water users. Including capital expenditure in prices in the year that expenditure occurs is potentially inefficient and inequitable.

We consider that capital expenditure should be recovered over the useful life of the assets it creates. This approach ensures water users who receive a service from an asset over time contribute to its cost. Under our standard building block approach set out in Chapter 2, efficient:

- operating expenditure is passed through in the year it occurs
- capital expenditure is added to the RAB, and we include allowances for depreciation and return on assets for the value of that RAB.

This approach ensures that water users pay only for their share of an asset that may deliver services over a long period, and the utility is compensated for:

- its initial investment (through a depreciation allowance for assets in the RAB)
- the economic cost of holding those assets over time (through the allowance for a return on assets, calculated as WACC x RAB).^e

^d In 2014, the Australian Consumer and Competition Commission (ACCC) included MDBA and BRC costs as per a government direction to the then State Water Corporation.

^e Our decisions on the WACC are set out in Chapter 7; and our methodology is explained in more detail in Appendix D.

5.5.2 Efficient capital and operating expenditure for MDBA costs is \$83.2 million

Our decision is:



10. To set Water NSW's operating and capital expenditure for Murray–Darling Basin Authority costs as shown in Table 5.5.

Table 5.5 shows Water NSW's efficient MDBA operating and capital expenditure over the 2021 determination period arising from our decisions. These are unchanged from our draft decisions.

Table 5.5 Decision on Water NSW's efficient MDBA expenditure for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|-----------------------|-------------|-------------|-------------|-------------|-------------|
| Operating expenditure | 15.1 | 16.3 | 16.0 | 15.7 | 63.1 |
| Capital expenditure | 4.8 | 5.2 | 5.1 | 5.0 | 20.1 |
| Total MDBA | 19.9 | 21.5 | 21.1 | 20.7 | 83.2 |

Note: Includes both the user share and government share of efficient costs. Only the user share of costs is included when setting prices. Our draft decisions on the user and government share of costs are discussed in Chapter 8.
Source: Atkins, *MDBA/BRC Expenditure Review - Final Report for IPART*, March 2021, p 64.

In its review of Water NSW and WAMC's proposed MDBA and BRC costs, Atkins recommended allocating 24% of total expenditure to capital and 76% to operating expenditure, stating:

For the Water NSW bulk water determination, we have prorated capital expenditure and operational expenditure based on the average split over the period for the forward-looking budget and plan between FY20 to FY24. This provides a split of 24% capital expenditure to 76% operating expenditure.⁸⁶

We consider this split represents a reasonable allocation of expenditure between capital and operating expenditure for the purpose of setting Water NSW and WAMC prices. The MDBA's activities and projects are inter-jurisdictional, and its projects service water users in NSW, Victoria, Queensland, South Australia and the Australian Capital Territory (ACT). Each of these state and territory governments, as well as the Commonwealth Government, contribute to funding these projects.

It is difficult to specifically link NSW funding to individual projects, and therefore to the precise annual operating and capital costs associated with them. As such, we consider that prorating the NSW contribution on the overall MDBA operating to capital budget is representative of the contributions provided by NSW and funded through prices by Water NSW bulk water customers.

5.5.3 Efficient capital and operating expenditure for BRC costs is \$3.1 million

Our decision is:



11. To set Water NSW's operating and capital expenditure for Dumaresq–Barwon Border Rivers Commission costs as shown in Table 5.6.

Table 5.6 shows Water NSW's efficient BRC operating and capital expenditure over the 2021 determination period arising from our decisions.

Table 5.6 Decision on Water NSW's efficient BRC expenditure for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|-----------------------|------------|------------|------------|------------|------------|
| Operating expenditure | 0.6 | 0.6 | 0.6 | 0.6 | 2.4 |
| Capital expenditure | 0.1 | 0.1 | 0.3 | 0.1 | 0.6 |
| Total BRC | 0.8 | 0.7 | 0.9 | 0.7 | 3.1 |

Note: Totals may not add due to rounding. Includes both the user share and government share of efficient costs. Only the user share of costs is included when setting prices. Our draft decisions on the user and government share of costs are discussed in Chapter 8.
Source: Atkins, *MDBA/BRC Expenditure Review – Final Report for IPART*, March 2021, pp 85, 87.

To estimate the capital expenditure component of BRC's total efficient expenditure, Atkins reviewed BRC's renewal and enhancement budget over the determination period.

The BRC budgeted for around \$3.0 million of renewal and enhancement expenditure from 2021–22 to 2024–25, to be funded equally by NSW and Queensland.

After applying the catch-up and scope efficiency adjustments recommended by Atkins (section 5.3) to the NSW portion, this equates to \$1.4 million in capital expenditure to be shared between Water NSW and WAMC.⁸⁷

Our decision is consistent with the recommendations made by Atkins. Further, as outlined in section 5.4, we allocated these total efficient capital costs as follows:

- 43.6% to Water NSW, or \$0.6 million
- 56.4% to WAMC, or \$0.8 million.

In the short run, the building block approach puts downward pressure on bills in the Murray, Murrumbidgee and Border valleys for regulated river customers. As capital expenditure is recovered more slowly over time, prices needed to recover those costs are also spread over future years.

However, these relative savings in customer bills will reduce in the long-term as the RAB increases when assets are created and added. The capital cost building blocks (allowances for depreciation and return on assets) will increase as a result.

5.5.4 We set the opening MDBA and BRC RABs to zero

Our decision is:



12. To set Water NSW's opening regulatory asset bases for Murray–Darling Basin Authority and Dumaresq–Barwon Border Rivers Commission costs to zero at 1 July 2021.

The RAB represents the economic value of assets held by a utility. Each year, capital expenditure is added to the RAB, and depreciation and capital contributions are deducted.^f

Historically, all of NSW's share of MDBA and BRC expenditure has been funded directly through annual payments. Some of this expenditure has been capital expenditure used to build assets and infrastructure. These payments have been passed directly through to customers, or paid for by the NSW Government through its share of those costs. As such, we consider that the existing MDBA and BRC assets used to deliver services to Water NSW and WAMC customers have already been fully paid for.

In the past, we have set opening RABs to zero for the purpose of setting prices. In our 2011 WAMC Determination, we set the opening RAB to zero for its core costs.⁸⁸

Because we are treating MDBA and BRC capital expenditure differently from operating expenditure for the first time, this will change from 2021–22. This means that all efficient MDBA and BRC capital expenditure will enter the RAB from 2021–22 onwards.⁹

With an opening RAB of zero and our decision on forecast efficient MDBA and BRC capital expenditure set out in Table 5.5 and Table 5.6, the annual MDBA and BRC RAB values over the 2021 Determination are shown in Table 5.7.

Table 5.7 Water NSW's MDBA and BRC RAB values at July 1 for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|----------|---------|---------|---------|---------|
| MDBA RAB | 0 | 4.8 | 9.8 | 14.6 |
| BRC RAB | 0 | 0.1 | 0.2 | 0.5 |

Note: The RAB balance is equal to the previous year's RAB balance plus capital expenditure, less depreciation, disposals and capital contributions.

^f Capital contributions include grants and other contributions that directly fund new assets. If an asset is funded, or partially funded, by direct cash contributions, it does not need to be recovered through prices because the utility does not incur further costs.

⁹ We are setting Water NSW's bulk water prices in MDB valleys for this determination under the WCR. The WCR limit our scope to make ex-post efficiency adjustments to capital expenditure that enters the RAB.

5.5.5 Total building block costs for MDBA and BRC expenditure are \$67.5 million

As set out in Chapter 2, the notional revenue requirement (NRR) derived from the building block costs represents the total efficient economic costs of delivering services. They include allowances for:

- operating expenditure
- regulatory depreciation (RAB/average life of assets in the RAB)
- return on capital (WACC x RAB)
- tax
- working capital.

Table 5.8 shows the NRR for Water NSW's efficient MDBA and BRC activities over the 2021 determination period arising from our decisions. These amounts have changed only marginally since our draft decision due to our updated WACC.

Table 5.8 Decision on Water NSW's notional revenue requirement for MDBA and BRC costs for the 2021 determination period (\$ millions, \$2020–21)

| Building block | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|-------------------------------|-------------|-------------|-------------|-------------|-------------|
| Operating expenditure | 15.8 | 16.9 | 16.6 | 16.3 | 65.6 |
| Depreciation | 0.1 | 0.2 | 0.3 | 0.4 | 0.9 |
| Return on assets ^a | 0.1 | 0.2 | 0.3 | 0.4 | 1.0 |
| Tax | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| Total | 15.9 | 17.3 | 17.2 | 17.1 | 67.5 |

a. Including return on working capital.

Note: The rate of return on assets (WACC) is set out in Chapter 7.
Source: IPART analysis.

5.5.6 Better clarity and quality of data will enhance transparency

A number of stakeholders were concerned about the efficiency and transparency of MDBA and BRC costs.⁸⁹

We consider that our decisions deliver efficiency benefits to Water NSW and its customers. Creating a RAB and recovering capital costs over the useful life of assets means that, over time, MDBA and BRC-related prices will better reflect the efficient costs and timing of expenditure. Customers benefit from the equitable sharing of asset costs through time, and greater clarity on the types of expenditure undertaken by the MDBA and BRC.

Further, including a RAB and sharing capital costs over time may provide a more flexible regulatory mechanism for including large capital projects undertaken by the MDBA and BRC. When capital costs need to be recovered in the year they occur, the prohibitive costs (and impact on customers) of efficient, long-term but expensive assets may make them unfeasible. However, when costs are recovered over time, and the utility or agency investing in large projects is compensated for the holding cost of those investments, such projects (if any) may be more likely to be undertaken.

Nonetheless, we consider that more specific data on projects and programs that deliver services to water users by the MDBA and BRC would be beneficial. This will allow a greater level of precision in assessing both the efficient levels of expenditure and the services delivered to users. It would also improve the transparency to customers of the programs, projects and assets funded through Water NSW's MDBA and BRC-related charges.

Chapter 6 >>

Other costs

06

Summary of our decisions for other costs

Our water sales volatility allowance is less than that proposed by Water NSW

We provided Water NSW with \$1.23 million over 4 years to manage the risk that actual water sales are lower than forecast. This amount is \$7.6 million less than Water NSW proposed.

We provided rebates for Irrigation Corporations and Districts

We provided Irrigation Corporations and Districts with \$6.6 million in discounts over 4 years to account for Water NSW's avoided costs for metering, billing and other services.

We also provided unders and overs mechanism repayments

We provided Water NSW with an allowance of \$6.3 million over 4 years so by 2024–25 customers will have paid back to Water NSW two-thirds of the outstanding unders and overs balance from when we decided to discontinue the mechanism in the 2017 price review.

This chapter outlines our decisions on other cost items, which are in addition to those included in our building block approach. These include the unders and overs mechanism (UOM) balance, the revenue volatility allowance and our decision on rebates for Irrigation Corporations and Districts (ICDs).

6.1 We set a revenue volatility allowance of \$1.23 million over 4 years

Our decision is:



13. To include a revenue volatility allowance in the valleys listed in Table 6.1 to enable Water NSW to manage the risk that water sales are lower than forecasts.

We have included in Water NSW's prices a revenue volatility allowance of \$0.31 million per year (\$1.23 million over 4 years). This allowance provides funding for Water NSW to manage the cash-flow risk created when its water sales are lower than forecast. It is roughly \$8 million (87%) less than Water NSW proposed in its July 2020 proposal.⁹⁰

In principle, we consider price structures should be generally cost-reflective, so Water NSW's fixed charges reflect the proportion of its costs that are fixed, and usage charges reflect the proportion of its costs that vary with water demand. For rural bulk water, we consider that an 80:20 split of fixed-to-variable charges equitably shares the risk between Water NSW and its rural bulk water customers.

Most of Water NSW's costs are fixed, with the amount of water it sells having minimal impact on its costs. However, in many of Water NSW's rural valleys, we set high variable charges and low fixed charges, in line with customer preferences.^a This approach is not cost-reflective.

By setting non-cost-reflective prices, Water NSW risks not recovering its full efficient costs when water sales are lower than forecast. Therefore, we consider customers should pay the efficient costs for Water NSW to manage this additional risk.

Table 6.1 sets out our final revenue volatility allowance by valley. We included an allowance only in valleys where Water NSW's price structure recovers less than 80% of its revenue from fixed charges. The volatility allowance is apportioned relative to each valley's contribution to Water NSW's overall revenue risk (i.e. valleys with higher water sales volatility pay a larger share of the volatility allowance).

Table 6.1 Decision on revenue volatility allowance by valley for the 2021 determination period (\$'000s, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|--------------|--------------|--------------|--------------|--------------|----------------|
| Border | 5.0 | 5.0 | 5.0 | 5.0 | 19.9 |
| Gwydir | 41.4 | 41.4 | 41.4 | 41.4 | 165.6 |
| Namoi | 46.1 | 46.1 | 46.1 | 46.1 | 184.5 |
| Lachlan | 77.3 | 77.3 | 77.3 | 77.3 | 309.2 |
| Macquarie | 60.0 | 60.0 | 60.0 | 60.0 | 240.0 |
| Murray | 30.1 | 30.1 | 30.1 | 30.1 | 120.5 |
| Murrumbidgee | 46.1 | 46.1 | 46.1 | 46.1 | 184.5 |
| Hunter | 1.1 | 1.1 | 1.1 | 1.1 | 4.3 |
| Total | 307.1 | 307.1 | 307.1 | 307.1 | 1,228.5 |

Note: Rows may not sum due to rounding. Totals are different to values presented in Frontier Economics report as annualised costs include a return on capital.

Source: Frontier Economics, *Estimation of efficient self-insurance costs Addendum Report*, 18 May 2021, pp 51–52; and IPART analysis.

6.1.1 We considered several approaches to managing revenue volatility

We considered 3 approaches to estimate the efficient cost of managing Water NSW's water sales risk:

A revenue swap product

In June 2021, Water NSW informed us it had completed a tender process for a revenue swap policy and had received a preferred quote. Water NSW asked IPART to consider setting the revenue volatility allowance at the level of this quote: roughly \$2.5 million per year (approximately \$10 million over 4 years).

^a See discussion of price structures in section 10.1 of this report.

Under this policy, Water NSW would give most of its revenue from water sales to a third-party insurer (regardless if it is higher or lower than forecast), and in return receive a fixed annual payment. The net result is that despite roughly 60% of Water NSW's forecast revenue from customers being at risk due to uncertain water sales, following the swap, 80% of its revenue would ultimately be fixed and only 20% at risk.

Our 2017 Determination set the efficient cost of managing volatility at around \$1.3 million per year for a similar product.⁹¹

Self-insurance through borrowing and lending

We engaged consultants, Frontier Economics, to estimate Water NSW's cost of managing its revenue volatility risk by taking out a line of credit with a lender. We asked Frontier Economics to assume Water NSW would borrow or lend so that 80% of its revenue would be fixed.

In our Draft Report, we set a draft revenue volatility allowance of \$2.12 million over 4 years (\$0.53 million per year) on this basis. Following the release of our Draft Report, Frontier Economics revised its estimate down to \$1.17 million^b over 4 years, or 44% lower.^c ⁹² Frontier Economics' full report is available on our website.

An unders and overs mechanism (UOM)

In its submission to our Draft Report, Water NSW proposed IPART consider reinstating an unders and overs mechanism (UOM) in place of setting a revenue volatility allowance.⁹³ In June 2021, Water NSW stated this was now its preferred approach for the 2021 determination period.

The ACCC included a UOM when it set prices for Water NSW between 2014 and 2017. The ACCC UOM mechanism created a running account of surpluses and deficits relative to the forecast revenue. Each year the balance was in deficit, prices could be increased by the value of the balance multiplied by the WACC, and vice versa when the balance was in surplus.⁹⁴

6.1.2 We set the revenue volatility allowance based on self-insurance costs

After considering the options for managing revenue volatility risk, we decided to maintain our draft decision to set a revenue volatility allowance based on the efficient costs of managing water sales risk through self-insurance (option 2 in section 6.1.1).

As explained in our Draft Report, we did not support Water NSW's original proposal to purchase an asymmetric insurance policy because it would shift too much risk onto customers. Specifically, customers would pay the full cost of managing Water NSW's downside risk (i.e. by paying for its insurance premiums), while Water NSW would keep any additional revenue when sales were higher than forecast.

^b We marginally increased this amount to \$1.23 million to include our final decision on the WACC.

^c NSW Treasury Corporation (TCorp) provided IPART and Frontier Economics with revised data on key parameters.

Water NSW's revised proposed costs for the symmetric revenue swap would significantly increase costs for some customers.⁹⁵ We consider impacted customers should have an opportunity to comment on proposed costs that will flow through to prices.

Importantly, Frontier Economics' self-insurance estimates (\$1.23 million) are significantly lower than the market quote for the swap product proposed by Water NSW (\$10.0 million). We acknowledge Water NSW has engaged with the market to find a swap policy that would manage this risk symmetrically with its customers. However, given the current low interest rate environment, we are not convinced externally insuring this risk is efficient.

We are also uncertain Water NSW's proposed swap approach appropriately identifies the risk it faces. We assume Water NSW's water sales risk is symmetric (i.e. above forecast and below forecast water sales are equally likely) so over the long-term Water NSW should be made whole for any under-recoveries. Therefore, the risk Water NSW faces relates to cash-flow during low sales periods, rather than a large unrecoverable loss which a business would typically insure.^d Under these conditions, it is not unreasonable for a business to finance short-term revenue shortfalls through borrowing or drawing down on reserves.

We will monitor Water NSW's revenue volatility closely over the 2021 determination period. We will also reconsider Water NSW's efficient costs and method of managing this risk at our next price review, due in 2024–25.

There are similarities between the self-insurance mechanism Frontier Economics designed and the UOM mechanism introduced by the ACCC in 2014 and discontinued by IPART in 2017. On balance we prefer the self-insurance mechanism over a UOM for a number of reasons:

- An ex ante allowance provides price stability across the 4-year period without needing annual adjustments.
- The self-insurance approach reflects the different costs of borrowing and lending for Water NSW.
- The self-insurance approach explicitly accounts for the costs of debt financing such as commitment fees, rather than assuming the shortfall will be recovered through a benchmark mix of equity and debt.
- A UOM could lead to unsustainable balances, which require contributions from customers much larger than the cost of managing cash-flow over one determination period.

^d For example we provide Water NSW an allowance to purchase insurance for much of its plant and equipment against loss or damage.

Water NSW opposed our self-insurance cost estimates

In its submission to our Draft Report, Water NSW strongly opposed IPART's draft decision to base the revenue volatility allowance on Frontier Economics estimated self-insurance costs.⁹⁶ It raised concerns both with Frontier's analysis and with our decision to use a self-insurance benchmark.

Frontier Economics responded to the concerns with its modelling approach in its May 2021 Addendum Report.⁹⁷ IPART found Frontier Economics' arguments persuasive and we continue to consider its method reasonable and robust.

Water NSW also raised several conceptual concerns with using self-insurance to set the revenue volatility allowance:

- Self-insurance is neither practical nor achievable for Water NSW with regards to water usage revenue. Revenue from water usage is too significant relative to total revenue, and there is high correlation of water usage revenue between valleys.⁹⁸
- The efficient cost of managing revenue volatility is best assessed through a "market tested price" rather than through a theoretical modelling exercise.⁹⁹
- IPART's proposed self-insurance approach is effectively an "ex ante unders and overs (UOM) mechanism." Such an approach exposes Water NSW to the financial risk of having to leverage its balance sheet to fund the under-recovery of revenue for an undefined period.¹⁰⁰
- The self-insurance approach is inconsistent with the Water Charge Rules 2010 (Cth)(WCR) because it does not permit Water NSW to recover its full efficient costs.¹⁰¹

We acknowledge Water NSW's concerns but do not agree that using a self-insurance approach is an inappropriate way to set the revenue volatility allowance.

Our view is that revenue variability above and below the forecast should net off over the long-term so there should not be a need to hedge against systematic risk, only the risk of cash-flow fluctuations within a period. Under these conditions, it is not unreasonable for an undiversified business to finance short-term revenue shortfalls through borrowing or drawing down on reserves.

We also acknowledge the self-insurance methods contains some residual risk. If long-term average water sales fundamentally shift permanently either significantly higher or lower than our current forecasts, there may be a risk that Water NSW could build up a permanent asset or liability under a self-insurance mechanism.^e However, we consider:

- this would be a long-term issue, and not likely to present an unmanageable risk for Water NSW over the 2021 determination period
- our regulatory framework has the flexibility to periodically reassess this risk at the next and subsequent price reviews.

^e A legacy asset (liability) could arise in the long-term if water sales are much more likely to be higher (lower) than our forecasts.

We do not agree with Water NSW's argument that, under our approach, it may not recover its efficient costs "in the regulatory period" and that this is inconsistent with clause 29 of the WCR. Clause 29 does not require us to be satisfied that Water NSW will **certainly** recover its efficient costs during the regulatory period, only that this is "reasonably likely". We set the self-insurance allowance such that, on average, Water NSW will recover the efficient costs of self-insurance. For that reason, we are satisfied it is reasonably likely Water NSW can recover its costs via the regulated charges we have set.

6.1.3 Water NSW should consider the issues underlying revenue volatility

In preparing future pricing proposals, Water NSW may benefit from considering the underlying drivers of revenue volatility.

First, revenue volatility could be minimised by setting a more accurate demand forecast. As we discuss in Chapter 9, there may be a systemic bias in setting the water sales forecast based on the 20-year historical average. But, based on the available data, we are not currently convinced there is an evident bias. We encourage Water NSW to continue exploring alternatives to the 20-year average.

Second, more cost-reflective price structures would reduce revenue volatility for Water NSW. Currently the fixed share of revenue in most valleys is 40%. Increasing this share would reduce revenue risk and potentially reduce volatility allowance costs for customers. We note, however, customers typically prefer higher variable charges for cash-flow reasons.

6.2 Irrigation Corporation and Districts (ICD) rebates are \$6.6 million

Our decision is:



14. To set the value of rebates provided to 8 Irrigation Corporations and Districts as shown in Table 6.2.

Table 6.2 Decision on ICD rebates for the 2021 determination period (\$'000s, \$2021–22)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|-------------------------|--------------|--------------|--------------|--------------|--------------|
| Jemalong | 55 | 56 | 52 | 49 | 212 |
| Murray Irrigation | 723 | 692 | 673 | 645 | 2,733 |
| Western Murray | 18 | 17 | 17 | 16 | 69 |
| West Corurgan | 36 | 35 | 34 | 32 | 137 |
| Moira | 19 | 18 | 18 | 17 | 72 |
| Eagle Creek | 7 | 7 | 6 | 6 | 26 |
| Murrumbidgee Irrigation | 618 | 588 | 578 | 563 | 2,347 |
| Coleambally Irrigation | 265 | 252 | 248 | 241 | 1,006 |
| Total discounts | 1,742 | 1,664 | 1,625 | 1,570 | 6,601 |

Source: IPART analysis.

ICDs, located in the Lachlan, Murray and Murrumbidgee valleys, undertake activities such as billing, metering and monitoring for customers that are serviced within their irrigation distribution network. The structure of ICDs and their activities means that Water NSW services fewer large customers rather than many smaller customers.

Past determinations included discounts via rebates to ICDs to reflect Water NSW's 'avoided costs' of not directly servicing a larger number of smaller customers. The avoided costs are calculated based on the services Water NSW does not provide due to ICD activities (as a per ML of entitlement cost multiplied by the number of entitlements held by the ICD). These activities include billing, metering and compliance, telemetry installation and data transfer (Table 6.3).

Table 6.3 Estimated avoided costs by valley in 2021–22 (\$2020–21)

| | Lachlan | Murray | Murrumbidgee |
|-----------------------------------|---------------|---------------|---------------|
| No. of entitlements in valley | 690,418 | 2,347,178 | 2,704,141 |
| Metering and compliance | \$262,736 | \$654,985 | \$500,403 |
| Billing | \$46,232 | \$103,033 | \$186,652 |
| Cost per entitlement | \$0.45 | \$0.32 | \$0.25 |
| No. of entitlements in ICDs | 73,049 | 1,569,024 | 1,603,734 |
| Telemetry installation | \$10,772 | \$140,318 | \$225,231 |
| Data transfer costs | \$11,997 | \$156,274 | \$250,843 |
| Cost per entitlement | \$0.31 | \$0.19 | \$0.30 |
| Total cost per entitlement | \$0.76 | \$0.51 | \$0.55 |

Source: Water NSW pricing model to IPART, June 2020; Water NSW email to IPART, 4 February 2021; and IPART analysis.

The discounts are paid annually to ICDs in the form of rebates, with the value of the rebates collected from other users. While the size of the rebate does not affect Water NSW's total revenue requirement, it affects the value of bulk water charges paid by all customers.

6.2.1 We consider the current method for calculating the rebates is appropriate

Water NSW proposed continuing to pay ICD rebates and maintaining the current approach for calculating the rebates.¹⁰²

For our 2017 price review, we reviewed Water NSW's calculation of the discounts and found the overall method to be reasonable and generally reflective of avoided costs.¹⁰³ However, we adjusted the customer numbers to reflect the actual numbers reported by the ICDs. We consider this approach remains appropriate and updated the customer and entitlement numbers for the 2021 determination period.

This results in rebates that generally increase slightly over the period (Table 6.2). It also results in \$6.6 million of avoided costs over the determination period.^f

^f Since releasing our Draft Report, we updated the information used to calculate ICD rebates. We also refined our approach to calculating avoided costs for telemetry and data transfer costs. These changes increased ICD rebates since our Draft Report.

Over the 2021 determination period, Water NSW will implement the staged non-urban metering reforms (see Chapter 14). The activities undertaken by Water NSW and the costs and meter charges associated with the reforms may significantly alter the costs avoided by ICDs, and hence the rebates. At our next review of Water NSW's rural bulk water prices in 2024–25, we will re-examine the ICD rebates and how meter reforms have affected Water NSW's avoided costs.

6.3 The unders and overs mechanism (UOM) payback is \$6.3 million

Our decision is:



15. To include in prices an unders and overs mechanism payback allowance as shown in Table 6.4.

In its 2014 Decision, the ACCC introduced a UOM for most of the Murray–Darling Basin valleys, to address Water NSW's revenue volatility risk.¹⁰⁴

Our 2017 Determination discontinued the UOM, because we considered that a volatility allowance would better address Water NSW's revenue volatility risk. We also decided that Water NSW should recover the negative UOM balance (i.e. the net amount customers owed) at 30 June 2017 from customers through prices over 12 years, in real terms.^{9,105} Therefore by 30 June 2021 customers should have repaid one-third of this balance to Water NSW.

Water NSW proposed continuing this method for recovering UOM costs.¹⁰⁶ We consider this approach remains appropriate and included an allowance in prices (Table 6.4). Two-thirds of the UOM balance owed to Water NSW at 30 June 2017 should be paid off in real terms by 30 June 2025.

Importantly, our allowance is around 5% higher than what Water NSW proposed because we applied inflation to the original 2016–17 balance, while Water NSW applied inflation only to the allowance from the 2017 determination period.

In its submission to our Draft Report, Water NSW proposed the UOM payback should be recovered entirely through the fixed charge rather than fixed and variable charges like the majority of Water NSW's revenue. It considered the purpose of the UOM payback is to reduce risk as a result of sales volatility and it is inappropriate that this revenue may itself not be recovered because of revenue volatility.¹⁰⁷

While Water NSW's argument has merit, the amount of revenue at risk is relatively small (~1% of Water NSW's revenue). On balance we did not make this change given it will have minimal impact on prices and Water NSW cash-flow, and add considerable complexity.

⁹ With the exception of the Fish River Water Supply (FRWS) because most of the UOM balance has been written off.

Table 6.4 Decision on the unders and overs mechanism payback allowance for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|--------------------|---------|---------|---------|---------|-------|
| Water NSW proposed | 1.5 | 1.5 | 1.5 | 1.5 | 6.0 |
| IPART decision | 1.6 | 1.6 | 1.6 | 1.5 | 6.3 |
| Difference | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 |
| Difference % | 5.2% | 5.1% | 5.1% | 5.0% | 5.1% |

Source: IPART analysis.

Chapter 7 >>

Other building block costs and
notional revenue requirement

07

Summary of our decisions for other building block costs and notional revenue requirement

Water NSW's notional revenue requirement is \$493.6 million

This amount is \$24 million (5%) less than what Water NSW proposed.

The difference largely reflects our reduction in Water NSW's operating expenditure to an efficient level (see Chapter 3).

Water NSW's return on assets is \$99.6 million

The opening RAB is \$1.2 billion for 2021–22.

We used a real post-tax weighted average cost of capital (WACC) estimate of 1.8% for MDB valleys and 3.0% for Coastal valleys as the efficient rate of return.

Water NSW's return of assets (regulatory depreciation) is \$95.0 million

We calculated this allowance by determining the appropriate asset lives for the assets in Water NSW's RAB and the appropriate depreciation method to use.

We calculated regulatory depreciation using a straight-line method.

Water NSW's tax allowance is \$8.0 million

We calculated the tax allowance using a tax rate of 30% and our standard methodology.

Water NSW's working capital allowance is \$2.1 million

We set the allowance by calculating the net amount of working capital Water NSW requires and multiplying it by the nominal post-tax WACC.

To set prices, we first determine the efficient costs that Water NSW should incur to efficiently deliver its services. The notional revenue requirement (NRR) represents our view of the total efficient costs of providing Water NSW's regulated services in each year of the determination period. In general, we set prices to recover this amount of revenue.

This chapter sets out our calculation of the notional revenue required to fund Water NSW's regulated services over the determination period.

7.1 We used building blocks to calculate the NRR

We used a 'building block' method to calculate Water NSW's NRR as outlined in Chapter 2. This method involves determining an allowance for each year of the determination period, including:

- operating expenditure (Chapter 3)
- a return on the regulatory value of its assets (Chapter 4, section 7.4 and Appendix C)
- a return of those assets (regulatory depreciation) (section 7.5)
- an allowance for meeting tax obligations (section 7.6)
- an allowance for working capital (section 7.7).

For this review, several additional building blocks make up the NRR, including:

- MDBA and BRC payments (Chapter 5)
- a revenue volatility allowance (Chapter 6)
- costs related to recovering the unders and overs mechanism (UOM) balance (Chapter 6)
- Irrigation Corporations and Districts (ICDs) rebates (Chapter 6).

We used a building block approach for each valley with a customer and a government component. This means there is a customer regulatory asset base (RAB) and NRR, and a government RAB and NRR for each valley. The sections below summarise our decision on Water NSW's total NRR and discuss other building blocks that are not covered in previous chapters. Our decisions on the customer share of this NRR and the target revenue to be recovered from prices over the 2021 determination period are outlined in Chapter 8. A breakdown of building blocks by valley is available via the interactive map on our [website](#).

7.2 We included drought capital expenditure in Water NSW's RAB

We maintained our draft approach to include drought capital expenditure in Water NSW's RAB. We consider that all of Water NSW's efficient capital expenditure should be included in its RAB, so it can recover the opportunity cost of undertaking these projects, including its efficient borrowing costs.

During the 2017 determination period, the NSW Government directed Water NSW to undertake a number of drought management and water security capital projects and to fund them through borrowing. Some of these projects will continue into the 2021 determination period. We discuss drought projects further in Chapter 4.

Water NSW did not include these projects in its proposed RAB for the 2021 determination period because it expected to receive direct government funding for them. We understand this funding is yet to be received. If the NSW Government chooses to provide funding in the future, we will record this as a cash capital contribution and deduct it from Water NSW's RAB.

7.2.1 Including this expenditure will not impact customer prices

We assigned a 100% government cost share for drought projects, as discussed in Chapter 8. Therefore, we assigned all of Water NSW's drought capital costs to the government share in the RAB. Water NSW will be able to recover its costs from the NSW Government over time, including an appropriate return on assets.

Our decision to include these costs will not impact prices for customers, because additional costs are recovered through the government share. However, as the building block revenue reported in this chapter is for consolidated user and government shares, our decisions for return on assets and tax allowance are higher than what Water NSW proposed.

7.3 Water NSW's total NRR is \$493.6 million

Our decision is:

16. To set the notional revenue requirement at \$493.6 million over the 2021 determination period as shown in Table 7.1.

Our decision to set Water NSW's total NRR over the 2021 determination period is \$493.6 million, which is \$24.0 million (4.6%) lower than Water NSW's proposed revenue requirement of \$517.6 million. Table 7.1 compares our decisions on NRR with Water NSW's proposal.

Table 7.1 Decision on Water NSW's total notional revenue requirement for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|--|--------------|--------------|--------------|--------------|--------------|
| Water NSW proposed | | | | | |
| NRR | 121.9 | 130.3 | 132.7 | 132.7 | 517.6 |
| IPART decision | | | | | |
| Operating expenditure | 51.8 | 54.7 | 51.0 | 49.7 | 207.2 |
| ICD rebates | 1.7 | 1.7 | 1.6 | 1.6 | 6.6 |
| Return of assets | 22.2 | 23.5 | 24.4 | 25.0 | 95.0 |
| Return on assets | 23.4 | 25.4 | 26.2 | 26.7 | 101.7 |
| Tax allowance | 1.8 | 2.0 | 2.0 | 2.1 | 8.0 |
| UOM payback | 1.6 | 1.6 | 1.6 | 1.5 | 6.3 |
| Volatility allowance | 0.3 | 0.3 | 0.3 | 0.3 | 1.2 |
| MDBA and BRC payments | 15.9 | 17.3 | 17.2 | 17.1 | 67.5 |
| NRR | 118.8 | 126.4 | 124.3 | 124.0 | 493.6 |
| Difference Water NSW proposed and decision | -3.1 | -3.9 | -8.4 | -8.7 | -24.0 |
| Difference Water NSW proposed and decision (%) | -2.5% | -3.0% | -6.3% | -6.6% | -4.6% |

Note: In this table, operating expenditure includes debt raising costs, return on assets includes return on working capital, and return of assets is a mid-year figure.
Source: IPART analysis.

7.4 Water NSW's return on assets is \$99.6 million

Our decisions are:

17. To calculate the return on assets using:
- an opening regulatory asset base of \$1.2 billion for 2021–22, and the regulatory asset base for each year as shown in Table 7.2
 - Water NSW's reported historical asset disposals for the 2017 determination period as shown in Table 7.4
 - Water NSW's forecast asset disposals for the 2021 determination period as shown in Table 7.5
 - a real post-tax weighted average cost of capital of 1.8% to calculate the return on Water NSW's assets for Murray–Darling Basin valleys
 - a real post-tax weighted average cost of capital of 3.0% to calculate the return on Water NSW's assets for Coastal valleys
 - a sampling date of 31 March 2021 for market observations as outlined in Appendix C
 - a true-up for differences between the forecast and actual cost of debt over the 2021 determination period in the next Determination.
18. To set an allowance for return on assets of \$99.6 million over the 2021 determination period as shown in Table 7.6.

We included an allowance for a return on assets in the revenue requirement, to account for the opportunity cost of capital invested to provide regulated services. Our approach ensures the business can continue to make efficient capital investments in the future. We calculated the return on assets by multiplying the value of the RAB over the determination period by an efficient rate of return. As in previous reviews, we determined the rate of return using an estimate of the WACC.^a

^a Our approach to calculating the WACC is discussed further in Appendix C. In our Draft Report, the real post-tax WACC was 1.3% to calculate the return on Water NSW's assets for MDB valleys, and 2.8% to calculate the return on Water NSW's assets for Coastal valleys.

7.4.1 Water NSW's opening RAB for the 2021 determination period is \$1.2 billion

The RAB represents the value of Water NSW's assets on which it should earn a return on capital and an allowance for regulatory depreciation. Our RAB roll-forward calculations for the 2021 determination period are shown in Table 7.2.

We calculated the RAB in each year of the 2021 determination period by rolling forward the RAB to 2024–25 by:

- adding \$303.8 million of prudent and efficient forecast capital expenditure to the opening RAB over the period (Chapter 4)
- deducting:
 - \$0.8 million for the regulatory value of forecast asset disposals (section 7.4.2)
 - \$95.0 million for regulatory depreciation (section 7.5).

Table 7.2 Decision on RAB roll-forward for Water NSW for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|--|---------|---------|---------|---------|
| Opening RAB | 1,198.7 | 1,320.1 | 1,365.4 | 1,394.1 |
| <i>Plus:</i> Efficient capital expenditure | 144.0 | 69.3 | 53.5 | 37.1 |
| <i>Less:</i> Regulatory depreciation | 22.4 | 23.7 | 24.6 | 25.2 |
| <i>Less:</i> Asset disposals | 0.2 | 0.2 | 0.2 | 0.2 |
| Closing RAB | 1,320.1 | 1,365.4 | 1,394.1 | 1,405.8 |

Note: In this table, regulatory depreciation is an end-of-year figure.
Source: IPART analysis.

We used our forecast RAB to generate the return on assets and allowance for depreciation over the 2021 determination period.

We calculated the opening RAB for 2021–22 by rolling the RAB forward over the 2017 determination period. We then made the following adjustments for the relevant periods to 30 June 2021, including:

- adding prudent and efficient capital expenditure (Chapter 4)
- deducting regulatory depreciation (section 7.4.1)
- deducting the regulatory value of asset disposals (section 7.4.1)
- adding the annual indexation of the RAB.

Our calculation of the opening RAB for the 2021 determination period for Water NSW is set out in Table 7.3.

Table 7.3 RAB calculation for Water NSW for the 2017 determination period
(\$ millions, \$ nominal)

| | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|-------------------------------------|---------|---------|---------|---------|
| Opening RAB | 750.9 | 788.0 | 827.2 | 920.8 |
| Plus: Efficient capital expenditure | 37.1 | 43.2 | 114.0 | 263.0 |
| Less: Regulatory depreciation | 15.8 | 16.9 | 17.5 | 18.5 |
| Less: Asset disposals | 0.3 | 0.1 | 0.2 | 0.2 |
| Plus: Indexation | 16.2 | 13.0 | -2.7 | 33.7 |
| Closing RAB | 788.0 | 827.2 | 920.8 | 1,198.7 |

Note: Capital expenditure is net of external funding.
Source: IPART analysis.

7.4.2 We deducted \$0.8 million in asset disposals

Asset disposals can include asset sales, write-offs and write-downs.

We maintained our draft decisions to accept Water NSW's proposed asset disposals and, consistent with IPART's asset disposal policy, deduct the receipt value of these disposals from the RAB.

We deducted asset disposals when rolling forward Water NSW's RAB. Most Water NSW asset disposals were for IT and other short-lived assets.

Under this approach, the business bears the risk of any profits or losses arising from the sale of an asset, and customers are not affected.

We consider this an appropriate approach because the benefit customers receive comes from consuming the service, not from owning the asset. We consider that the impact of any profit or loss should lie entirely with the business (or shareholder).

Table 7.4 Decision on actual asset disposals for the 2017 determination period
(\$ '000s, \$ nominal)

| | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|--------------------|---------|---------|---------|---------|---------|
| Water NSW proposed | 85 | 283 | 117 | 200 | 202 |
| IPART decision | 85 | 283 | 117 | 200 | 202 |

Source: IPART analysis.

Table 7.5 Decision on forecast asset disposals for the 2021 determination period
(\$ '000s, \$2020-21)

| | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|--------------------|---------|---------|---------|---------|
| Water NSW proposed | 202 | 202 | 202 | 202 |
| IPART decision | 202 | 202 | 202 | 202 |

Source: IPART analysis.

7.4.3 We set the WACC at 1.8% for MDB valleys and 3.0% for Coastal valleys

We used 2 separate methods to calculate and apply a WACC:

- For customers in MDB valleys, we set prices using a WACC calculated using the ACCC's pricing principles as required under the WCR.
- For customers in Coastal valleys, we set prices using our standard approach to calculating the WACC.^b

Table 7.6 shows the resulting return on assets (i.e. WACC% x RAB), based on the RAB values set out in section 7.4.1, and our decisions to apply a real post-tax WACC of 1.8% for MDB valleys and 3.0% for Coastal valleys. We increased the WACC estimates since our Draft Report to reflect changes in market parameters. Appendix C shows the parameters we used to calculate the WACC and outlines the differences between the 2 WACC methods.

Table 7.6 Decision on return on assets for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|--------------------|---------|---------|---------|---------|-------|
| Water NSW proposed | 17.7 | 18.3 | 19.2 | 20.1 | 75.3 |
| IPART decision | 23.3 | 24.8 | 25.5 | 25.9 | 99.6 |
| Difference | 5.6 | 6.5 | 6.4 | 5.9 | 24.3 |
| Difference % | 32% | 36% | 33% | 29% | 32% |

Source: IPART analysis.

7.4.4 Our approach to forecasting inflation expectations remains unchanged

Our WACC methodology involves first calculating a nominal WACC based on current and long-term market parameters measured in nominal terms. We then subtract our best estimate of inflation expectations from this nominal WACC to generate a real WACC, which we use to set prices over the determination period. All else equal, a lower estimate of inflation expectations results in a higher real WACC.

Our standard approach to estimating inflation expectations is to take the geometric mean of the Reserve Bank of Australia's (RBA) 1-year ahead inflation forecast, and the midpoint of the RBA's target range (2.5%) for each other year of the determination.

^b We set prices in Coastal valleys under the *Independent Pricing and Regulatory Tribunal Act 1992*.

In its submission to our Draft Report, Water NSW disagreed with our approach. It suggested using a glide path approach to estimating inflation expectations.¹⁰⁸ This was because:

- Current inflation expectations over the 2021 determination period are significantly lower than the forecasts produced using IPART's approach.
- Other Australian regulators changed their approach to estimating inflation expectations to recognise the current low inflation environment. For example, the Essential Services Commission of South Australia, Australian Energy Regulator and Independent Competition and Regulatory Commission are using a glide path approach to the mid-point of the RBA's inflation target over a period.

We decided to maintain our current approach to estimating inflation expectations. We would need strong and compelling evidence to change how we estimate a single WACC parameter in isolation, because the financial market data underlying many elements of the WACC are interrelated. We consider it is more appropriate to consider the WACC methodology in a holistic and internally consistent way as part of our periodic WACC reviews. We intend to review our WACC method before we review these prices again in 2026.

7.4.5 An end-of-period true-up will account for annual changes in the WACC

The WACC reflects parameters that change every year. As new tranches of debt are introduced to the trailing averages, the oldest tranches drop out.

We applied a true-up of annual WACC adjustments in the 2021 Determination. In our 2018 review of the WACC methodology, we decided at each price review we would consider whether to:

- update prices annually to reflect the updates in the WACC annually, or
- use a regulatory true-up at the next period, which we would pass through to prices at the beginning of the next period.¹⁰⁹

These options are equivalent in present value terms to customers and Water NSW.

In its submission to our Draft Report, Water NSW proposed to adjust the cost of debt annually because this would:¹¹⁰

- mitigate risk of large price movements between regulatory periods
- benefit customers by passing on a lower cost of debt straight away.

We decided to undertake the regulatory true-up at the next price review instead of annual adjustments. This approach provides greater certainty to water users about their prices over the determination period – that is, changes in prices would be impacted by inflation only, rather than also being impacted by annual changes in the cost of debt. Further, provided the true-up is smoothed over the next determination period, we do not expect price shocks to be any more likely in the next determination period compared with an annual update.

7.5 Water NSW's regulatory depreciation is \$95.0 million

Our decisions are:

19. For the purpose of calculating Water NSW's allowance for return of assets, to:
 - calculate regulatory depreciation using a straight-line method
 - for existing assets, use the rolled forward asset lives from the 2017 determination period as listed in Table 7.8
 - for new assets, set the asset lives listed in Table 7.9.
20. To set Water NSW's allowance for return of assets at \$95.0 million over the 2021 determination period as shown in Table 7.7.

We included an allowance for regulatory depreciation in the revenue requirement, to ensure the capital invested in regulatory assets is returned over the useful life of each asset. We calculated this allowance by determining the appropriate asset lives for the assets in Water NSW's RAB and the appropriate depreciation method to use.

Our return of assets allowance is higher than Water NSW's proposal because Water NSW excluded drought costs from its proposed RAB (section 7.2). Including these costs will not impact customer prices.

Table 7.7 Decision on Water NSW's allowance for return of assets for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|--------------------|---------|---------|---------|---------|-------|
| Water NSW proposed | 21.2 | 22.0 | 23.1 | 24.1 | 90.3 |
| IPART decision | 22.2 | 23.5 | 24.4 | 25.0 | 95.0 |
| Difference | 1.0 | 1.5 | 1.3 | 0.9 | 4.7 |
| Difference % | 5% | 7% | 6% | 4% | 5% |

Note: The allowance for return of assets is a mid-year figure (i.e. the RAB roll forward depreciation figure is discounted by half a year of WACC). Source: IPART analysis.

7.5.1 We used straight-line depreciation to calculate regulatory depreciation

As set out in the ACCC's WCR pricing principles and as done for previous determinations and decisions, we used the straight-line depreciation method. Under this method, the assets in the RAB are depreciated by an equal value in each year of their economic life. We consider this method is superior to alternatives in terms of simplicity, consistency and transparency.

7.5.2 We maintained our approach for rolling forward asset lives for existing assets

We typically calculate the remaining lives of existing assets by rolling forward our previous determination to incorporate new efficient assets and accounting for asset disposals. We maintained this approach for the 2021 determination period. Table 7.8 lists the starting asset lives for the customer and government RABs.

Table 7.8 Decision on asset lives for existing assets by valley for the 2021 determination period (years)

| | Customer RAB | Government RAB |
|--------------|--------------|----------------|
| Border | 50 | 98 |
| Gwydir | 42 | 53 |
| Namoi | 45 | 56 |
| Peel | 52 | 83 |
| Lachlan | 47 | 72 |
| Macquarie | 52 | 58 |
| Murray | 49 | 52 |
| Murrumbidgee | 50 | 35 |
| Lowbidgee | 63 | N/A |
| North Coast | 71 | 110 |
| Hunter | 76 | 124 |
| South Coast | 48 | 117 |
| Fish River | 42 | N/A |

Source: IPART analysis.

7.5.3 We assigned asset lives for new assets based on activity

For new assets we decided to assign different asset lives based on the activity that an asset is used for. This is consistent with our approach in previous determinations.

Our decision on new asset lives remains unchanged from our draft decision. Table 7.9 lists the new asset lives by activity.

Table 7.9 Decision on new asset lives by activity for the 2021 determination period (years)

| Activity | Water NSW proposed | IPART decision |
|---------------------------------------|--------------------|----------------|
| Water delivery and other operations | 6 | 6 |
| Corrective maintenance | 80 | 80 |
| Routine maintenance | 80 | 80 |
| Asset management planning | 80 | 80 |
| Dam safety compliance | 100 | 100 |
| Environmental planning and protection | 80 | 80 |
| Corporate systems | 6 | 7 |
| Renewals and replacement | 80 | 80 |

Source: Atkins, *Water NSW Expenditure Review – Final Report for IPART*, February 2021, p 102.

We weighted these asset lives by activity in accordance with our decisions on the efficient level of Water NSW's capital expenditure (including customer cost shares), to derive the expected asset life for new assets on a by valley and customer and government share basis.

We calculated Water NSW's allowance for return of assets using its proposed depreciation methodology. Water NSW's methodology calculates the average expected life of new assets for each valley as a weighted average, where the weights are the efficient capital expenditure amounts in each asset category. Water NSW (and we) used this methodology in previous determination periods.

Table 7.10 shows our decision on asset lives calculated using this method.

Table 7.10 Decision on asset lives for new assets by valley for the 2021 determination period (years)

| | Customer RAB | Government RAB |
|--------------|--------------|----------------|
| Border | 64 | 100 |
| Gwydir | 69 | 89 |
| Namoi | 68 | 68 |
| Peel | 56 | 99 |
| Lachlan | 75 | 98 |
| Macquarie | 70 | 68 |
| Murray | 75 | 73 |
| Murrumbidgee | 70 | 57 |
| Lowbidgee | 76 | N/A |
| North Coast | 53 | 39 |
| Hunter | 65 | 50 |
| South Coast | 57 | 43 |
| Fish River | 58 | N/A |

Source: IPART analysis.

7.5.4 We will review our approach to calculating depreciation in the future

As noted above, we calculated the depreciation allowance in the NRR using Water NSW's proposed depreciation methodology, which does not disaggregate its RAB for historical assets.

Water NSW's proposed methodology (weighted average asset life) leads to higher depreciation for long-lived assets (e.g. dams), lower depreciation for short-lived assets (e.g. corporate systems) and lower total depreciation.

In our Draft Report, we suggested Water NSW consider disaggregating the RAB for each valley into 2 or 3 categories based on their asset lives to better estimate depreciation for the next determination period.

Water NSW agreed and considers disaggregating the RAB into a short-lived and a long-lived RAB would more accurately align costs and revenues. It suggested retaining the existing RAB and separating new assets into short-lived and long-lived RABs. This approach would increase NRR by \$10.9 million (from \$393.4 million to \$404.2 million) over the determination period.¹¹¹

We maintained our draft decision to calculate regulatory depreciation for new assets using the weighted average life of assets by valleys, without disaggregation into short- or long-lived RABs. We prefer to maintain our approach until we review our WACC method, which would allow suitable stakeholder consultation on this matter. We generally support the approach to disaggregate the RAB and are aware it would put upward pressure on prices.

7.6 Water NSW's tax allowance is \$8.0 million

Our decisions are:

21. To calculate the tax allowance using:
 - a tax rate of 30%
 - IPART's standard methodology.
22. To adopt the regulatory tax allowance as shown in Table 7.11.

We included an explicit allowance for tax because we use a post-tax WACC to estimate the allowance for a return on assets in the revenue requirement (Table 7.11). This tax allowance reflects the regulated business's forecast tax liabilities.

The tax allowance is one of the last building block items we calculate, because it depends on the NRR (excluding tax).

Table 7.11 Decision on Water NSW's tax allowance for the 2021 determination period (\$ '000s, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|--------------------|---------|---------|---------|---------|-------|
| Water NSW proposed | 502 | 454 | 389 | 425 | 1,770 |
| IPART decision | 1,841 | 2,048 | 1,984 | 2,108 | 7,981 |
| Difference | 1,339 | 1,594 | 1,595 | 1,683 | 6,211 |
| Difference % | 267% | 351% | 410% | 396% | 351% |

Source: IPART analysis.

We calculated the tax allowance for each year by applying a 30% statutory corporate tax rate adjusted for franking credits to the business's (nominal) taxable income.^c We applied our standard methodology to set the tax allowance.

Our tax allowance is not intended to recover Water NSW's actual tax liability over the determination period. Rather, it reflects the liability that a comparable commercial business would be subject to. Including this allowance is consistent with our aim to set prices that reflect the fully efficient costs a utility would incur if it were operating in a competitive market. It is also consistent with the principle of competitive neutrality – that is, that a government business should compete with private business on an equal footing and not have a competitive advantage due to its public ownership.

7.6.1 IPART's tax allowance is higher than proposed

IPART's tax allowance is significantly higher than Water NSW's proposal due to 2 factors:

- Water NSW's decision to exclude costs related to drought projects from its RAB lowers its return on and return of assets. This reduces its net earnings and therefore reduces its tax liability.
- Debt costs are a 'tax-shield' which offsets Water NSW's tax liability. Because the WACC that we set is lower than assumed in Water NSW's proposal, its cost of debt is also lower. This reduces the amount of revenue that is offset by debt costs.

7.7 Water NSW's working capital allowance is \$2.1 million

Our decision is:



23. To set the working capital allowance for the 2021 determination period as shown in Table 7.12.

^c Under a post-tax framework, the value of franking credits (gamma) enters the regulatory decision only through the estimate of the tax liability. The value of gamma is given as a WACC parameter in section **Error! Reference source not found.**

The working capital allowance component of the NRR represents the return the business could earn on the net amount of working capital it requires each year to meet its service obligations. It ensures the business recovers the costs it incurs due to the time delay between providing a service and receiving the money for it (i.e. when bills are paid).

In 2018, we developed a standard approach to calculate the working capital allowance, which can be found on our [website](#).¹¹² We applied the standard approach to this review.

The \$2.1 million we allowed for the 2021 determination period represents the holding cost of net current assets (Table 7.12). The allowance is higher than that proposed by Water NSW because Water NSW did not apply our 2018 working capital allowance approach.^d

Table 7.12 Decision for Water NSW's working capital allowance for the 2021 determination period (\$'000s, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|--------------------|---------|---------|---------|---------|--------|
| Water NSW proposed | 24 | 76 | 29 | 47 | 176 |
| IPART decision | 132 | 535 | 667 | 725 | 2,059 |
| Difference | 108 | 459 | 638 | 678 | 1,883 |
| Difference % | 451% | 604% | 2,200% | 1,443% | 1,070% |

Source: IPART analysis.

^d One of the key factors why Water NSW's proposed working capital allowance is lower than ours is because Water NSW used a lower WACC (1.7%) than us (4%) when calculating the working capital allowance.

Chapter 8 >>

Cost shares and cost drivers



Summary of our decisions for cost shares and cost drivers

Water NSW's customer share of NRR is \$350 million

We set prices to recover the customer share of NRR.

We maintained the cost shares set in our 2019 cost shares review and proposed by Water NSW

We allocate costs to whichever party creates the need for them to be incurred.

Water NSW's proposed cost drivers are consistent with our 2019 cost shares review.

We assigned cost shares for MDBA and BRC costs under our cost shares framework

Previously, MDBA and BRC costs were passed through to users, effectively bypassing our cost shares framework.

We assigned user shares to MDBA and BRC costs, effectively bringing these costs under our cost shares framework.

We use cost shares to allocate Water NSW's efficient costs between water users and the NSW Government (on behalf of other users and the broader community).^a

We then use cost drivers to allocate the user share of Water NSW's efficient costs to water sources, defined as the combination of water type (i.e. regulated rivers, unregulated rivers and groundwater) and geographic location (i.e. valleys and areas).

This chapter sets out our decisions on Water NSW's customer share of costs, cost shares and cost drivers.

^a That is, water entitlement holders that are subject to Water NSW's regulated prices (as determined by IPART).

8.1 We set the customer share of the NRR at \$350 million

Our decision is:

24. To set the customer share of Water NSW's notional revenue requirement (\$350.0 million) and target revenue from water prices (\$335.6 million) as shown in Table 8.1.

Table 8.1 presents our decisions on the customer share of Water NSW's notional revenue requirement (NRR) and target revenue.

Table 8.1 Decision on customer share of Water NSW's notional revenue requirement and target revenue for the 2021 determination period (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total |
|---------------------------------------|---------|---------|---------|---------|-------|
| Operating expenditure | 47.6 | 49.9 | 46.6 | 45.4 | 189.6 |
| ICD rebates | 1.7 | 1.7 | 1.6 | 1.6 | 6.6 |
| Return of capital | 9.0 | 9.7 | 10.4 | 11.0 | 40.1 |
| Return on capital | 8.6 | 9.4 | 10.3 | 10.8 | 39.1 |
| Tax allowance | 0.7 | 0.8 | 0.8 | 0.9 | 3.1 |
| Volatility allowance | 1.6 | 1.6 | 1.6 | 1.5 | 6.3 |
| UOM payback | 0.3 | 0.3 | 0.3 | 0.3 | 1.2 |
| MDBA and BRC payments | 15.1 | 16.4 | 16.3 | 16.2 | 63.9 |
| Notional revenue requirement (NRR) | 84.7 | 89.8 | 87.9 | 87.7 | 350.0 |
| Target revenue | 80.4 | 85.0 | 85.1 | 85.1 | 335.6 |
| Difference NRR and target revenue | -4.3 | -4.7 | -2.8 | -2.6 | -14.4 |
| Difference NRR and target revenue (%) | -5.0% | -5.3% | -3.2% | -3.0% | -4.1% |

Note: This table represents the customer share of costs only. The remaining share of Water NSW's efficient costs is allocated to the government.

Source: IPART analysis.

Once we determined the customer share of NRR, we set prices to recover this share. However, for the 2021 determination period, the target revenue expected to be recovered from water prices is slightly lower than the customer share of the NRR. This reflects our decision to set prices below the full cost recovery level for the North Coast and South Coast valleys (Chapter 11).

We set a target revenue that smooths customers' bills and prices over the 2021 determination period. That is, target revenue is smoothed over the four years of the determination to provide a stable price path.

8.2 We maintained the cost shares from our 2019 cost shares review

Our decision is:



25. To maintain the cost shares set out in our 2019 cost shares review. These are based on the impactor pays principle and align with Water NSW's proposal.

When we reviewed Water NSW's rural bulk water services in 2017, we committed to comprehensively reviewing our cost shares framework before the next determination.

Our 2019 Final Report into rural water cost shares outlined decisions to:

- continue allocating the efficient costs of rural bulk water services between water customers and the NSW Government on the basis of the impactor pays principle. That is, those that create the need to incur the costs should pay the costs
- continue to allocate forward-looking legacy costs to the NSW Government
- maintain an activity-based cost sharing framework – in part because the benefits of moving to a service-based framework were unlikely to exceed the costs
- update several cost share ratios under the activity-based framework.¹¹³

Water NSW's proposed cost shares are consistent with our 2019 Final Report, and are shown in Table 8.2.

Table 8.2 Water NSW's customer shares for operating and capital expenditure

| Activity | Category of expenditure | 2016–17 price review (%) | 2018–19 cost share review (%) |
|---------------------------------------|-------------------------|--------------------------|-------------------------------|
| Customer support | Operating | 100 | 100 |
| Customer billing | Operating | 100 | 100 |
| Metering and compliance | Operating and capital | 100 | 100 |
| Water delivery and other operations | Operating and capital | 100 | 95 |
| Flood operations | Operating and capital | 50 | 80 |
| Hydrometric monitoring | Operating and capital | 90 | 90 |
| Water quality monitoring | Operating and capital | 50 | 80 |
| Direct insurances | Operating and capital | 100 | 100 |
| Corrective maintenance | Operating and capital | 100 | 95 |
| Routine maintenance | Operating and capital | 100 | 95 |
| Asset management planning | Operating and capital | 100 | 95 |
| Dam safety compliance | Operating and capital | 50 | 80 |
| Dam safety compliance pre-1997 | Capital | 0 | 0 |
| Environmental planning and protection | Operating and capital | 50 | 80 |
| Corporate systems | Operating and capital | 100 | 80 |
| ICD rebates | Operating and capital | 100 | 100 |
| Renewals and replacement | Operating and capital | 90 | 95 |
| Risk transfer product | Operating | 100 | 100 |

Source: Aither, *Rural water cost sharing review Final Report*, January 2019, pp 85–98; IPART, *Rural water cost share Final Report*, February 2019, p 51.

Responses to our Draft Report raised concerns with some cost share ratios that changed as part of our 2019 review, including:

- water quality and monitoring (increase from 50% to 80% user share)
- environmental planning and protection (increase from 50% to 80% user share)
- dam safety and compliance (increase from 50% to 80% user share)
- flood operations (increase from 50% to 80% user share).

Stakeholder submissions considered that certain cost share ratios should change and that:

- certain users or beneficiaries should pay a greater share of the costs associated with certain activities¹¹⁴
- valley specific issues, such as the reasons why specific dams were built, should be arguments to amend the broader cost shares framework¹¹⁵
- the timing of certain expenditure should be different, such as for fishways, which were meant to be constructed in previous determination periods when the user share of the costs would have been lower.¹¹⁶

We considered all arguments, but maintained our draft decision to keep the cost share ratios from our 2019 review in all instances.

The 2019 review was comprehensive and considered most of the issues raised by stakeholders in considerable detail. At an aggregate level, our 2019 cost shares review saw the customer share of Water NSW's efficient costs rise from 83% to 84%, with some variation between cost allocation categories.¹¹⁷

We also considered stakeholder submissions regarding the timing of expenditure as it relates to changes in cost share ratios. We consider the cost shares in our 2019 review are appropriate, regardless of when the expenditure occurs. We considered the arguments put forward for valley specific cost shares, but we prefer to maintain the same cost shares for all Water NSW customers.

8.2.1 We allocated costs to whichever party creates the need to incur the cost

We typically allocate costs using the 'impactor pays principle'. That is, we allocate costs to the party who created the need for Water NSW to incur an activity (and its associated costs) (Box 8.1).

Box 8.1 Who pays is based on who creates the need to incur the cost

We use the following funding hierarchy to determine who should pay Water NSW's efficient costs:

1. Preferably, the party that creates the need to incur the cost should pay in the first instance.
2. If that is not possible, the party that benefits should pay.
3. When it is not feasible to charge the above parties (e.g. because of social welfare policy, public goods, externalities, or an administrative or legislative impracticality of charging), the NSW Government (taxpayers) should pay.

Source: IPART, *Rural Water Cost Shares – Final Report*, February 2019, p 23.

Responses to our Draft Report raised concerns with our approach and suggested alternative approaches, such as a beneficiary or user pays approach to allocating costs.¹¹⁸

We acknowledge these stakeholders' concerns. However, we decided to continue allocating Water NSW's efficient costs to those parties who create the need for it to incur the costs. It is a practical and transparent method for allocating Water NSW's efficient costs between water users and the NSW Government (on behalf of other users and the broader community). It is also an efficient approach, because water users face the costs of Water NSW managing water resources and delivery in response to their high consumptive use.

The NSW Irrigators' Council stated that, while water extracted by water users represented only a small proportion of total water usage, our method allocated most of Water NSW's costs to them. It suggested we develop new cost shares to account for the relative proportion of total water extracted by water users compared with other users.¹¹⁹

This proposed approach focuses on allocating costs to the parties who benefit from the water management system, for example those that have higher priority for water allocations. We consider it is more cost reflective (and therefore more equitable) to allocate costs to those who create the need to incur them, as occurs under our existing method.

Most of Water NSW's activities are required because water consumption by users is high.¹²⁰ Therefore, the majority of costs should be allocated to water users, as reflected in our cost shares framework.

8.2.2 We considered the appropriate cost shares for MDBA and BRC costs

In our 2017 review of Water NSW rural bulk water services, we accepted Water NSW's proposed pass-through of MDBA and BRC charges to customers in the Murray and Murrumbidgee valleys, and Border valley, respectively. In effect, this meant these charges were set and considered outside our cost shares framework.

We asked our cost consultants, Atkins, to consider and recommend an approach to apportioning MDBA and BRC costs within our cost shares framework.¹²¹ Its approach assigns cost allocations to activity codes, then for MDBA charges, splits costs between valleys based on the historical average.

We considered Atkins' approach robust, and passed through MDBA and BRC costs based on this revised methodology. We allocated MDBA costs to 3 user share activity codes:

- water delivery and operations (95% user share)
- hydrometric monitoring (90% user share)
- routine maintenance (95% user share).

Based on the efficient costs recommended in the Atkins report, Murray and Murrumbidgee customers face a weighted average user share for MDBA charges of 94.6%.

We allocated BRC costs to 4 user share activity codes:

- water delivery and operations (95% user share)
- routine maintenance (95% user share)
- asset management planning (95% user share)
- corrective maintenance (95% user share).

8.2.3 Some stakeholders suggested accounting for climate change

The NSW Irrigators' Council suggested reconsidering our cost shares framework to better accommodate the impacts of climate change:

NSWIC considers that the largest 'impactor' on waterways is climate change, and many of the services and new infrastructure is a result of preparing towns and river systems to be resilient to a drying climate. Compared to previous determinations, the impacts of climate change on waterways is more clearly evidenced, experienced and thus broadly accepted. It would be almost impossible, however, to develop a funding model based around this 'impactor' (unless from general revenue), and thus a reconsideration of the impactor-pays principle is required.¹²²

We consider there is adequate flexibility within our current cost shares framework to consider and account for the impacts of climate change (Box 8.2).

Box 8.2 Climate change under our cost shares framework

Our counterfactual starting point, which anchors our cost shares framework, is a world without high consumptive use of water resources. That is, a world without the need for WAMC to manage NSW water resources and Water NSW to provide rural bulk water services.

We can apply our framework to this question as follows:

- If costs associated with climate change would still need to be incurred in the absence of high consumptive use, then water users would not be the impactor of these costs.
- Alternatively, if costs need to be incurred to secure water use and entitlements for water users beyond our counterfactual starting point, then water users can be considered the impactors.

There is merit in applying a principles-based approach to considering who should pay, based on our cost shares framework. We consider that costs associated with climate change would not be incurred in the absence of high consumptive use. Therefore, water users are the impactors.

In response to our Draft Report, several stakeholders stated that in drought, water users did not receive any extractive water. However, WAMC still incurs water management costs and Water NSW still incurs costs of providing rural bulk water services over time. Stakeholders considered that water users were not the impactors, and that climate change (e.g. extreme weather/drought) was instead driving these costs.¹²³

Even in the absence of extractive water due to drought, there is still a need for:

- WAMC to plan and manage the water resource to ensure its long-term sustainability and protect individual water entitlements
- Water NSW to maintain its assets that collect, store and deliver bulk water in to rural water customers in NSW and ensure its services remain sustainable, reliable and efficient into the future.

Therefore, WAMC's and Water NSW's costs are largely fixed, independent of water delivered (at least in the short- to medium-term) and predominantly driven by water users.

Source: IPART, *Rural Water Cost Shares – Final Report*, February 2019, pp 24, 45.

We asked Cardno, our consultant on the Water Administration Ministerial Corporation (WAMC) review, to consider whether there were sufficient grounds to adjust user shares for climate change costs. It found the impact of climate change on Water NSW's costs could be seen in only a handful of areas and these costs were very small compared with the overall costs for Water NSW's services. Further, if climate change was an impactor, its impact was substantially smaller than the impacts of high consumptive water use.¹²⁴

We decided to maintain our approach and current cost share ratios:

- Costs related to climate change are unlikely to occur in the absence of high consumptive use of water resources. Therefore, we consider water users are primarily driving these costs.
- Our approach is consistent with our cost shares for changing environmental standards. That is, although these costs are related to external events, they are fundamentally driven by (and would not be incurred in the absence of) high consumptive use of water resources.
- Water users should face efficient price signals, which include costs associated with climate change, to encourage efficient decisions going forward.^b

We remain open to considering this issue going forward. If there is evidence that costs (including costs associated with climate change) would be incurred in the absence of high consumptive water use, we would factor this into our cost shares framework when setting user and government cost share ratios in future determination periods.

8.2.4 Stakeholders raised concerns with the cost shares applied to fishways

In response to our Issues Paper and Draft Report, some stakeholders questioned the user share applied to the regulatory requirement for Water NSW to construct and operate fish ladders at some dam sites.

Their key concern was our recommendation to increase the user share for environmental planning and protection activities from 50% to 80%, which applies to expenditure for fish ladders.

For previous Water NSW determinations, we deferred expenditure for fish ladder construction because it was not supported by robust business cases and construction was unlikely to occur during the determination period. Our subsequent change to the user share for expenditure on fish ladders has ultimately increased the costs borne by users.

We acknowledge stakeholder views about changing this cost share and our decision to defer expenditure. However, we consider an 80% share is appropriate and should apply to the expenditure for fish ladders regardless of when the projects were committed to under legislation.

^b The Productivity Commission noted irrigators would likely need to contend with more frequent and severe droughts due to climate change, and so would need to adapt to a world with less water (Productivity Commission, *National Water Reform*, Draft Report, February 2021, p 159).

Chapter 9

Water entitlement and usage forecasts



Summary of our decisions for water entitlement and usage forecasts

We accepted water entitlement and usage forecasts proposed by Water NSW

For regulated rivers, we accepted:

- Water NSW's proposal to maintain water entitlement numbers constant at 2019–20 levels
- Water NSW's proposed water sales forecasts in all valleys.

For the Fish River Water Supply Scheme (FRWS), we accepted:

- Water NSW's proposal to keep Minimum Annual Quantities (MAQs) constant at 2019–20 levels
- Water NSW's proposed water usage forecasts in the FRWS.

This chapter sets out the water entitlement and usage forecasts we used to calculate maximum prices.

After we establish the customer share of efficient costs in each water source, and decide what proportions of these costs to recover through fixed and variable charges, we use entitlement and usage forecasts to calculate maximum prices.

It is important that forecasts are as accurate as possible so that prices can best reflect efficient costs and that regulated utilities can recover their efficient costs.

9.1 We accepted Water NSW's proposal for regulated rivers

Our decision is:



26. To accept Water NSW's proposed water entitlements and usage forecasts for regulated rivers as shown in Table 9.1 and Table 9.2.

9.1.1 Water entitlement forecasts remain fairly constant over time

We set entitlement charges by dividing the revenue requirement from fixed charges in each valley by the number of general and high security entitlements in that valley.^a

Water entitlements represent the maximum share of the available water a licence holder can access from a water source. The number of water entitlements in each water source is capped by legislation and entitlements can be created or rescinded only in limited circumstances. Therefore, entitlement numbers tend to remain broadly constant over time (Figure 9.1).

Figure 9.1 Historical and forecast water entitlement numbers (all valleys)



Note: Excludes Lowbidgee supplementary entitlements which are treated as general security for pricing purposes.
Data source: Water NSW pricing proposal to IPART, July 2020, Table 52, p 119; and IPART final pricing models for 2010 and 2017 Determinations.

We maintained our draft decision to accept Water NSW's proposed entitlement numbers, which forecast entitlement numbers to remain constant at 2019–20 levels for the next 4 years (Table 9.1).

We did not receive any submissions in response to our Draft Report about our approach to forecasting water entitlement numbers.¹²⁵

^a There are some complexities in this calculation, for example the premium paid by high security users as discussed in Chapter 10.

Table 9.1 Decision on entitlement forecasts for the 2021 determination period (ML)

| Water source | High security | General security |
|--------------|----------------|----------------------|
| Border | 3,141 | 263,218 ^a |
| Gwydir | 26,920 | 509,665 |
| Namoi | 8,866 | 256,529 |
| Peel | 17,367 | 29,635 |
| Lachlan | 57,252 | 633,166 |
| Macquarie | 42,691 | 632,466 |
| Murray | 263,575 | 2,083,603 |
| Murrumbidgee | 436,178 | 2,267,963 |
| Lowbidgee | 0 | 747,000 ^b |
| North Coast | 137 | 9,531 |
| Hunter | 70,702 | 138,109 |
| South Coast | 1,175 | 13,946 |
| Total | 928,004 | 7,584,831 |

a. Includes general security A and general security B entitlements in the Border valley.

b. Supplementary entitlements in the Lowbidgee valley are treated as general security for pricing purposes.

Source: Water NSW pricing proposal to IPART, July 2020, Table 52, p 119.

9.1.2 Water usage forecasts (excluding FRWS) incorporate new data

Water NSW proposed water usage forecasts based on a 20-year rolling average of historical water sales for most water valleys (2000–01 to 2019–20). It used a shorter 15-year period for North Coast and South Coast water sources due to limited data. This approach is consistent with the 2017 price review.¹²⁶

Water NSW's forecasts are listed in Table 9.2. We maintained our draft decision to accept Water NSW's proposed forecasts for water sales. However, we updated these forecasts because water sales data for 2019–20 is now available.¹²⁷ That is, we used the average from 2000–01 to 2019–20, rather than the average from 1999–2000 to 2018–19 presented in our Draft Report.

Table 9.2 Decision on Water NSW's water sales forecasts for the 2021 determination period (ML)

| | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|--------------|------------------|------------------|------------------|------------------|
| Border | 139,453 | 139,453 | 139,453 | 139,453 |
| Gwydir | 220,489 | 220,489 | 220,489 | 220,489 |
| Namoi | 138,241 | 138,241 | 138,241 | 138,241 |
| Peel | 12,625 | 12,625 | 12,625 | 12,625 |
| Lachlan | 182,100 | 182,100 | 182,100 | 182,100 |
| Macquarie | 232,545 | 232,545 | 232,545 | 232,545 |
| Murray | 1,379,454 | 1,379,454 | 1,379,454 | 1,379,454 |
| Murrumbidgee | 1,531,632 | 1,531,632 | 1,531,632 | 1,531,632 |
| Lowbidgee | 31,964 | 31,964 | 31,964 | 31,964 |
| North Coast | 676 | 676 | 676 | 676 |
| Hunter | 123,631 | 123,631 | 123,631 | 123,631 |
| South Coast | 4,165 | 4,165 | 4,165 | 4,165 |
| Total | 3,996,975 | 3,996,975 | 3,996,975 | 3,996,975 |

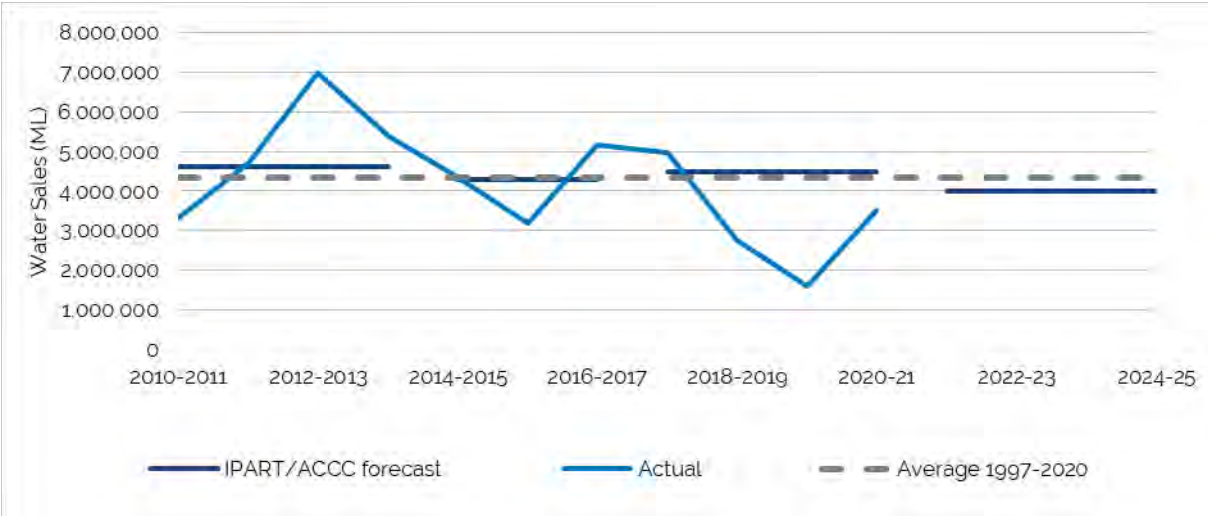
Note: Forecasts include supplementary water sales.

Source: Water NSW submission to IPART draft report on rural water prices, April 2021, Table 21, p 82.

The high degree of variability in Water NSW's water sales makes it difficult to produce accurate forecasts (Figure 9.2). Unpredictable factors such as rainfall and broadacre crop prices drive water availability and demand. Despite this uncertainty,

We consider that the 20-year rolling average will reasonably approximate actual average water sales over the long-term. Further, the moving average will balance, over the long-term, any revenue over- or under-recovery resulting from short-term variations away from our forecast. Box 9.1 discusses our reasons for using a moving average forecast. In its submission to our Draft Report, Water NSW supported using the 20-year rolling average approach to demand forecasting.

Figure 9.2 20-year rolling average forecasts and actual water sales (excluding FRWS)



Note: 2020-21 water sales are year-to-date values for 1 July 2020 to 17 May 2021 accessed from [DPIE's Water usage dashboard website](#). sales are included for indicative purposes only and were not used in preparing our water sales forecasts.
Data source: IPART, *Review of bulk water charges for State Water Corporation from 1 July 2010 to 30 June 2014 – Final Report*, June 2010, p 119; ACCC, *ACCC Tariff Model for State Water Final Decision 2014-15 to 2016-17*, July 2014; IPART, *Water NSW – Review of prices for rural bulk water services from 1 July 2017 to 30 June 2021 – Final Report*, June 2017, p 101; and IPART analysis.

Box 9.1 Why we used a moving average to forecast water sales

We want water sales forecasts to be as accurate as possible, so the revenue Water NSW receives from prices reflects the utility's efficient costs as closely as possible.

When IPART sets prices for urban utilities like Sydney Water, we use forecasts of water sales based on predictable underlying trends like population growth and water use patterns. Forecasts for Sydney Water try to predict actual sales in each year of the determination period. This explicit forecasting approach is possible because Sydney Water's sales tend to be fairly consistent regardless of rainfall and there is a clear upwards trend in water usage over time.

However, for Water NSW rural and WAMC it is not realistic to make a forecast that matches demand explicitly. This is because water sales are largely determined by rainfall which is too difficult to predict over a 4-year period. Instead we set a forecast which tries to match average demand **over the long-term**.

In the absence of better information, we assume average water sales in the past are a good predictor of water sales in the future and simply set the demand forecast as the average of water sales over the previous 20 years. The forecast is adjusted at the start of each determination by moving the 20-year average forward 4 years to incorporate new data.

The benefit of this approach is that any 'forecast error' (i.e. difference between forecast and actual) will be factored into future forecasts as the averaging period rolls forward to include the new actual usage data. Over time, over-forecasts will be offset by under-forecasts and prices will be cost reflective on average. If Water NSW has one or more determination periods of below forecast water sales, the new water sales data will pull the 20-year moving average below the long-term average when we re-forecast, and vice versa. This means that when sales trend back to the long-term average, the utility will balance over- and under-forecasts more quickly.

Water NSW considered the 20-year moving average has a systemic bias

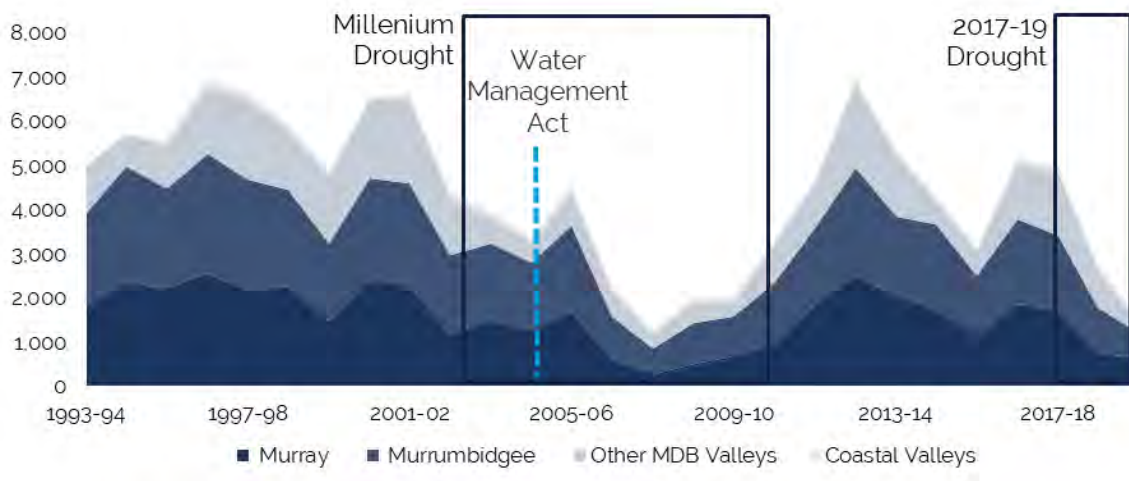
The moving average forecast approach assumes the long-term average of water sales remains constant over time. If there is a systemic downward trend in water sales, then the 20-year moving average will over-estimate water sales because of the impact of older data points.

In the context of setting the revenue volatility allowance, Water NSW argued the 20-year rolling average has a systematic bias. In particular, as it includes years before reforms associated with the *Water Management Act 2000* were implemented, such as the development of new water sharing plans and the recovery of water for the environment.¹²⁸ Water NSW argued that all else being equal, these regulatory changes have led to lower water sales now than would have happened during the 1990s and early 2000s, given the same rainfall and water storage levels.

Water NSW presented a similar argument during our 2018–19 annual review of its charges. It suggested that we recalculate the 20-year rolling average on an annual basis in order to reduce the impact of years prior to the introduction of the *Water Management Act 2000*.¹²⁹ At the time, we did not consider there was sufficient evidence that the water reforms led to structural change in water usage.¹³⁰

We maintain that there is not currently evidence of a step change in water sales associated with implementing the water reforms. We currently have to draw conclusions on limited water sales data from 1993 to 2020 (Figure 9.3). This time series includes 2 severe drought events, the first of which coincided with the introduction water reforms during the early 2000s. Regardless of the water governance arrangements in place, these droughts would have significantly reduced water sales and we could not see a reliable way to separate the impact of water reform and drought over this period.

Figure 9.3 Impacts of drought on water sales between 1993 and 2020



Data Source: Water NSW; and IPART analysis.

By not adjusting our demand forecast, we are not making a judgement on whether water reform has affected long-term water sales, or whether other factors such as climate change are causing trends in water sales over the long-term. Rather, we consider Water NSW has not presented a demand forecasting approach that can accurately account for these factors over the next 4 years.

9.1.3 We encourage Water NSW to continue improving its forecast

We acknowledge the 20-year moving average forecast may have deficiencies, including its underlying assumption that long-term average sales is an unbiased estimate of future water sales. We encourage Water NSW to continue reviewing its forecasting approach in future pricing submissions to address these potential shortcomings.

In preparing our Draft Report we examined the key drivers of historical water usage and alternative forecasting methods.¹³¹ We considered available information that could influence water demand and supply, as well as constraints on demand and supply. This included data on entitlements, allocation, licence categories, geographic location and environment (including dam levels, rainfall and temperature).

While this analysis improved our understanding of key drivers, our results were inconclusive. This is likely due to data limitations and potential complexities in the relationships between variables that we may have omitted.

We consider that Water NSW has expertise and access to data to further investigate the key drivers of water usage (including impacts from climate change) to inform future pricing proposals.

9.1.4 Water sales forecasts include supplementary licence volumes

Supplementary water licences allow holders to access water from a river during ministerially declared supplementary take events. These events are typically when the amount of water available in the river exceeds all environmental and consumptive needs (e.g. when dams are overtopping and additional inflows cannot be stored). Supplementary licences are issued in most valleys.

We maintained our approach that supplementary licence holders should not be required to pay entitlement charges (except in the Lowbidgee valley). As a result, we did not include these licences, except for the Lowbidgee valley, in our entitlement numbers.

However, supplementary licence holders must account for the amount of water they take under a supplementary licence like other licence types, because they often use the same works as other users. For this reason, we included these volumes when calculating water sales forecasts.

9.2 We set MAQs and usage forecasts for FRWS

The FRWS delivers raw water to 3 major customers and 83 individual customers. Major customers are:

- EnergyAustralia
 - Wallerawang Power Station (now closed)
 - Mt Piper Power Station
- Water NSW for its bulk water supply services in Greater Sydney
- Oberon Council.

The FRWS also delivers treated (filtered) water to Lithgow City Council and 216 individual customers.

Our decision is:



27. To set the Minimum Annual Quantities and usage forecasts for the Fish River Water Supply Scheme as shown in Table 9.3 and Table 9.4.

9.2.1 We amended FRWS MAQs for Lithgow City Council

Access to water in the FRWS is regulated through a 'Minimum Annual Quantity' (MAQ) for each major customer, and (collectively) for minor customers, as users in the scheme do not hold statutory water access entitlements (see Box 9.2).^b

Access (fixed) charges are set with reference to each major customer's MAQ. For each minor customer, these charges are set with reference to a deemed MAQ of 200 kL.

We made one minor change in the MAQ forecasts from our Draft Report. We reduced Lithgow City Council's (LCC) MAQ for filtered water by 100 ML and increased its raw water MAQ to 100 ML. Table 9.3 sets out the MAQ for each customer.

In its submission to our Draft Report, LCC stated it planned to on-sell raw water to an industrial customer at the former Wallerawang Power Station site and requested that we reallocate some of its MAQ to raw water.¹³² LCC currently receives only filtered water from the FRWS, so we did not explicitly set a raw water MAQ for LCC in our 2017 Determination.

Because its raw water MAQ is effectively zero, any raw water that Water NSW supplies to LCC would be considered 'usage above the MAQ' and levied a higher usage charge, as discussed below. To address this issue LCC proposed IPART set it an explicit raw water MAQ and offset this increase by reducing its filtered water MAQ.

We consider this proposal is reasonable because it reflects the actual service that LCC requires. It will slightly decrease fixed charges for raw water customers and slightly increase fixed charges for filtered customers. However, because LCC is the main filtered customer in the FRWS, these bill impacts will be partially offset.

^b Importantly, unlike entitlement holders in other valleys, customers in the FRWS can use water in excess of their MAQ, but must pay a higher usage charge for water consumption in excess of their MAQ.

Table 9.3 Decision on Water NSW's MAQs for the FRWS for the 2021 determination period (ML)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|----------------------------|---------|---------|---------|---------|
| Raw water | | | | |
| EnergyAustralia | 8,184 | 8,184 | 8,184 | 8,184 |
| Water NSW (Greater Sydney) | 3,650 | 3,650 | 3,650 | 3,650 |
| Oberon Council | 1,064 | 1,064 | 1,064 | 1,064 |
| Lithgow Council | 100 | 100 | 100 | 100 |
| Individual minor customers | 0.2 | 0.2 | 0.2 | 0.2 |
| Filtered water | | | | |
| Lithgow Council | 1,678 | 1,678 | 1,678 | 1,678 |
| Individual minor customers | 0.2 | 0.2 | 0.2 | 0.2 |

Note: Each individual minor customer has a MAQ of 200 kL. The combined MAQs of all unfiltered minor customers is 17 ML and 46 ML for filtered minor customers.

Source: Water NSW pricing proposal to IPART, July 2020, Table 53, p 119.

Box 9.2 Licensing framework for the Fish River Water Supply Scheme

Water NSW manages the FRWS under an unusual licensing framework, which we reflect in our price structures.

Water NSW holds a special Water Management Licence,^a which entitles it to extract water from the Fish River to supply to end use customers. The minimum amounts Water NSW must be able to provide to each customer (or customer group in the case of minor customers) are listed in Schedule 3 of this licence.^b End use customers do not hold water licences themselves.

We refer to the volumes listed in Schedule 3 as Minimum Annual Quantities (MAQs) as they reflect the minimum amount of water that Water NSW needs to make available to each customer.

Customers can access additional water if it is available. However, when a customer's usage exceeds its MAQ, we set a higher usage charge equal to the usage charge plus the fixed MAQ charge. This charge reflects the additional capacity Water NSW needs to make available in the system to meet demand above their MAQ.

We consider the MAQs reflect the relative contribution of each customer to the capacity requirements of the scheme. As system capacity is the driver of Water NSW fixed costs, we consider the MAQs are an efficient way of allocating fixed costs between customers.

a. This Water Management Licence is issued under the *Water Act 1912*. This is unusual because most Water Access Licences, including those used by Water NSW for supplying to urban utilities, are issued under the *Water Management Act 2000* (WMA). The benefit of this arrangement is Water NSW can supply more water than a customer is 'entitled' to, which it is not permitted to under the WMA.

b. Water NSW's licence includes provisions to reduce the minimum volumes it needs to make available during drought periods.

9.2.2 We made minor adjustments to FRWS usage forecasts

Like for other rural valleys, our water sales forecasts for the FRWS are based on a historical average (Table 9.4).

We made some minor changes in our water usage forecasts for the FRWS since the Draft Report:

- We updated our 20-year average forecasts for most customers to incorporate water sales data for 2019–20 which was not available for our Draft Report.
- We added a raw water forecast of 100 ML to account for LCC's new raw water MAQ as discussed in section 9.2.1. We did not adjust LCC's forecast filtered water usage to account for its reduced MAQ, as it has historically used significantly less than its MAQ.

Table 9.4 Decision on Water NSW's usage forecasts for the FRWS for the 2021 determination period (ML)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|----------------------------|--------------|--------------|--------------|--------------|
| Raw water | | | | |
| EnergyAustralia | 1,850 | 1,850 | 1,850 | 1,850 |
| Water NSW (Greater Sydney) | 2,142 | 2,142 | 2,142 | 2,142 |
| Oberon Council | 681 | 681 | 681 | 681 |
| Lithgow Council | 100 | 100 | 100 | 100 |
| Minor customers | 51 | 51 | 51 | 51 |
| Total raw water | 4,824 | 4,824 | 4,824 | 4,824 |
| Filtered water | | | | |
| Lithgow Council | 826 | 826 | 826 | 826 |
| Minor customers | 103 | 103 | 103 | 103 |
| Total filtered water | 929 | 929 | 929 | 929 |

Note: We forecast water usage for minor customers collectively.

Source: Water NSW submission to IPART Draft Report on rural water prices, April 2021, Table 212, p 82; and IPART analysis.

Chapter 10 >>

Bulk water, Fish River Water Supply Scheme, MDBA and BRC charges

10

Summary of our decisions for Water NSW's bulk water, FRWS, MDBA and BRC charges

Bulk water charges increase by an average of about 30%

We maintained valley-based, 2-part price structures and current fixed-to-variable ratios for MDB valleys and Coastal valleys.

Prices in the North Coast and South Coast valleys increase by inflation only.

Price increases are mainly driven by higher efficient costs to support sustainable ongoing service delivery and regulatory functions.

Most FRWS charges increase by up to 36%

Generally, we maintained our current approach to setting prices for FRWS.

We decided to hold prices constant in real terms for Oberon Council.

Impacts on MDBA and BRC charges are mixed

We maintained separate MDBA and BRC charges and 2-part price structures, with an 80:20 fixed-to-variable ratio.

High security entitlement charges tend to increase while general security entitlement charges are decreasing as a result of the high security premium.

We exempted Aboriginal Cultural Licences

We exempted Aboriginal Cultural Licences from Water NSW rural water charges for the 2021 determination period, while the NSW Government considers how to manage these licences in the future as part of the upcoming Aboriginal Water Strategy.

These licences make up a very small proportion of total licences and exempting them has an immaterial impact on prices and revenue.

This chapter sets out our decisions and reasoning for Water NSW's bulk water, FRWS, MDBA and BRC charges for the 2021 Determination. Additional valley-specific information on our pricing decisions and drivers of price changes is available on our website.

To make our decisions, we first considered the appropriate price structure for each charge. We then used our decisions on the NRR, customer numbers and water sales, MDBA and BRC costs, and the volatility allowance (discussed in previous chapters) to set prices to fully recover the customers' share of the NRR (except for the North Coast and South Coast valleys). In doing so, we considered our pricing principles,¹³³ Water NSW's pricing proposal and stakeholder feedback in response to our Issues Paper and Draft Report.

10.1 Water NSW's bulk water charges increase by 30% on average

Water NSW currently levies a valley-based, 2-part price for most valleys^a, comprised of:

- fixed (entitlement) charges per megalitre (ML) of entitlement, with different charges for:
 - high security (HS) entitlements
 - general security (GS) entitlements^b
- a variable (usage) charge per ML of usage.

Our decisions are:

28. To maintain the valley-based approach of setting Water NSW's rural bulk water service charges for each of the 12 valleys and for the Fish River Water Supply Scheme.
29. To maintain the current 2-part price structure and fixed-to-variable ratios for Water NSW's rural bulk water service charges for each of the Murray–Darling Basin and Coastal valleys (i.e. excluding Fish River Supply Scheme) as shown in Table 10.1.
30. To:
 - maintain the existing approach to calculating the high security premium
 - maintain the current security factors but update the reliability ratios in the high security premium
 - use the high security premiums as shown in Table 10.1 to calculate entitlement charges.
31. To maintain the current fixed-to-variable ratios and level of prices for setting prices for the North Coast and South Coast valleys, adjusted by inflation.
32. To set Water NSW's rural bulk water prices for Murray–Darling Basin and Coastal valleys for the 2021 determination period as shown in Table 10.2 for entitlement charges and Table 10.3 for usage charges.

^a The Lowbidgee valley has only supplementary licences that are charged fixed entitlement charges only.

^b The relationship between HS and GS entitlement charges is driven by the HS premium.

10.1.1 We set prices in MDB valleys based on full cost recovery

We consider that Water NSW's prices should recover sufficient revenue to cover the efficient costs of delivering its monopoly services. This transparently signals to customers the cost of providing the service, which promotes efficient resource allocation. It also allows the utility to fully recover its costs.

In addition, we set prices for MDB valleys under the WCR, which requires us to set prices that are likely to raise revenue that meets Water NSW's efficient costs (net of grants and subsidies) in the determination period.¹³⁴ We must therefore set prices that fully recover Water NSW's costs for MDB valleys.

In response to our Issues Paper and Draft Report, most stakeholders did not oppose full cost recovery, but questioned the proposed increase in costs and prices, and raised concerns about bill impacts associated with full cost recovery.¹³⁵ The Public Interest Advocacy Centre (PIAC) supported full cost recovery and argued systemic under-recovery of efficient costs undermines sustainable water business management, and compromises economic, social and environmental outcomes.¹³⁶

By contrast, we set prices for Coastal valleys under the IPART Act, which provides more discretion when setting prices. We maintained our 2017 approach to set prices in both the North Coast and South Coast well below what is required to recover Water NSW's costs. This is because there are too few customers in these valleys to recover Water NSW's costs, without far exceeding their ability to pay (section 10.1.2).

10.1.2 We accepted the proposed price structures for bulk water charges

Water NSW proposed to broadly maintain existing price structures, including to maintain:

- valley-based prices
- the 2-part price structure – (i.e. a fixed charge and a variable charge) with prices being set to achieve a fixed-to-variable revenue split of 40:60 for most valleys
- allocation of NRR to HS and GS customers using the HS premium
- the current approach for setting prices in the North Coast and South Coast valleys.¹³⁷

We consider that valley-based pricing remains appropriate

As outlined in our Draft Report, valley-based pricing sets prices in each valley to match the share of efficient costs required to serve customers, and to fully recover Water NSW's costs in each valley.^{c,138}

^c Except the North Coast and South Coast valleys.

Some submissions proposed postage stamp pricing^d instead of valley-based pricing (Tamworth Regional Council's (TRC) submission to our Issues Paper and P. Gill's submission to our Draft Report).¹³⁹ K. Anderson MP and P. Gill also argued that downstream customers should contribute to recovering the costs of rural bulk water in the Peel valley.¹⁴⁰⁻¹⁴¹

We set maximum prices for each valley to reflect customers' share of the efficient costs of providing bulk water services in that valley. This approach ensures customers face the efficient costs of the services they receive, which promotes efficient water consumption decisions, and the efficient use and allocation of resources.¹⁴²

Despite potentially being less complex to administer, we do not consider postage stamp pricing for rural bulk water services to be appropriate. This is because the relevant assets and costs for these valleys are generally location-specific, but postage stamp pricing would not signal to customers the cost of servicing their locations. It would result in cross-subsidisation between valleys, with some valleys paying prices that would be higher or lower than the efficient costs of providing services to them. Postage stamp pricing is also not consistent with the National Water Initiative (NWI) Pricing Principles.¹⁴³

We note that WAMC's groundwater charges are not valley-based. This is because currently available information on costs incurred by WAMC for groundwater management services does not support allocation of costs by asset or valley. However, Water NSW's costs are valley and asset specific and available cost information allows us to allocate costs and set prices by valley.

We consider that valley-based pricing remains appropriate because it:

- achieves a reasonable level of valley-based pricing, despite some inherent uncertainty about the cost allocation process
- reflects that those who create the need for Water NSW to incur costs in the relevant valley should pay for them
- is cost-reflective, as the costs recovered reflect the cost of Water NSW delivering the service in the relevant valley (i.e. they are attributed to the relevant valley), resulting in stronger price signals to customers
- enhances transparency and accountability
- is easy to understand and administer.

We retained the 40:60 fixed-to-variable ratio for most valleys

We maintained the current 2-part price structure and fixed-to-variable ratios for Water NSW's rural bulk water service charges (as proposed by Water NSW¹⁴⁴) for each of the MDB and Coastal valleys as set out in Table 10.1 (excluding Fish River, see section 10.2).

^d Postage stamp pricing refers to setting prices so that all valleys pay the same prices.

Table 10.1 Decision on fixed-to-variable ratios and high security (HS) premiums for the 2021 determination period

| Valley | Fixed-to-variable ratio | | HS premium ^b | |
|------------------------|-------------------------|---------------------------------|-------------------------|---------------------------------|
| | 2017 Determination | Decision for 2021 Determination | 2017 Determination | Decision for 2021 Determination |
| MDB valleys | | | | |
| Border | 40:60 (with VA) | 40:60 (with VA) | 2.69 | 2.73 |
| Gwydir | 40:60 (with VA) | 40:60 (with VA) | 3.18 | 4.31 |
| Namoi | 40:60 (with VA) | 40:60 (with VA) | 2.15 | 2.87 |
| Peel | 80:20 | 80:20 | 10.35 | 10.55 |
| Lachlan | 40:60 (with VA) | 40:60 (with VA) | 5.63 | 6.76 |
| Macquarie | 40:60 (with VA) | 40:60 (with VA) | 4.75 | 5.11 |
| Murray | 40:60 (with VA) | 40:60 (with VA) | 2.04 | 2.27 |
| Murrumbidgee | 40:60 (with VA) | 40:60 (with VA) | 2.65 | 2.91 |
| Lowbidgee ^a | 100:0 | 100:0 | N/A | N/A |
| Coastal valleys | | | | |
| North Coast | 90:10 | 90:10 | 1.29 | 1.29 |
| Hunter | 60:40 (with VA) | 60:40 (with VA) | 1.29 | 1.29 |
| South Coast | 80:20 | 80:20 | 1.91 | 1.91 |

a. Lowbidgee has only supplementary licences.

b. HS entitlement charges are calculated by multiplying the GS entitlement charge by the HS premium.

Note: 'with VA' indicates a volatility allowance is included in prices for that valley.

Source: Water NSW pricing proposal to IPART, June 2020, pp 118, 126–130; and IPART analysis.

In submissions to our Issues Paper and Draft Report, most stakeholders supported the current price structures and fixed-to-variable ratios. Stakeholders generally preferred a fixed-to-variable ratio with a lower proportion of fixed charges and higher proportion of variable charges. This is because it gives customers greater control in responding to water conditions and requirements, particularly in times of reduced or zero allocations.¹⁴⁵

Some stakeholders raised specific issues relating to the Peel valley, Hunter valley and investigation of alternative price structures, as discussed in the following sections.

Some stakeholders were concerned about the 80:20 ratio in the Peel valley

TRC preferred a 40:60 fixed-to-variable ratio for the Peel valley. It considered the 80:20 ratio led to the Council, as the largest entitlement holder in the Peel valley, directly subsidising the GS entitlement holders.¹⁴⁶ P. Gill also commented that moving to an 80:20 ratio (in 2017 from a 40:60 ratio) imposes higher costs on council ratepayers, while favouring GS customers.¹⁴⁷

The Peel Valley Water Users Association (PVWUA) noted Peel valley stakeholders “went through years of excruciating negotiations” to achieve an appropriate mix of fixed-to-variable charges in previous reviews.¹⁴⁸ It is concerned that some of TRC’s costs may be transferred to GS entitlement holders in the Peel valley.¹⁴⁹

We recognise TRC's preference for a 40:60 fixed-to-variable ratio, but do not support adjusting the ratio because it would shift the cost of TRC's HS entitlements on to GS entitlement holders in the Peel valley. TRC uses only a very small portion of its full entitlements (which are all HS entitlements).

If a customer maintains HS entitlements for future use and/or water security purposes, that customer should bear the cost. This approach is more cost-reflective and ensures those who create the need for Water NSW to incur costs pay for them, rather than them being subsidised by other customers.

In our 2017 price review, PVWUA argued to change from a 40:60 to an 80:20 fixed-to-variable ratio in the Peel valley to reduce the usage charge (that was shifting the costs of TRC holding excess unused HS entitlements on to active GS customers in the Peel valley) and bring the level of the usage charge in line with other MDB valleys.¹⁵⁰

We consider the more cost-reflective 80:20 price structure, adopted for the 2017 Determination, remains appropriate. Our 2017 decision lowered the Peel valley usage charge from \$58.26 per ML in 2016–17 (the highest among all valleys) to \$18.36 from 1 July 2018 onwards (in \$2016–17). It better allocates the costs of TRC holding entitlements to those who create the need for Water NSW's costs to be incurred, and lowers the usage charge for Peel valley water customers.¹⁵¹

Some stakeholders were also concerned that Peel valley water users appeared to have higher prices and percentage increases than other valleys.¹⁵² Under the current 80:20 price structure, Peel valley GS prices are mid-range compared with other valleys (see Figure 12.7). As an MDB valley, we are also required under the WCR to set prices for the Peel valley that fully recover Water NSW's efficient costs (as opposed to the Coastal valleys where we have more flexibility to transition towards cost recovery gradually). Compared with the North Coast and South Coast valleys, Peel valley also has a comparatively high number of entitlements and usage volumes over which its costs are spread.^e

One stakeholder was concerned about high fixed charges in the Hunter valley

Coolmore was concerned that if bulk water fixed prices in the Hunter valley are too high, entitlement holders may relinquish their entitlements, raising prices for remaining customers.¹⁵³

However, our analysis indicates that under an 80:20 price structure (compared with the current 60:40 price structure) a 'typical' customer in the Hunter valley would see their bill:

- increase by only 2% for GS customers
- decrease by 7% for HS customers.

^e The Peel valley has at least twice the number of entitlements and usage volumes over which to spread its costs compared with the North Coast and South Coast valleys, while incurring less than a third more in costs.

Under the Hunter valley's current 60:40 price structure, prices are mid-range compared with other valleys (see Figure 12.7). They are also generally lower than other Coastal valleys and represent the full recovery of costs specific to the valley, unlike the other Coastal valleys where prices are well below the level of full cost recovery. Cost-reflective prices also help ensure that entitlement holders opt for the efficient level of entitlements. As such, we consider that the current price structure for the Hunter valley remains appropriate.

Some stakeholders supported further investigating alternative price structures

Some stakeholders, including the NSWIC and PIAC, suggested exploring different price structures (e.g. to better manage revenue volatility risk). Stakeholders considered that Water NSW has not provided sufficient information for constructive comment on price structures. They suggested:

- Water NSW more actively engage with customers on the appropriate mix of fixed and variable charges, at an individual valley level
- Water NSW establish a consultation process to provide data that allows informed decision-making on this issue
- Water NSW include alternative price structures and analysis of customer impacts of adjusting the fixed-to-variable ratio by valley in material provided to Customer Advisory Groups to improve understanding and encourage constructive discussion
- Water NSW consider whether a mixed price structure approach is possible, e.g. where HS customers have a 40:60 price structure and GS customers have an 80:20, in future reviews:
 - PIAC considers this would better reflect the nature of these entitlements, and is a better means of recovering costs according to how they are incurred
- IPART provide guidance on the level of customer support needed to move to a different price structure.¹⁵⁴

Lachlan Valley Water noted it is actively investigating the benefits and risks of moving from a 40:60 fixed-to-variable price structure to an 80:20 or 60:40 price structure. However, it found that during this review, consultation was challenging and it does not have a clear position in support of 80:20:

- due to uncertainty around what prices will be
- because stakeholder responses are influenced by whether they are a HS customer or GS customer (or both), as well as their usage pattern, including what proportion of their HS allocation is used.¹⁵⁵

PIAC also considered that pricing structures must seek not only to reflect and recover costs, but work in support of the needs of customers and communities. PIAC also recommended IPART ensures consistent price structures across Water NSW, WAMC and MDBA/BRC prices, and that charges are as simple, transparent and understandable to customers as possible.¹⁵⁶

We agree with stakeholders that Water NSW should improve its customer engagement on price structures. We consider that:

- further consultation between Water NSW and its customers is required on price structures at an individual valley level
- Water NSW could provide customers with better information on alternative price structures and customer impacts.

For future reviews, in assessing the level of customer support for moving to a different price structure, we would likely consider:

- evidence that stakeholders have been adequately informed about potential price structure options and customer impacts
- stakeholder responses and preferences, noting that we consider a representative range of stakeholder views should be captured
- any other relevant information available at the time.

While we consider further investigating a mixed price structure approach (e.g. where HS customers have a 40:60 price structure and GS customers have an 80:20) may be warranted, we are concerned about potential customer impacts. A mixed price structure approach may shift costs from one type of customer to another given the NRR must be recovered through prices.

As Lachlan Valley Water has indicated, customer preferences for different price structures are influenced by whether the customer is a HS customer or GS customer (or both) and their usage pattern. We consider that incorporating customer preference on a principle-basis (e.g. that customers prefer a higher proportion of either fixed or usage charges) is likely to result in more cost-reflective prices that represent overall customer preferences, rather than setting price structures to minimise bills for particular customers.^f Price structures that are in the long-term interests of all customers, recognising the need to invest and conserve water efficiently, will better deliver long-term pricing objectives.

A volatility allowance balances revenue risk of the cost and price structure mismatch

We consider that ideally, the ratio of fixed-to-variable charges should reflect that most of Water NSW's costs (at least 80%) are fixed, and do not vary with water sales. However, we must also consider customer preferences (generally for a lower proportion of fixed charges), affordability and the allocation of risk, and ensure that price structures are transparent.

As outlined in our Draft Report, we introduced a volatility allowance in 2017 to compensate Water NSW for risk arising from the mismatch between water sales and its cost structure.¹⁵⁷ The costs associated with the volatility allowance applied only to valleys where the fixed charge recovered less than 80% of NRR.

^f Which may increase bills for other customers in a way that is not cost-reflective.

We maintained the position we reached in our 2017 price review, that:

- an 80:20 fixed-to-variable ratio remains appropriate for most valleys
- in valleys where the fixed charge recovers less than 80% of NRR, including a volatility allowance to mimic an 80:20 ratio is reasonable.¹⁵⁸

We maintained the current 2-part prices and fixed-to-variable ratios (as proposed by Water NSW¹⁵⁹) as we consider that they provide Water NSW with a reasonable degree of revenue certainty, while providing entitlement holders with some scope to reduce their bills through lower levels of extraction.⁹

The approach to calculating the HS premium remains appropriate

In 2017, we comprehensively reviewed the HS premium, including its calculation and the inputs to both the security factor and the reliability ratio.¹⁶⁰

We consider it appropriate to maintain the existing approach to calculating the HS premium on the basis that the combination of the 2 factors aims to address both the security and reliability of water supply from holding HS over GS entitlements. Specifically:

- the security factor is a proxy for the security in HS entitlements that stems from the differential allocation priority
- the reliability ratio accounts for the reliability in HS entitlements, especially in periods of low rainfall.

We accepted Water NSW's proposal to maintain the security factors and update the reliability ratios (based on the latest 20 years of allocations data),¹⁶¹ resulting in the HS premiums presented in Table 10.1.

Prices in the North Coast and South Coast valleys increase by inflation only

We set prices for Coastal valleys under the IPART Act, so we have more discretion in setting prices that over- or under-recover Water NSW's costs.

Full cost recovery prices in the North Coast and South Coast valleys are substantially higher than other valleys.¹⁶² In 2017, we set prices in the North Coast and South Coast valleys below full cost recovery.^{h,163} Prior to 2017, customer numbers and average water sales in these valleys were declining, suggesting prices may have been approaching customers' capacity to pay.

⁹ The volatility allowance allows customers to trade-off between relatively higher usage-based charges and the higher costs associated with Water NSW's management of revenue volatility risk (i.e. it recognises that Water NSW's costs are largely fixed, while allowing for the price structure to be largely variable in many valleys).

^h We set prices to recover 10% of costs for the North Coast, and 38% of costs for the South Coast.

As outlined in our Draft Report, we set prices for these valleys with reference to an estimated 'efficient pricing band', and rebalanced the ratio of fixed-to-variable charges to have a larger proportion of fixed charges.^{i,164} We developed this approach in consultation with Water NSW and stakeholders in the North Coast and South Coast valleys.

We did not receive any submissions on our Draft Report relating to price structures for these valleys. Of stakeholders who responded to our Issues Paper about this matter, most supported the current pricing approach, as well as Water NSW's proposal and our draft decision to maintain the current level of charges in these valleys (increasing each year by inflation only) over the 2021 determination period.^{165,166}

In its submission to our Issues Paper, PIAC commented that intentional under-recovery of costs is not sustainable, and suggested writing down the value of storage and delivery assets in these valleys.¹⁶⁷ Our approach to pricing in these valleys more or less has the same outcome as writing down assets. We also recognise that under the current approach, these valleys continue to move further away from full cost recovery.

The approach for the North Coast and South Coast valleys remains appropriate

We consider that pricing within an estimated efficient pricing band remains appropriate as at prices above a customer's capacity to pay (i.e., the upper limit of the band), the customer would no longer purchase water.

Our approach for the 2017 price review recognised that full cost recovery in the North and South Coast valleys is unlikely going forward, and any attempt to increase prices towards full cost recovery may actually be counter-productive. Increasing prices to recover full costs may exceed some customers' capacity to pay, which would reduce demand for rural bulk water services, revenue and cost recovery. Both valleys have too few customers, relative to the size of the asset base, to recover costs without exceeding customers' capacity to pay.

Further, the current fixed-to-variable ratios better align with Water NSW's largely fixed cost structure. They are also supported by stakeholders, and may help stimulate demand and improve asset utilisation in these valleys.

Maintaining the current approach, fixed-to-variable ratios, and level of prices in real terms will under-recover costs in these valleys by about \$2.0 million per year. This is about 28% higher than the 2017 determination period, with recovery of costs moving from 10% to 8% for the North Coast, and 38% to 31% for the South Coast.¹⁶⁸ This is because costs, in particular operating costs, in these valleys are increasing by 44% and 30% respectively. Given the low level of cost recovery in these valleys, we consider that Water NSW should prioritise reducing costs in these valleys.

As outlined in our Draft Report, there is some indication that our 2017 decision to reduce usage prices may have had a positive impact on usage in the North Coast and South Coast valleys.¹⁶⁹ However, a number of other factors may have also contributed to this increase in usage, such as rainfall levels. We will undertake further data collection and analysis over time to better understand the effects of our 2017 pricing decisions on usage in these valleys.

ⁱ From 40:60 to 90:10 for the North Coast valley, and from 40:60 to 80:20 for the South Coast valley.

10.1.3 Bulk water entitlement charges increase on average by 29%

Table 10.2 sets out our decision on prices for bulk water entitlement charges for the 2021 determination period:

- HS entitlement charges increase substantially in most valleys, particularly in the Namoi (57.2%), Lachlan (51.6%) and Gwydir (45.9%) valleys.
- GS entitlement charges increase substantially in most valleys, particularly in the Lowbidgee (104.8%), Hunter (41.1%) and Peel (34.4%) valleys.
- The increases in most valleys are mainly due to a higher level of efficient costs compared with the 2017 price review, particularly increased operating expenditure.
- Prices generally increased since our Draft Report as a result of:
 - increases in the WACC
 - a higher level of allowed efficient expenditure
 - a small increase in the volatility allowance.

Table 10.2 Decision on bulk water entitlement prices for the 2021 determination period (\$/ML, \$2021–22)

| Valley | Current 2020–21 (\$2020–21) | Decision for 2021 Determination | Change current to decision |
|--|--------------------------------|------------------------------------|-------------------------------|
| High security entitlement charge | | | |
| Border | \$5.74 | \$6.58 | 14.6% |
| Gwydir | \$11.93 | \$17.40 | 45.9% |
| Namoi | \$18.40 | \$28.93 | 57.2% |
| Peel | \$44.77 | \$61.36 | 37.1% |
| Lachlan | \$16.56 | \$25.10 | 51.6% |
| Macquarie | \$14.55 | \$20.18 | 38.7% |
| Murray | \$1.66 | \$2.26 | 36.1% |
| Murrumbidgee | \$3.18 | \$4.17 | 31.1% |
| Lowbidgee ^a | N/A | | |
| North Coast | \$12.69 | \$12.82 | 1.0% |
| Hunter | \$14.15 | \$19.94 | 40.9% |
| South Coast | \$33.19 | \$33.56 | 1.1% |
| General security entitlement charge | | | |
| Border | \$2.13 | \$2.41 | 13.1% |
| Gwydir | \$3.75 | \$4.04 | 7.7% |
| Namoi | \$8.58 | \$10.10 | 17.7% |
| Peel | \$4.33 | \$5.82 | 34.4% |
| Lachlan | \$2.94 | \$3.71 | 26.2% |
| Macquarie | \$3.07 | \$3.94 | 28.3% |
| Murray | \$0.81 | \$0.99 | 22.2% |
| Murrumbidgee | \$1.19 | \$1.43 | 20.2% |
| Lowbidgee ^a | \$0.84 | \$1.72 | 104.8% |
| North Coast | \$9.83 | \$9.94 | 1.1% |
| Hunter | \$10.98 | \$15.49 | 41.1% |
| South Coast | \$17.41 | \$17.60 | 1.1% |

a. Lowbidgee has only supplementary licences.

Note: Excludes MDBA/BRC costs.

Source: IPART analysis.

10.1.4 Bulk water usage charges increase by up to 52%

Table 10.3 sets out our decision on prices for bulk water usage charges for the 2021 determination period:

- Usage charges increase substantially in most valleys, particularly in the Lachlan (52.0%), Macquarie (45.8%) and Namoi (43.5%) valleys.
- The increases in most valleys are mainly due to a higher level of efficient costs compared with the 2017 price review, particularly increased operating expenditure.
- Prices generally increased since our Draft Report as a result of:
 - increases in the WACC
 - a higher level of allowed efficient expenditure
 - a small increase in the volatility allowance
 - a slight reduction in usage volumes forecast for MDB valleys.

Table 10.3 Decision on bulk water usage prices for the 2021 determination period (\$/ML, \$2021–22)

| Valley | Current 2020–21 (\$2020–21) | Decision for 2021 Determination | Change current to decision |
|------------------------|--------------------------------|------------------------------------|-------------------------------|
| Usage charge | | | |
| Border | \$5.86 | \$7.03 | 20.0% |
| Gwydir | \$12.79 | \$17.19 | 34.4% |
| Namoi | \$21.52 | \$30.88 | 43.5% |
| Peel | \$19.78 | \$24.51 | 23.9% |
| Lachlan | \$20.51 | \$31.17 | 52.0% |
| Macquarie | \$14.84 | \$21.64 | 45.8% |
| Murray | \$2.06 | \$2.93 | 42.2% |
| Murrumbidgee | \$3.57 | \$4.97 | 39.2% |
| Lowbidgee ^a | N/A | | |
| North Coast | \$18.77 | \$18.98 | 11% |
| Hunter | \$13.60 | \$19.13 | 40.7% |
| South Coast | \$18.60 | \$18.80 | 11% |

a. Lowbidgee has only supplementary licences.


Note: Excludes MDBA/BRC costs.

Source: IPART analysis.

10.2 FRWS charges increase by up to 36% for major customers

The Fish River Water Supply Scheme (FRWS) provides water to customers in the Central Tablelands region.

Our decisions are:

 33. To set Water NSW's rural bulk water prices for the Fish River Water Supply Scheme for the 2021 determination period as shown in Table 10.4.

 34. To maintain prices for Oberon Council at 2020–21 levels in real terms.

We set different prices for filtered and unfiltered water customers in the scheme, consistent with the 2017 Determination.¹⁷⁰

We also maintained a 2-tier usage price, with a lower price for usage up to each customer's Minimal Annual Quantity (MAQ) and a higher usage charge for volumes above their MAQ. The higher charge is equal to the sum of each customer's fixed charge and their first-tier usage charge.

We set filtered water usage prices in the FRWS with reference to the short-run marginal cost (SRMC) of supply. We maintained the approach we established in the 2017 price review for unfiltered customers, to set prices to recover 80% of revenue from fixed charges and 20% from variable charges.¹⁷¹

Submissions to our Draft Report questioned the adequacy of funding in the FRWS, as discussed in section 10.2.2. Stakeholders considered that many of the assets are in poor condition and providing a degrading level of service.¹⁷² We are unsure if earlier governance approaches, prior to the Water NSW take-over, may have led to inadequate investment in maintenance and renewals.¹⁷³

We consider that a bottom-up review of costs in the FRWS that considers current and historical utilisation and costs of assets, separate to this price review, would be beneficial.

We appreciate the significant service issues raised by customers in the FRWS, however we broadly consider these to be licensing issues which IPART is pursuing separately. Except for Oberon Council, we could not see a compelling case for setting prices below full cost recovery levels.

For this review we decided to:

- maintain our draft raw water price structure for all customers except Oberon Council
- hold prices constant for Oberon Council at 2020–21 levels in real terms over the 2021 determination period.

10.2.1 The FRWS is managed differently to other rural valleys

The FRWS was originally constructed in the 1940s, to provide more secure water supplies to Oberon, Lithgow and the NSW Central Tablelands. The scheme was extended in the 1950s to cater for demand at the newly built Wallerawang Power Station, and again in the 1960s to divert water to Katoomba.

Most FRWS customers receive raw (unfiltered) water. Lithgow City Council (LCC) and a small number of minor customers receive filtered water suitable for drinking. Water NSW owns and operates a water treatment plant near the Duckmaloi Dam to treat water for these customers.

Unlike other rural valleys where customers draw water directly from the river, the FRWS diverts water through a series of pipelines long distances. Because of the large cost of maintaining the pipeline and water treatment assets in the scheme, FRWS prices are orders of magnitude higher than in other valleys.

Currently, 4 customers receive most of the water supplied from the FRWS:

- EnergyAustralia, for the Mt Piper Power Station
- Water NSW Greater Sydney for urban supplies in the Blue Mountains
- LCC for urban supplies in Lithgow and several outlying villages
- Oberon Council for urban supplies in Oberon and surrounding towns.

The FRWS also supplies around 300 minor customers who draw directly from pipelines that make up the scheme. Minor customers make up around 3% of water usage in the FRWS.

10.2.2 FRWS customers are broadly dissatisfied with the scheme

Our Draft Report proposed maintaining the current price structure for raw water customers in the FRWS (80% fixed and 20% variable) and setting prices for filtered customers with reference to short-run marginal cost.¹⁷⁴

Stakeholders raised a broad range of issues about costs and prices in the FRWS:

- Oberon Council¹⁷⁵ and LCC¹⁷⁶ both considered they received poor service from Water NSW. They noted poor reliability of water delivery as well as unsatisfactory water quality, which increases their own water treatment costs. Oberon Council proposed IPART set prices that respond to the quality of water supplied.
- LCC commented the proposed price increases would discourage it from accessing water from the scheme and encourage it to access water from its own supplies. It noted its lower demand impacts the quality of water received by other filtered water customers and will require it to backflow more of its own water into the system to supply Water NSW customers. It requested this be reflected in prices.¹⁷⁷
- Oberon Council noted that it contributes to the cost of maintaining the scheme's assets despite only utilising one dam and an associated outflow due to its geographic location.¹⁷⁸
- Oberon Council also noted higher charges would have significant flow-on impacts for ratepayers, estimated to be about equivalent to a 2% special rate variation.¹⁷⁹
- LCC considered that, prior to the scheme coming under the control of Water NSW, the NSW Government (which directly controlled the scheme) may not have adequately reinvested scheme revenue into renewals and had directed charges to other purposes.¹⁸⁰
- EnergyAustralia noted it is now a small user in the FRWS but still pays a high proportion of costs. It considers this may result in inefficient by-passing of water from the scheme in order to avoid costs. It suggested IPART consider large customer discounts (as occurs in energy pipeline determinations) to avoid hollowing out of the scheme's customer base.¹⁸¹
- EnergyAustralia also questioned why IPART did not account for customer preference in the design of FRWS price structures. It questioned why we used marginal cost pricing for only filtered water and not raw water customers.¹⁸² It also questioned why we used short-run rather than long-run marginal cost.¹⁸³
- EnergyAustralia raised concerns about a lack of transparency about how we calculated FRWS building block costs, especially the allocation of operating expenditure and the contribution of old and new assets to the RAB.¹⁸⁴
- Water NSW proposed that IPART increase the fixed share of revenue in the FRWS from 80% to 90% to better reflect that most of its building block costs are fixed.¹⁸⁵

10.2.3 We would like to better understand what drives Water NSW's FRWS costs

Broadly customers consider service standards in the FRWS are deteriorating despite investment in maintenance and capital upgrades since Water NSW (then State Water) took over the scheme in 2004–05. We consider that some issues may require further investigation, including:

- the relative impact of different customers on the need for different assets such as pipelines and water treatment assets
- the possibility of double counting of costs on legacy assets
- the condition of assets and what drives ongoing maintenance costs
- the impact of declining demand on asset utilisation
- how price structures might be impacting demand and investment decisions
- future capital needs in the scheme.

We consider that a more focused review of the FRWS may be required to address these issues and consider the need for changes in future pricing determinations.

We must set prices that we consider will recover Water NSW's efficient costs over the 2021 determination period. We did not have sufficient information to develop an alternative method for allocating costs within the FRWS prior to finalising prices, including undertaking adequate consultation with affected stakeholders. Therefore, in the absence of better information, we largely maintained our draft pricing decisions, except deciding to hold prices constant for Oberon Council.

10.2.4 We maintained the price structures for filtered and unfiltered customers

We consider that it is not efficient to set prices for filtered and unfiltered customers in the same way, given the considerable differences between the two products.

In the 2017 Determination, we set an 80:20 fixed-to-variable price structure for both filtered and unfiltered water customers in the FRWS.¹⁸⁶ While we consider this approach remains appropriate for unfiltered prices, we decided that SRMC is a more appropriate basis to set filtered water prices, for reasons outlined in our Draft Report.¹⁸⁷

In our Draft Report we estimated SRMC for filtered water by adding the incremental cost of water treatment to the raw water usage charge. We have maintained this approach and our estimate of incremental treatment costs of \$0.20/kL.¹⁸⁸

EnergyAustralia questioned why we did not use long-run marginal cost (LRMC) pricing to set usage charges. The LRMC takes into account how current demand decisions impact the need for future supply augmentation. It noted this approach is foundational in price regulation of other sectors, such as energy.¹⁸⁹ IPART also uses LRMC in setting prices for urban water utilities like Sydney Water.

We agree that LRMC is a generally preferable approach to setting prices as it considers the full marginal impact of demand decisions. We used SRMC in this case because we have limited information on what capital requirements are needed in the scheme beyond the next determination period, which makes it difficult to estimate a long-run marginal price. Further, given demand in the scheme is falling it seems unlikely that marginal demand will lead to capacity constraints in the future. Under these conditions, the short-run and long-run marginal price should be similar.

10.2.5 We maintained the current 2-tier usage charge in the FRWS

Water NSW proposed maintaining the current usage price structure in the FRWS, where customers pay one price for usage up to their annual MAQ and a higher price for usage above that level.¹⁹⁰ We consider this is reasonable as the base fixed and usage charges are designed to recover each customer's relative contribution to Water NSW's need to incur costs, as determined by their MAQ.

Usage above a customer's MAQ should incur additional fixed charges to reflect the customer's additional utilisation of the capacity of the system, or the average unit cost of providing additional volumes. Box 9.1 explains MAQs and their relation to Water NSW's fixed costs.

We maintained the current approach of setting the excess usage charge as the sum of a customer's fixed and usage charges, as it reflects the full average cost of supplying a unit of water to the customer.

We did not receive any submissions from stakeholders about the 2-tier price structure.

10.2.6 We held prices constant for Oberon Council in real terms

Oberon Council accesses raw water from the FRWS, which it then treats and supplies to the town of Oberon and surrounding areas. Oberon Dam is the main storage in the FRWS and is located around 2 km upstream from the town. Because of its proximity, Oberon Council can access water without using pipelines unlike other raw water customers.

Normally, when we set rural water prices, we set the same price for all customers in a valley that receive the same service (e.g. we set the same price for all GS customers in the Murrumbidgee valley). This is because we generally consider that all customers contribute a similar amount to Water NSW's costs, regardless of where they are located in the valley. We do not consider this is the case with Oberon Council.

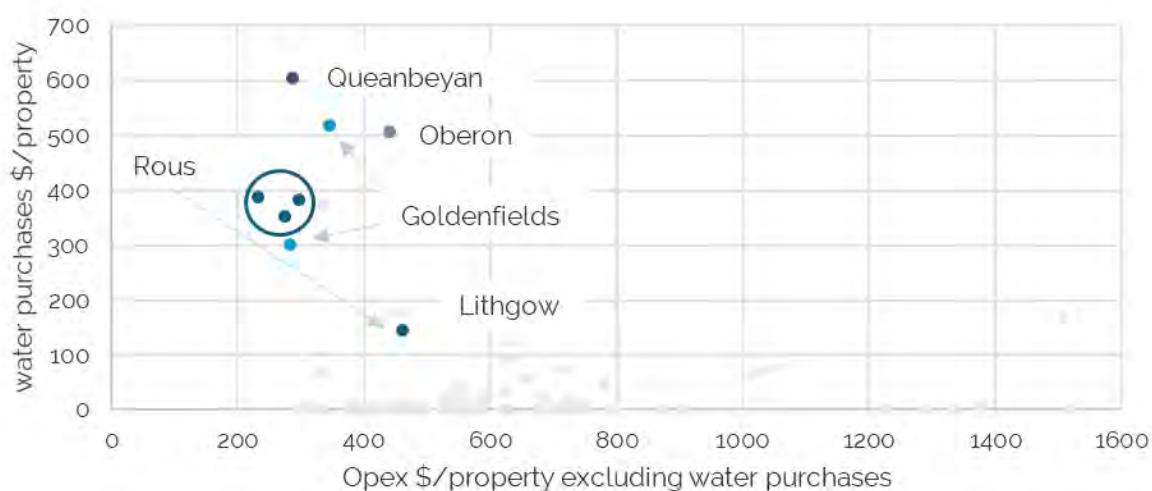
Because Oberon Council could receive water without pipeline assets in the FRWS, it does not contribute to Water NSW's need to incur costs of maintaining those assets. All else being equal, we consider that Oberon Council should pay a lower price than other raw water customers because of this.

Practically, however, we cannot be sure at this stage which costs in the FRWS can be attributed to pipelines and which are for dams and other assets. We intend to investigate this issue further as part of a broader review of assets and cost drivers in the FRWS following our Final Report.

As Figure 10.1 shows, Oberon Council currently pays more per property for bulk water than almost any other local water utility. However, unlike other councils that receive treated water from their bulk supplier, Oberon Council receives raw water and must incur additional operational costs to treat it.

We consider Water NSW's proposed charges would create considerable affordability pressure for urban water users in Oberon. In its submission to our Draft Report, Oberon Council calculated our proposed cost increases would equate to a 2% increase in rates for Oberon residents¹⁹¹ and it would not be able to insulate end use customers from such a large increase in costs.

Figure 10.1 Comparing Oberon bulk water costs to other NSW local water utilities 2018–19



Note: Each data point represents one local water utility. 'Rous' refers to Rous County Council which supplies water to 4 councils in the Northern Rivers region. 'Goldenfields' refers to Goldenfields Water County Council which supplies bulk water to Hilltops and Cootamundra-Gundagai councils.

Data source: DPIE, LWU performance monitoring data and reports website, data for 2018–19.

At this stage it is not possible to quantify what impact Oberon Council has on costs in the FRWS compared with other customers. Therefore, we consider it is reasonable to hold its prices constant at current levels until we have better information.

This approach means prices for Oberon Council will be below full cost recovery levels, however we are able to do this because we set its prices under the IPART Act rather than the WCR as we do for other rural customers.

10.2.7 FRWS charges increase over the 2021 determination period

Raw water charges generally increase

Table 10.4 presents our decision on prices for raw water charges:

- EnergyAustralia and Water NSW Greater Sydney will pay the same unit prices as minor individual customers.
- Prices will be held constant (in real terms) for Oberon Council at 2019–20 levels. As we are not required to set prices at cost recovery levels for Oberon Council, we propose Water NSW bears the cost of holding prices constant.
- We set explicit raw water prices for LCC at the same level as other raw water customers (except Oberon Council).
- Customers' prices increase by 16.7% for fixed MAQ charges and by 26.9% for usage over the determination period. These increases are driven by increased operating costs over the 2021 determination period.

Filtered water charges generally increase

Table 10.4 presents our decision on prices for filtered water charges:

- Major customers' (e.g. LCC) prices increase by 26.5% for MAQ and by up to 35.9% for usage over the 2021 determination period. These increases reflect higher costs and our price-setting approach for filtered water.
- Filtered water usage prices will be set with reference to the SRMC of supply. We proposed maintaining our approach to estimating the SRMC for filtered water from the Draft Report. This price structure means LCC's usage prices will increase by more than fixed charges.
- Minor customers' prices increase by 4.9% for MAQ and increase by up to 6.0% for usage up to the MAQ over the determination period. This is because we have aligned the unit MAQ and usage charges for filtered water customers.
 - In previous determinations, unit prices for both fixed MAQ and variable usage charges were lower for LCC than for minor customers.

Table 10.4 Decision on FRWS charges for the 2021 determination period (\$/kL, \$2021–22)

| | Current 2020–21 (\$2020–21) | Decision for 2021 Determination | Change current to decision |
|--|--------------------------------|------------------------------------|-------------------------------|
| Bulk raw water | | | |
| Minimum Annual Quantity (MAQ) (\$/kL) | | | |
| Major customers (other than Oberon Council) | \$0.42 | \$0.49 | 16.7% |
| Oberon Council | \$0.42 | \$0.42 | 0.0% |
| Minor customers (annual bill) | \$84.00 | \$98.00 | 16.7% |
| Usage up to MAQ (\$/kL) | | | |
| Major customers (other than Oberon Council) | \$0.26 | \$0.33 | 26.9% |
| Oberon Council | \$0.26 | \$0.26 | 0.0% |
| Minor customers | \$0.26 | \$0.33 | 26.9% |
| Usage in excess of MAQ (\$/kL) | | | |
| Major customers (other than Oberon Council) | \$0.68 | \$0.82 | 20.6% |
| Oberon Council | \$0.68 | \$0.68 | 0.0% |
| Minor customers | \$0.68 | \$0.82 | 20.6% |
| Bulk filtered water | | | |
| Minimum Annual Quantity (MAQ) (\$/kL) | | | |
| Major customers | \$0.68 | \$0.86 | 26.5% |
| Minor customers (annual bill) | \$164.00 | \$172.00 | 4.9% |
| Usage up to MAQ (\$/kL) | | | |
| Major customers | \$0.39 | \$0.53 | 35.9% |
| Minor customers | \$0.50 | \$0.53 | 6.0% |
| Usage in excess of MAQ (\$/kL) | | | |
| Major customers | \$1.07 | \$1.39 | 29.9% |
| Minor customers | \$1.32 | \$1.39 | 5.3% |

Source: Water NSW pricing proposal to IPART, June 2020, p 133; and IPART analysis.

10.3 Impacts on MDBA and BRC charges are mixed

For the Murray, Murrumbidgee and Border valleys, we set MDBA and BRC charges as a 2-part price (similar to Water NSW's bulk water charges) consisting of:

- fixed charges per ML of entitlement, with different charges for:
 - HS entitlements
 - GS entitlements
- a usage charge per ML of usage.

In 2017, we set the ratio of fixed-to-variable charges in the Murray and Murrumbidgee valleys for MDBA charges and in the Border valley for BRC charges at 80:20. Prior to this, charges were passed through to customers in the Murray, Murrumbidgee and Border valleys with a 40:60 fixed-to-variable ratio (with an unders and overs mechanism to mimic a 100% fixed price structure).¹⁹²

Our decisions are:

- 35. To maintain the current valley-based 2-part price structure and fixed-to-variable ratio of 80:20 for Murray–Darling Basin Authority and Dumaresq–Barwon Border Rivers Commission charges in the Murray, Murrumbidgee and Border valleys.
- 36. To apply the same high security premiums to these charges as for Water NSW's bulk water charges as shown in Table 10.5.
- 37. To set Water NSW's Murray–Darling Basin Authority and Dumaresq–Barwon Border Rivers Commission charges for the 2021 determination period as shown in Table 10.6 for entitlement charges and Table 10.7 for usage charges.

10.3.1 We accepted the proposed price structure for MDBA and BRC charges

Water NSW proposed to maintain the existing price structure for MDBA and BRC charges as it considers it shares volatility risk equitably between Water NSW and its customers.¹⁹³

In its submission to our Issues Paper, Murray Irrigation proposed a price structure for MDBA charges with a lower proportion of fixed charges. It considered that an 80:20 fixed-to-variable ratio does not share volatility risk equitably between Water NSW and its customers.¹⁹⁴

In our Draft Report, we consulted on stakeholders' willingness to make the trade-off involved in moving to a 40:60 ratio. We sought feedback on whether stakeholders in the Murray, Murrumbidgee and Border valleys would prefer MDBA and BRC charges in these valleys to have:

- an 80:20 ratio, or
- a 40:60 ratio with a volatility allowance to compensate Water NSW for its increased revenue volatility risk.¹⁹⁵

We received a mixed response from stakeholders in submissions to our Draft Report. Stakeholders from the Murray valley generally did not support the current 80:20 price structure, while Coleambally Irrigation Cooperative Limited (CICL) and the Commonwealth Environmental Water Office (CEWO) supported it. Murray Valley Private Diverters (MVPD) supported our alternative 40:60 plus volatility allowance option.¹⁹⁶

We consider that an 80:20 fixed-to-variable price structure remains appropriate as it reflects that MDBA/BRC costs are largely fixed (Table 10.5).¹⁹⁷ Further, the risk sharing between customers and Water NSW associated with an 80:20 ratio provides Water NSW with a reasonable degree of revenue certainty to cover the MDBA and BRC costs. At the same time, it provides customers with some scope to reduce their bills through lower levels of water usage.

As outlined in section 10.1.2, we also consider it appropriate to maintain the existing approach to calculating the HS premium. As for the 2017 Determination, we applied the same HS premium to MDBA and BRC charges as for bulk water charges.¹⁹⁸ As for bulk water charges, we applied the updated reliability ratios used in calculating the HS premium.

In response to our Draft Report, some stakeholders suggested socialising MDBA/BRC charges across all water users.¹⁹⁹ As outlined in section 10.1.2, we consider that valley-based MDBA/BRC prices that reflect efficient costs by valley remain appropriate rather than postage stamp pricing. Valley-based pricing ensures that those who create the need for the costs pay for them.

Some stakeholders also suggested that Water NSW should continue to consult with its customers on MDBA/BRC charges. We agree that Water NSW should continue to consult with customers in the Murray, Murrumbidgee and Border valleys on their preferences for pricing structures for these charges.²⁰⁰

Table 10.5 Decision on fixed-to-variable ratio and HS premium for MDBA/BRC charges for the 2021 determination period

| Valley | Fixed-to-variable ratio | | HS premium | |
|--------------|-------------------------|---------------------------------|--------------------|---------------------------------|
| | 2017 Determination | Decision for 2021 Determination | 2017 Determination | Decision for 2021 Determination |
| Border | 80:20 | 80:20 | 2.69 | 2.73 |
| Murray | 80:20 | 80:20 | 2.04 | 2.27 |
| Murrumbidgee | 80:20 | 80:20 | 2.65 | 2.91 |

Source: IPART, *WaterNSW – Review of prices for rural bulk water services from 1 July 2017 to 30 June 2021 – Final Report*, June 2017, pp 130–132; and IPART analysis.

10.3.2 MDBA HS entitlement charges rise, but other entitlement charges fall

Table 10.6 presents our decision on MDBA and BRC charges for the 2021 Determination:

- HS entitlement charges will increase for MDBA charges in the Murray (10.3%) and Murrumbidgee (7.5%) valleys. These rises are mainly due to:
 - increases to the HS premium
 - a greater proportion of MDBA costs being assigned to water customers, and apportioned between entitlement types differently, than in past determinations.
- BRC HS entitlement charges will decrease by 2.6%.
- GS entitlement charges will decrease for MDBA charges for the Murray and Murrumbidgee valleys (by up to 1.5%) and BRC charges by 4.3%. This is mainly due to the increases in the HS premium which shifts costs from GS entitlement holder to HS entitlement holders.

Table 10.6 Decision on MDBA/BRC entitlement prices for the 2021 determination period (\$/ML, \$2021–22)

| Valley | Current 2020–21 (\$2020–21) | Decision for 2021 Determination | Change current to decision |
|--|--------------------------------|------------------------------------|-------------------------------|
| High security entitlement charge | | | |
| Border | \$4.97 | \$4.84 | -2.6% |
| Murray | \$7.83 | \$8.64 | 10.3% |
| Murrumbidgee | \$1.73 | \$1.86 | 7.5% |
| General security entitlement charge | | | |
| Border | \$1.85 | \$1.77 | -4.3% |
| Murray | \$3.83 | \$3.80 | -0.8% |
| Murrumbidgee | \$0.65 | \$0.64 | -1.5% |

Source: IPART analysis.

10.3.3 MDBA and BRC usage charges will increase by up to 15%

Under the 2021 Determination prices, MDBA and BRC usage charges increase for all valleys (Table 10.7). These increases are mainly because a greater proportion of MDBA and BRC costs has been assigned to water customers than in past determinations.

Table 10.7 Decision on MDBA/BRC usage prices for the 2021 determination period (\$/ML, \$2021–22)

| Valley | Current 2020–21 (\$2020–21) | Decision for 2021 Determination | Change current to decision |
|---------------------|--------------------------------|------------------------------------|-------------------------------|
| Usage charge | | | |
| Border | \$0.84 | \$0.86 | 2.4% |
| Murray | \$1.61 | \$1.85 | 14.9% |
| Murrumbidgee | \$0.33 | \$0.37 | 12.1% |

Source: IPART analysis.

10.4 We exempted floodplain harvesting licences from charges

Our decision is:



38. To exempt floodplain harvesting licences from Water NSW rural infrastructure charges.

Floodplain harvesting involves retaining water that enters a floodplain on a landowner's property. The *Water Management Act 2000* creates a framework for issuing Water Access Licences for floodplain harvesting, although no licences are currently issued.

The NSW Government indicated it plans to have a Floodplain Harvesting Access Licences in place from 1 July 2021 in the Northern Murray Darling Basin. We discuss this issue further in our parallel review of prices for the Water Administration Ministerial Corporation (WAMC).

Because floodplain harvesting occurs on private land and does not require Water NSW to store or deliver water to a licence holder, we consider they are not an impactor to Water NSW's infrastructure costs. As such, we consider Water NSW should not levy charges on holders of Floodplain Harvesting Access Licences.^j

10.5 We exempted Aboriginal Cultural licences from charges

Under the *Water Management Act 2000* the Minister has the power to issue 3 types of 'specific purpose access licences' to meet the water needs of Indigenous communities. The legislation refers to these licences as:

- Aboriginal Cultural licences
- Aboriginal Community Development licences
- Aboriginal Commercial licences.

These Indigenous licences are considered subcategories of other licence types, such as HS or GS regulated river licences. Under our 2017 Determination these licences are treated like the equivalent licence type of which they are a subcategory.^k For example, a HS (Aboriginal Cultural) subcategory licence would be liable for the same charges as a regular HS licence.

Our decisions are:



39. To exempt Aboriginal Cultural Licences from all Water NSW rural water charges for the 2021 Determination while the NSW Government considers a policy position on charges associated with these licences.^l



40. To continue to set charges for Aboriginal Community Development and Aboriginal Commercial licences, as we have in previous determinations.

Indigenous stakeholders, including the NSW Aboriginal Land Council (NSW ALC)²⁰¹, Murray and Lower Darling River Indigenous Nations (MLDRIN)²⁰² and DPIE²⁰³, strongly opposed charging infrastructure fees for indigenous subcategory licences. DPIE noted the additional limitations for how water can be used under a subcategory licence compared with a normal HS licence, and how water taken under subcategory licences for cultural purposes often remains in the river and supports environmental outcomes.

^j We still consider floodplain users contribute to water management costs including licensing, planning and compliance, so we included them in our WAMC charges.

^k Under Schedule 5 cl 1 of the 2017 Determination, we set charges based on whether a customer's licence belonged to certain categories of licence defined in section 57 of the *Water Management Act 2000*. As Regulated River (High Security) [Aboriginal Cultural] licences were a defined subcategory of Regulated River (High Security) licences in the schedule of the Water Management (General) Regulation 2018, we treated Aboriginal Cultural licences the same as other High Security licences.

^l We also exempted Aboriginal Cultural Licence holders from water management charges in our review of WAMC charges.

The NSW Government's draft State Water Strategy identifies:

...while there are some provisions for accessing water for cultural purposes in NSW, these do not currently meet the needs and obligations of Aboriginal people to care for Country or achieve the cultural water flows and water management aspirations...²⁰⁴

An action identified in the draft strategy is to develop a state-wide Aboriginal water strategy. This would involve reviewing and identifying required amendments to the water management legislative framework to enable Aboriginal rights, interests and ownership of water.

After engagement with stakeholders, we consider there is a strong case for exempting Aboriginal Cultural licences for the 2021 Determination while the NSW Government develops a revised approach to these licences in the future.

On Aboriginal Community Development licences and Aboriginal Commercial licences we note:

- no licences of either of these subtypes appear to have been issued, and
- there does not appear to be clear policy guidance on what conditions or use limitations might be placed on these licences if they were issued in future.

Given this limited information, we decided to continue setting charges for these two subcategories. If the NSW Government decides to issue these licences during the 2021 determination period and considers it is appropriate to exempt them from fees, it can provide Water NSW with a subsidy to do so.

Chapter 11 >>

Other and miscellaneous charges

11

Summary of our decisions for Water NSW's other and miscellaneous charges

The Yanco Creek levy will remain at \$0.90/ML

We decided to maintain the current levy of \$0.90 per ML of entitlement, held constant in nominal terms.

The environmental gauging station (EGS) charge is not required

We decided not to set an EGS charge.

Other miscellaneous charges will increase by inflation

These include:

- metering accuracy testing charges
- a trade processing charge
- FRWS connection and disconnection fees.

We maintained our past approaches for setting these charges.

This chapter sets out our decisions, and our reasons for them, on the Yanco Creek levy and a range of miscellaneous charges.

11.1 We maintained the Yanco Creek levy at \$0.90/ML

The Yanco Creek natural resources management levy (Yanco Creek levy) is a unique charge that applies to water licence holders in the Yanco Columbo system. It is intended to fund system rehabilitation, to improve flows and provide water efficiencies for the system and Murrumbidgee valley. IPART first approved the Yanco Creek levy in the 2005 Determination, and it has been maintained in each subsequent review.^a

The 84 customers in the Yanco Creek system currently contribute \$0.90 per ML of their entitlement per year. Water NSW distributes the collected revenue to the Yanco Creek and Tributaries Advisory Council (YACTAC), which administers the Yanco Creek natural resources management plan.

^a Including the ACCC's 2014 Decision, on the basis that it was endorsed by Yanco Creek customers and the level of the charge did not change (in nominal terms).

Our decision is:



41. To set a maximum per year Yanco Creek levy of \$0.90 per ML of entitlement for users in the Yanco Creek system, held constant in nominal terms.

In its submission to our Draft Report, YACTAC noted it has conducted a range of on-ground projects since our 2005 Determination, including physical works (e.g. willow eradication, and aquatic and riparian weed removal and maintenance), environmental studies, species studies, program reviews, and monitoring and management of projects.²⁰⁵

YACTAC also proposed price increases as set out in Table 11.1. These proposed increases were broadly support by entitlement holders and endorsed at YACTAC's annual general meeting.²⁰⁶

Table 11.1 Decision on the Yanco Creek levy for the 2021 determination period (\$2021–22)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|---------------------------|---------------------|---------------------------|---------------------------|---------------------|
| Proposed by YACTAC | \$0.90 per ML + 10% | 2021–22 value + 10% + CPI | 2022–23 value + 10% + CPI | 2023–24 value + CPI |
| Proposed Yanco Creek levy | 0.99 | 1.12 | 1.26 | 1.29 |
| IPART decision | 0.90 | 0.90 | 0.90 | 0.90 |
| Difference | -0.09 | -0.22 | -0.36 | -0.39 |
| Difference % | -9% | -20% | -29% | -30% |

Note: Our calculation of the proposed Yanco Creek levy over the 2021 Determination assumed CPI would be 2.5% per year. Source: YACTAC submission to the draft report; and IPART analysis.

In response to our Draft Report, we received 15 submissions on the Yanco Creek levy, 14 of which supported the proposed increases. Water NSW also assisted in our consultation process by issuing a survey to customers on the proposed increases.^b We received 4 responses to the survey, 3 of which supported the proposed increases.

We maintained the Yanco Creek levy at the current level

The feedback we received represents about only 23% of customers impacted by the Yanco Creek levy, with some customers indicating they do not support the proposed increases. We do not consider that we have received sufficient evidence to determine whether the proposed price increases are warranted and/or supported, and so maintained our draft decision to not increase the Yanco Creek levy.²⁰⁷

Higher levels of customer engagements will enable better informed decision-making, as having diverse customer representation will allow us to gauge the willingness to pay of customers in the Yanco Colombo System. Further, limited information meant we could not measure the cost-efficiency of YACTAC's proposed projects.

^b Water NSW supported IPART in engaging 75% of the customer base through an online feedback form via emails.

In considering whether to maintain and/or increase the Yanco Creek levy, we would expect evidence of support from a larger proportion of customers, and proposed expenditure for planned projects.

We maintained the Yanco Creek levy at \$0.90 per ML of entitlement (held constant in nominal terms) for the 2021 Determination, on the basis that:

- the ACCC's 2014 Decision under the Water Charge (Infrastructure) Rules 2010 and our 2017 Determination approved holding the levy constant^c
- there is limited information on proposed expenditure provided for each project and YACTAC's strategic focus areas for the 2020–30 Strategic Plan
- from the submissions received, it is difficult to determine customers' willingness to pay for the proposed increases.

11.2 Miscellaneous charges increase by inflation only

Miscellaneous charges are fees levied by Water NSW for non-routine services. These charges are not recovered through bulk water charges and are determined separately.

Water NSW proposed a number of miscellaneous charges for which we determined prices where appropriate. These miscellaneous charges include:

- meter accuracy testing charges
- a trade processing charge
- an environmental gauging station (EGS) charge
- FRWS connection and disconnection fees
- credit card payment fees.

The ESG charge is an annual charge, whereas the other charges are fee for service. Our decisions on the miscellaneous charges are outlined below.

11.2.1 Meter accuracy testing charges increase by inflation

Customers with a Water NSW-owned meter may request a meter accuracy test if the meter is suspected to be faulty. When a customer requests accuracy testing, Water NSW levies a refundable deposit. The deposit is returned if the meter is found to be inaccurate and forfeited by the customer if the meter is within accuracy standards. Water NSW currently levies meter accuracy testing charges via a 2-part price:

- a deposit, which is returned if the meter is found to be inaccurate
- a cost-reflective charge if the meter is found to be accurate.

^c The ACCC approved the Yanco Creek levy in 2014 on the basis that there will be no change (in nominal terms) to the level of the charge.

Our decision is:



42. To set charges for meter accuracy testing as shown in Table 11.2.

Table 11.2 Decision on meter accuracy testing charges for the 2021 determination period

| Meter accuracy charges | Current (\$2020–21) | Decision for 2021 Determination (\$2021–22) |
|--|---------------------|---|
| Refundable meter accuracy deposit per request (\$nominal) ^a | \$1,750.00 | \$1,750.00 |
| Total additional charge where meter is found to be within accuracy standards: ^b | | |
| Verification and testing on site | \$4,626.39 | \$4,677.28 |
| Laboratory verification and testing | \$6,922.88 | \$6,999.03 |

a. The meter accuracy deposit does not increase with inflation over the determination period.

b. The total charge includes the additional charge, plus the \$1,750 deposit which is not refunded when the meter is found to be within accuracy standards. The additional charge is indexed by CPI for each year of the determination.

Source: IPART analysis.

The current pricing approach for meter accuracy charges remains appropriate

The refundable deposit is not intended to reflect costs. Rather, it aims to balance customer incentives to question the accuracy of their meter. We consider that the current deposit remains appropriate.

We also consider that it is appropriate for Water NSW to recover its full testing costs when the meter is found to be within accuracy standards.

Water NSW proposed to continue the meter accuracy deposit and verification and testing charges in real terms over the 2021 determination period. In 2017, we accepted the total testing costs put forward by Water NSW as:²⁰⁸

- the costs reflect market rates, as Water NSW contracts the testing out to private vendors
- our consultant (Aither) examined the breakdown of services provided and costs, and was satisfied with the associated process and costs
- Aither and Water NSW confirmed the costs are likely to only vary substantially by the type of test being performed (on site or laboratory).

We accepted Water NSW's proposal and set the prices as set out in Table 11.2.

11.2.2 We removed the environmental gauging station charge

Water NSW uses in-stream flow meters to measure water flows associated with bulk water ordered by environmental water holders. These meters are also used for general operational and river management purposes. The ACCC introduced the EGS charge in 2014 to apply to environmental water holders.^d

Our 2017 Determination set the EGS charge to recover the incremental costs of upgrading the meters. The charge was designed to recover the efficient costs of upgrading existing meters, in order to meet measurement standards required for billing. However, the EGS charge has never been levied, as the triggers for levying the charge were not met. We decided to not set an EGS charge. This is because no service has been provided and Water NSW incurred no costs relating to the charge, nor are costs expected to be incurred during the 2021 determination period.

Our decision is:



43. To remove the environmental gauging station charge.

Metering reforms do not apply to in-stream environmental flows

In its submission to our Draft Report, the Department of Planning, Industry and Environment – Environment, Energy and Science (DPIE EES) suggested removing the EGS charge. It argued that the metering standards and requirements of the non-urban metering reforms do not apply to in-stream flows, so the EGS charge would never be levied. As part of our consultation, we met with both DPIE EES and Water NSW to ensure we considered all relevant information from key stakeholders in making our decision.

Currently, flows (and hence bills) for environmental licence holders are determined using Water NSW's existing hydrometric monitoring network stations. DPIE EES considers that the accuracy of these meters is adequate for measuring the flows of its environmental releases. It is not seeking any new meters or improvements in the performance or accuracy of the meters used by Water NSW.

Previously we set the triggers for the EGS charge based on the incremental costs incurred by Water NSW in meeting the interim upgraded metering requirements.²⁰⁹ This approach ensured that Water NSW would recover the efficient costs of meeting its metering obligations, and the environmental licence holders would meet those costs associated with metering its releases. While the non-urban metering reform requirements for extractive water use are clear, there are no specific metering standards or requirements that apply to in-stream monitoring of environmental flows.²¹⁰

^d Water access licences in NSW are linked to nominated works. For environmental water holders who do not pump water, these licences have gauging stations as their nominated works.

Therefore, we removed the EGS charge for the 2021 Determination. Should a need for upgrade arise, we will consider Water NSW's efficient expenditure in future determinations, and consider setting prices that recover the full efficient costs of these upgrades. These costs may include the explicit capital and operating costs, and any holding cost of expenditure that is necessary in the interim.

11.2.3 Other miscellaneous charges increase by inflation only

Miscellaneous charges are service fees Water NSW levies for non-routine product offerings, the costs of which are not recovered through bulk water charges. They are levied on individual customers who request Water NSW carry out the work.

These charges recover the direct costs Water NSW incurs in carrying out the work together with associated overhead costs. These costs are determined separately from the building block revenue to set bulk water services charges. This approach is consistent with the principle that the cost of these services should be borne only by those customers who use these services.

For the 2021 Determination, miscellaneous charges will remain at current levels in real dollars, as shown in the tables below.

The trade processing charge increases by inflation

Water NSW currently levies an allocation trade processing charge, which applies to all trade applications for allocation assignments (including intravalley, intervalley and interstate allocation assignments).

Our decision is:



44. To set the trade processing charge as a single, fixed charge as shown in Table 11.3.

In 2017 we set the charge as a single fixed charge per application, rather than a 2-part price as proposed by Water NSW. We considered that a fixed charge would better reflect the costs incurred by Water NSW, which correlated with the number of applications received (as opposed to the volume of water traded).

We accepted Water NSW's proposal to continue levying this charge at the current level over the 2021 determination period, in real terms, on the basis that it will recover administrative costs of processing individual trade applications (Table 11.3).

Table 11.3 Decision on trade processing charge for the 2021 determination period

| Trade processing charge | Current (\$2020–21) | Decision for 2021 Determination (\$2021–22) |
|---|---------------------|---|
| Trade processing charge per application | 49.37 | 49.92 |

Note: The charge will be indexed by CPI for each year of the determination period.
Source: IPART analysis.

FRWS connection and disconnection fees increase by inflation

Water NSW levies new connection and disconnection fees for the FRWS. New connections and disconnection are made at the request of the customer.

Each new connection in the FRWS entails different requirements (location of tapping point and time taken to travel to location), which results in a variable cost of connection. In 2017, we determined connection charges based on the complexity of the connection.

Our decision is:



45. To set prices for the:

- Fish River Water Supply connection charge based on the complexity of the connection service as shown in Table 11.4
- Fish River Water Supply disconnection charge as shown in Table 11.5.

Water NSW proposed retaining these charges in real terms for the 2021 Determination. It also proposed retaining the disconnection fee at the current rate. We consider that the current approach remains appropriate, and set charges as outlined in Table 11.4 and Table 11.5.

Table 11.4 Decision on FRWS connection charge for the 2021 determination period

| Service type | Current (\$2020–21) | Decision for 2021 Determination (\$2021–22) |
|--|---------------------|---|
| Low complexity – no tapping band or pressure reducing valve required | 916.30 | 926.38 |
| Medium complexity – tapping band required | 3,474.18 | 3,512.39 |
| High complexity – pressure reducing valve required | 7,103.19 | 7,181.32 |

Note: These charges will be indexed by CPI for each year of the determination period.
Source: IPART analysis.

Table 11.5 Decision on FRWS disconnection charge for the 2021 determination period

| Charge | Current (\$2020–21) | Decision for 2021 Determination (\$2021–22) |
|---------------------------------|---------------------|---|
| Fish River disconnection charge | 257.96 | 260.80 |

Note: These charges will be indexed by CPI for each year of the determination period.
Source: IPART analysis.

IPART does not regulate Water NSW's credit card payment fees

Our decision is:



46. To continue not to regulate Water NSW's credit card payment fees.

In 2017 Water NSW introduced credit cards as a payment option. By offering this payment option to customers, Water NSW can incur higher costs than debit transactions. Water NSW passes on to customers an amount relating to these fees which is set by NSW Treasury based on the normal cost of merchant interchange fees.²¹¹ This amount is currently 0.44% for Visa/Mastercard and 1.54% for American Express cards.²¹² In 2017, Water NSW proposed to vary the charges as NSW Treasury varies the charges²¹³.

Merchant interchange fees are incurred by State Owned Corporations and NSW Government agencies when they accept credit card payments from the public or customers. The NSW Government requires recouping these fees through surcharging for payments accepted using debit or credit cards issued by card schemes such as Visa, MasterCard, American Express and Diners. This charge does not apply to payments accepted using ATM cards issued by banks and other deposit taking institutions. A credit card payment fee also falls outside the definition of a 'regulated charge' under the WCR.^e

^e IPART cannot regulate the fee under section 11 of the IPART Act and would require a section 12A referral from the Minister for Customer Service to specify a maximum fee.

Chapter 12 >>

Impacts of our decisions on
Water NSW's prices

12

Summary of impacts on Water NSW's customers and Water NSW

Our price decisions generally increase bills for Water NSW's customers

Bills will increase in 2021–22 for customers in the MDB valleys and the Hunter valley due to increases in efficient costs, with bill increases of up to 52% for high security customers and 105% for general security customers. Bills will remain constant in real terms for customers in the North Coast and South Coast valleys.

Bills will increase in 2021–22 for customers in the FRWS scheme, except for Oberon Council and individual minor filtered water customers.

Customers will pay a lower bill in 2021–22, compared with 2022–23 to 2024–25 as a result of our decision to delay all bulk water charges from taking effect until 1 October 2021.

Bill impacts are reasonable

We calculated price changes in customers' bills over the most recent 10-year period, and found that on average, bills are increasing by less than 2.5% per year (before inflation).

Bills paid by Water NSW's customers are in line with bills paid by irrigators in Victoria and Queensland for comparable services.

We also compared bills with farming businesses' gross value of irrigated agricultural production, and usage charges for 2021–22 with prices paid for allocations in the water trading market.

We did not identify a financeability concern for Water NSW

Water NSW is expected to meet 2 of the 3 ratios for the benchmark test in all years of the determination period.

We must also consider other matters under the IPART Act

Our decisions on operating and capital expenditure will allow Water NSW to recover all efficient costs it incurs in meeting its environmental obligations.

Our pricing decisions will negatively impact the Consolidated Fund by up to \$48.0 million per year. This is \$10.6 million (or 28% higher) per year compared with the 2017 determination period, mainly due to under-recovery in the short term in BRC and MDBA contributions.

This chapter sets out the impacts of our pricing decisions on Water NSW's customers.

We also discuss the impact on Water NSW's financeability, as well as other matters we must consider under section 15 of the IPART Act, including the environment and the NSW Government's Consolidated Fund.

12.1 Bill increases reflect additional expenditure requirements

In reaching our decisions, we considered the impact of indicative bills on Water NSW's customers.

12.1.1 Bills increase for a majority of valleys

Table 12.1 and Figure 12.1 show our analysis of bill impacts. This analysis is based on:

- a typical high security customer with 500 ML of entitlements and 100% usage of entitlements
- a typical general security customer with 500 ML of entitlements and 60% usage of entitlements.

We present bill impacts based on the same assumptions for all valleys to allow for comparison between valleys. We acknowledge that these assumptions may not reflect the profile of the average customer in each valley.

Valley-specific bills with high security and general security customers further separated into 3 categories (small, medium and large) based on entitlements and usages representative of each valley are available on our review [website](#).

Bills presented below are based on prices for the 2021 determination period. They reflect what customers will pay in 2022–23, 2023–24 and 2024–25 (in \$2021–22). Customers will pay a lower bill in 2021–22 because the new bulk water charges will not take effect until 1 October 2021, which means that 2020–21 prices remain in place until 30 September 2021.

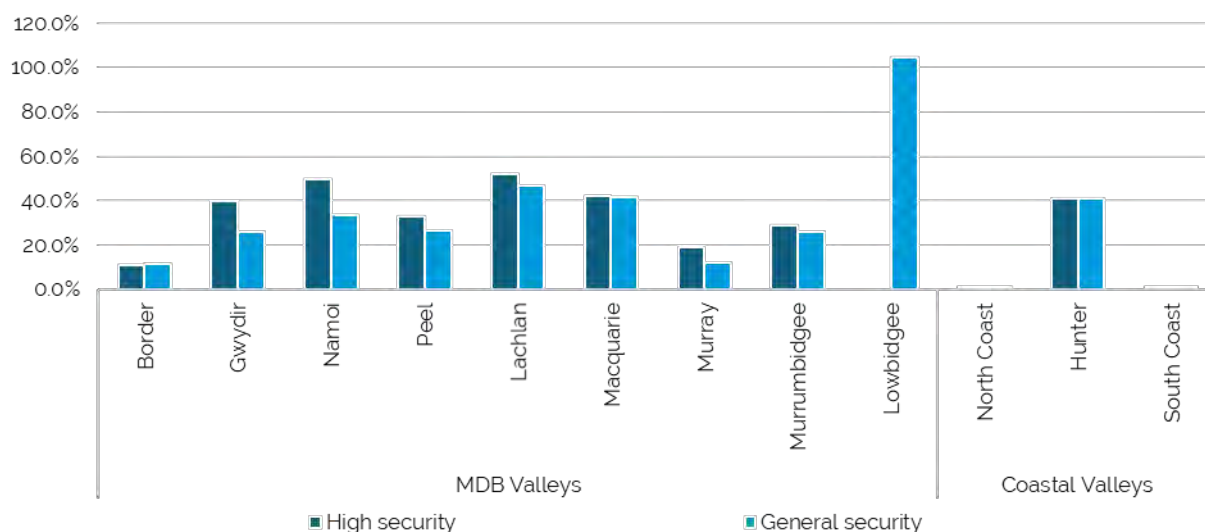
We note that under the WCR, Water NSW must apply for annual reviews of its prices during the determination period. Bill impacts presented in this section do not account for potential updates in prices following these annual reviews.

Table 12.1 Bills by valley including MDBA and BRC costs

| | Current (\$2020–21) | Final Report (\$2021–22) | % change from current to Final Report |
|-------------------------|------------------------|-----------------------------|--|
| High security | | | |
| Border | \$8,705 | \$9,655 | 10.9% |
| Gwydir | \$12,360 | \$17,295 | 39.9% |
| Namoi | \$19,960 | \$29,905 | 49.8% |
| Peel | \$32,275 | \$42,935 | 33.0% |
| Lachlan | \$18,535 | \$28,135 | 51.8% |
| Macquarie | \$14,695 | \$20,910 | 42.3% |
| Murray | \$6,580 | \$7,840 | 19.1% |
| Murrumbidgee | \$4,405 | \$5,685 | 29.1% |
| Lowbidgee | - | - | - |
| North Coast | \$15,730 | \$15,900 | 1.1% |
| Hunter | \$13,875 | \$19,535 | 40.8% |
| South Coast | \$25,895 | \$26,180 | 1.1% |
| General security | | | |
| Border | \$4,000 | \$4,457 | 11.4% |
| Gwydir | \$5,712 | \$7,177 | 25.6% |
| Namoi | \$10,746 | \$14,314 | 33.2% |
| Peel | \$8,099 | \$10,263 | 26.7% |
| Lachlan | \$7,623 | \$11,206 | 47.0% |
| Macquarie | \$5,987 | \$8,462 | 41.3% |
| Murray | \$3,421 | \$3,829 | 11.9% |
| Murrumbidgee | \$2,090 | \$2,637 | 26.2% |
| Lowbidgee | \$420 | \$860 | 104.8% |
| North Coast | \$10,546 | \$10,664 | 1.1% |
| Hunter | \$9,570 | \$13,484 | 40.9% |
| South Coast | \$14,285 | \$14,440 | 1.1% |

Notes: Bills include BRC costs in the Border valley and MDBA costs in the Murray and Murrumbidgee valleys. The Lowbidgee valley has supplementary licences that are charged fixed entitlement charges only.
Source: IPART analysis.

Figure 12.1 Bill impacts for customers (% change from 2020–21 to 2021–22)



Note: Bills include MDBA and BRC costs.
Data source: IPART analysis.

Bills will increase from 2020–21 to 2021–22 for all valleys, except for the North Coast and South Coast valleys. The bill increases are mainly due to increases in efficient costs over the 2021 determination period compared with the 2017 determination period. Bills in our Final Report are higher than our Draft Report for several reasons. First, we increased the notional revenue requirement (NRR) between the Draft Report and Final Report stages. Second, the decision to delay all bulk water charges from taking effect until 1 October 2021 means the NRR for the 2021 determination period needs to be recovered from customers over 3.75 years rather than 4 years.

Customer bills for most valleys will increase by between 11% and 52%, except for the Lowbidgee, North Coast and South Coast valleys.

Bills for customers in the Lowbidgee valley increase by around 105%, which is the highest percentage increase for all valleys. This is mainly due to a significant increase in operating expenditure, which Water NSW needs to ensure Lowbidgee assets are properly maintained. In the North Coast and South Coast valleys, bills will remain constant in real terms. This reflects our decision to maintain charges in real terms over the 2021 determination period.

High security entitlement holders will experience greater percentage increases than general security entitlement holders, reflecting increases in the high security premium that shift costs from general security to high security entitlements.

12.1.2 Bill impacts from BRC and MDBA pass-through charges are mixed

The NSW Government recovers a portion of its contributions to the BRC and MDBA through charges on water licence holders.

Under our prices, the BRC component of bills in the Border valley will fall slightly from 2020–21 to 2021–22 (Table 12.2). This is due to our decisions on Water NSW's efficient BRC expenditure, reallocation of costs between Water NSW and WAMC, and moving to a building block approach to calculate efficient BRC costs (see section 5.5).

Table 12.2 Bill impacts – BRC and MDBA pass-through charges only

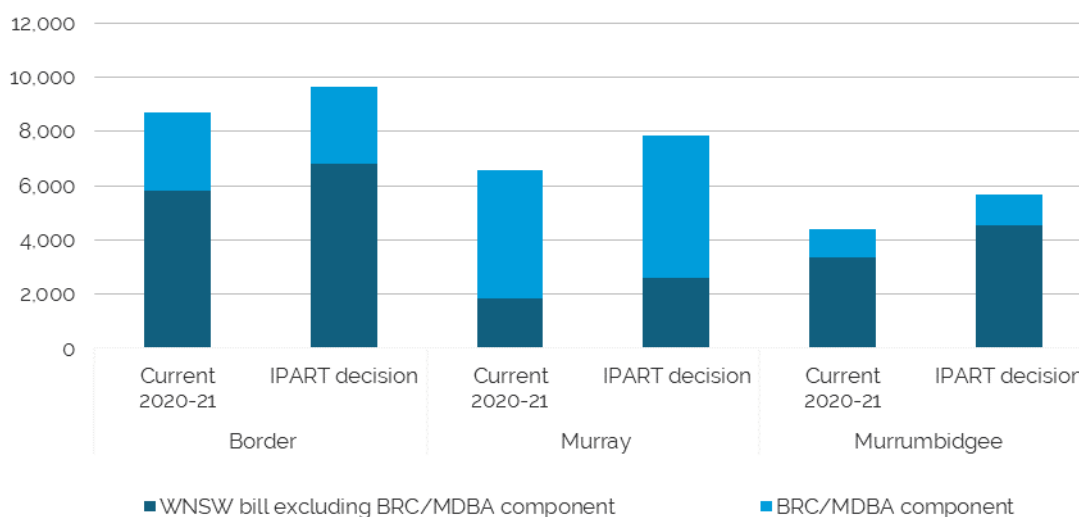
| | Current (\$2020–21) | Final Report (\$2021–22) | % change from current to Final Report |
|-------------------------|------------------------|-----------------------------|--|
| High security | | | |
| Border | \$2,905 | \$2,850 | -1.9% |
| Murray | \$4,720 | \$5,245 | 11.1% |
| Murrumbidgee | \$1,030 | \$1,115 | 8.3% |
| General security | | | |
| Border | \$1,177 | \$1,143 | -2.9% |
| Murray | \$2,398 | \$2,455 | 2.4% |
| Murrumbidgee | \$424 | \$431 | 1.7% |

Note: Assumes 500 ML of entitlements and 100% usage for high security users, and 500 ML of entitlements and 60% usage for general security users.
Source: IPART analysis.

The MDBA component of bills in the Murray and Murrumbidgee valleys will increase under our prices. This is due to significantly higher efficient expenditure by the MDBA. However, moving to a building block approach to calculate MDBA costs has offset most of this increased expenditure.

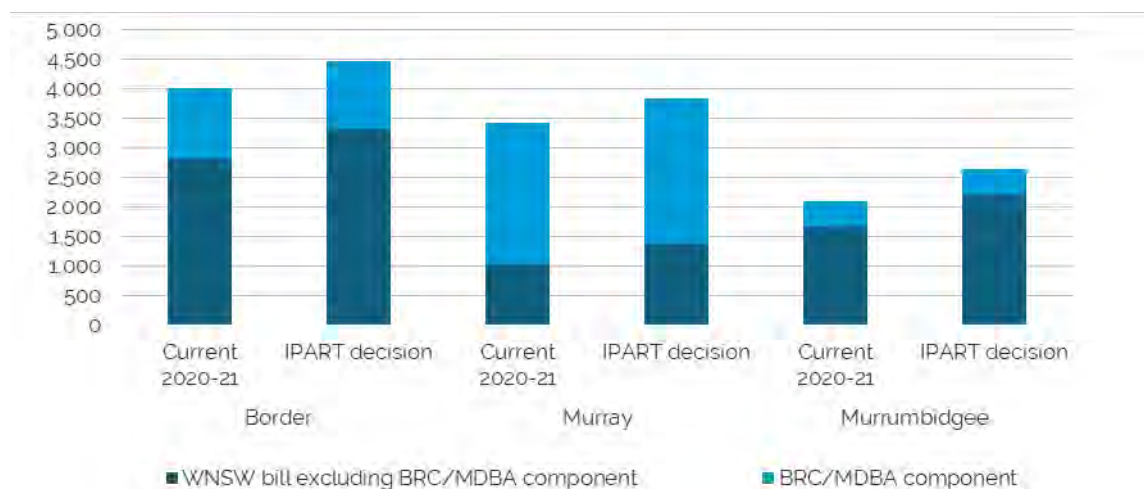
Figure 12.2 and Figure 12.3 present bills for the typical high security and general security entitlement holders in the Border, Murray and Murrumbidgee valleys, broken down into rural bulk water charges and BRC/MBDA pass-through charges.

Figure 12.2 High security bills – current (\$2020-21) and IPART decision (\$2021-22)



Data source: IPART analysis.

Figure 12.3 General security bills – current (\$2020-21) and IPART decision (\$2021-22)



Data source: IPART analysis.

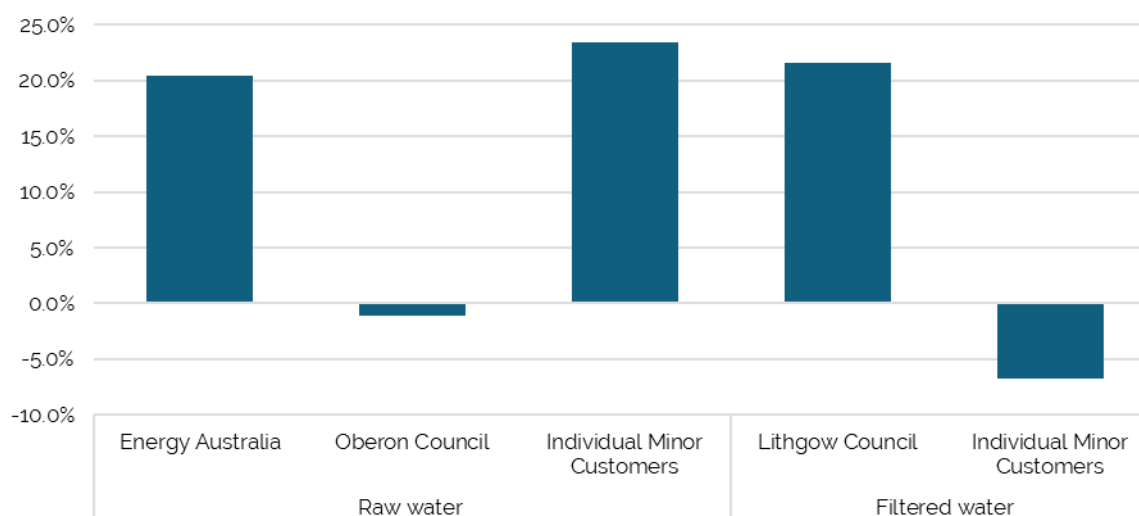
12.1.3 Bills will increase for most customers in the FRWS

Our analysis is based on:

- minimum annual qualities (MAQs) in the water sharing plan for major customers, and a deemed MAQ of 200 kL for minor individual customers (both raw and filtered)
- the 20-year average (i.e. forecast) water usage for each customer type excluding EnergyAustralia
- 1,850 ML of water usage for EnergyAustralia.

Table 12.3 and Figure 12.4 present the impact of our prices on bulk raw water and bulk filtered water customers in the FRWS scheme.

Figure 12.4 Bill impacts for FRWS customers (% change from 2020-21 to 2021-22)



Data source: IPART analysis.

Table 12.3 Bill impacts for customers in the FRWS

| | Current (\$2020–21) | Final Report (\$2021–22) | % change from current to Final Report |
|----------------------------|------------------------|-----------------------------|--|
| Raw water | | | |
| EnergyAustralia | \$3,837,940 | \$4,620,598 | 20.4% |
| Oberon Council | \$631,220 | \$624,000 | -1.1% |
| Lithgow Council | \$0 | \$82,000 | |
| Individual minor customers | \$405 | \$499 | 23.4% |
| Filtered water | | | |
| Lithgow Council | \$1,546,780 | \$1,880,857 | 21.6% |
| Individual minor customers | \$663 | \$618 | -6.7% |

Source: IPART analysis.

As shown in Figure 12.4, bills will generally increase for customers in the FRWS, except for Oberon Council and individual minor filtered water customers. The increases are mainly due to increases in operating expenditure.

We maintained prices in real terms for Oberon Council (discussed in Chapter 10). The council will now experience a small bill decrease of 1.1% from 2020–21 to 2021–22, due to a decrease in demand between the Draft Report and Final Report stages of the price review. Bills for individual minor filtered water customers will also decrease in the 2021 determination period. This is because we aligned the unit MAQ and usage charges for individual filtered water customers with charges for Lithgow City Council.

12.2 We consider bills based on our pricing decisions are reasonable

Stakeholders' submissions to our Draft Report stated that bill increases under our draft prices are unaffordable for customers, particularly in periods of uncertain allocation reliability.²¹⁴

We recognise stakeholders' concerns about the affordability of bill increases. In this section, we present the combined bill for water users in regulated water sources based on our final pricing decisions for the Water NSW and WAMC price reviews. We then assess the reasonableness of these bills by considering price movements for typical high security and general security water users over the past 10 years and comparing these bills with bills for comparable services in other jurisdictions.

We also compare Water NSW and WAMC bills for Water NSW's customers with farming businesses' gross value of irrigated agricultural production (GVIAP), and usage prices for the 2021 determination period with prices paid for allocations traded on the water market.

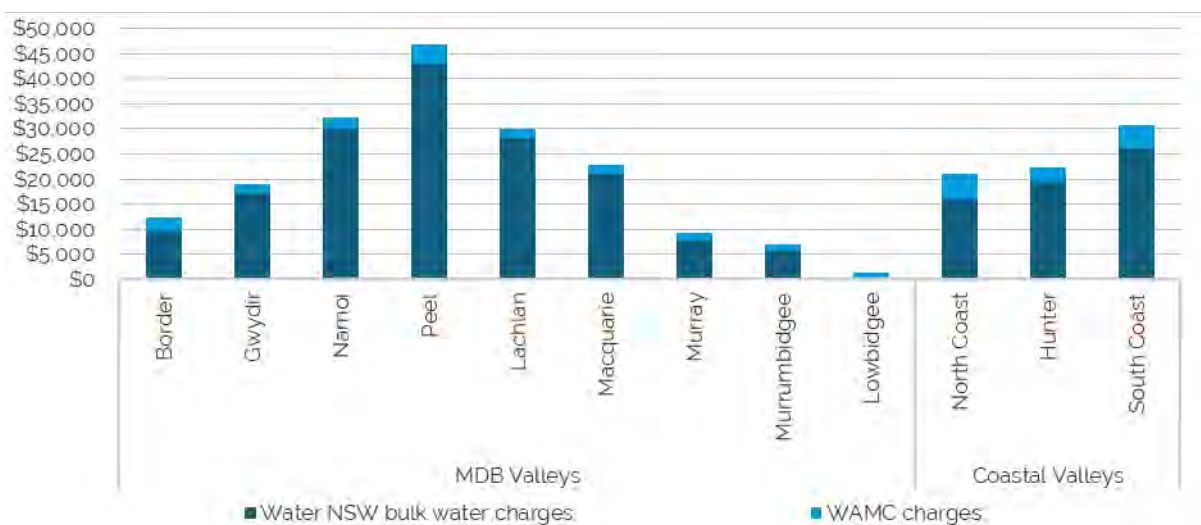
For the 9 valleys in the MDB and rural customers in the FRWS, we must comply with the WCR. That is, we must set prices that fully recover Water NSW's efficient costs, rather than set prices based on affordability or transition gradually to prices that fully recover costs.

12.2.1 Total bills for users in regulated water sources increase by 23% on average

We recognise that all Water NSW rural bulk water customers also pay for water management charges determined by IPART's review of WAMC's prices. These charges are set out in our Final Report on the Review of Water Management prices from 2021, which is available from IPART's [website](#).

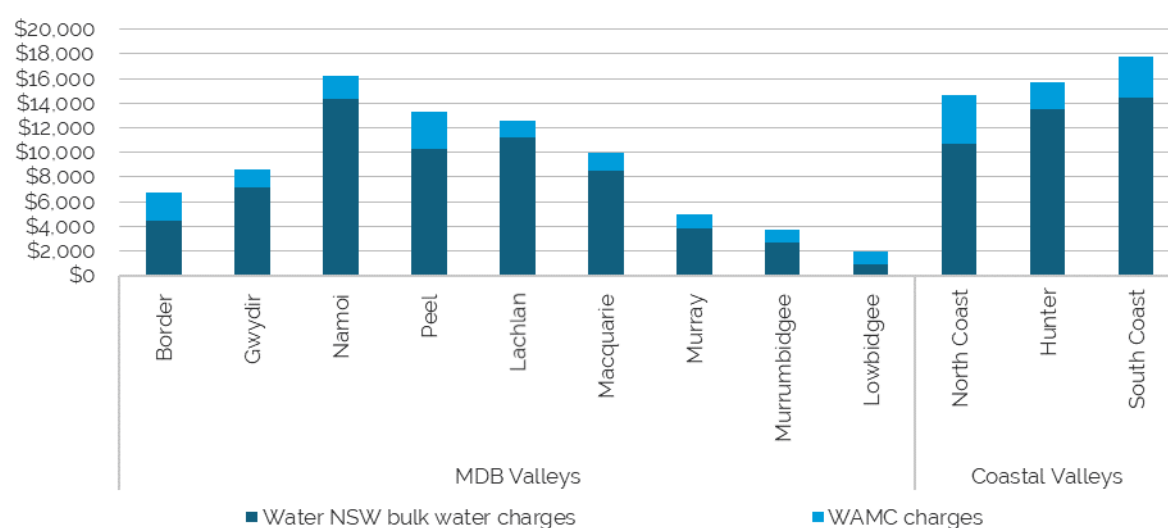
Figure 12.5 and Figure 12.6 present the combined Water NSW and WAMC bill for each valley for the typical high security and general security water user.

Figure 12.5 Typical high security bill – Water NSW and WAMC charges (\$2021–22)



Note: Our analysis is based on the typical high security customer with 500 ML of entitlements and 100% usage of entitlements. Data source: IPART analysis.

Figure 12.6 Typical general security bill – Water NSW and WAMC charges (\$2021–22)



Note: Our analysis is based on the typical general security customer with 500 ML of entitlements and 60% usage of entitlements. Data source: IPART analysis.

Total bills will increase by between 1% to 48% for the typical high security water user (Figure 12.5), and between 2% to 41% for the typical general security water user (Figure 12.6). Water users in the Lachlan valley will experience the highest bill increases, driven by increases in the Water NSW component.

Our analysis also shows that the Water NSW component contributes more to the total bill compared with the WAMC component, representing around 75% to 94% of the total bill for high security water users and 45% to 89% of the total bill for general security water users.

12.2.2 High security water users in MDB valleys record the highest average annual increases

To assess the combined impact of our pricing decisions (Water NSW and WAMC) on water users in regulated water sources, we considered price changes from 2011–12 to 2021–22 (Table 12.4).

Table 12.4 presents the annual bills for the typical water user in regulated water sources (in \$2021–22), the cumulative percentage change in bills from 2011–12 to 2021–22, and the average annual percentage change over this 10-year period.

On average, total bills for high security water users increased by 2.1% per year, and total bills for general security water users increase by 1.3% per year.

Table 12.4 Annual bills for water users in regulated water sources (\$2021–22)

| | 2011–12 | 2021–22 | % change 2011–12 to 2021–22 | Average annual % change |
|-------------------------|---------|---------|-----------------------------------|----------------------------|
| High security | | | | |
| Border | 12,283 | 12,371 | 0.7% | 0.1% |
| Gwydir | 16,115 | 19,020 | 18.0% | 1.7% |
| Namoi | 21,589 | 32,227 | 49.3% | 4.1% |
| Peel | 32,356 | 46,916 | 45.0% | 3.8% |
| Lachlan | 17,221 | 29,871 | 73.5% | 5.7% |
| Macquarie | 14,039 | 22,757 | 62.1% | 4.9% |
| Murray | 5,955 | 9,231 | 55.0% | 4.5% |
| Murrumbidgee | 4,847 | 6,947 | 43.3% | 3.7% |
| Lowbidgee | 1,052 | 1,262 | 19.9% | 1.8% |
| North Coast | 30,048 | 21,079 | -29.8% | -3.5% |
| Hunter | 25,628 | 22,237 | -13.2% | -1.4% |
| South Coast | 32,278 | 30,630 | -5.1% | -0.5% |
| General security | | | | |
| Border | 6,947 | 6,741 | -3.0% | -0.3% |
| Gwydir | 7,921 | 8,580 | 8.3% | 0.8% |
| Namoi | 13,916 | 16,255 | 16.8% | 1.6% |
| Peel | 14,892 | 13,271 | -10.9% | -1.1% |
| Lachlan | 9,520 | 12,535 | 31.7% | 2.8% |
| Macquarie | 8,077 | 9,924 | 22.9% | 2.1% |
| Murray | 4,266 | 5,003 | 17.3% | 1.6% |
| Murrumbidgee | 3,159 | 3,705 | 17.3% | 1.6% |
| Lowbidgee ^a | 888 | 1,928 | 117.0% | 8.1% |
| North Coast | 19,702 | 14,660 | -25.6% | -2.9% |
| Hunter | 11,946 | 15,747 | 31.8% | 2.8% |
| South Coast | 19,504 | 17,816 | -8.7% | -0.9% |

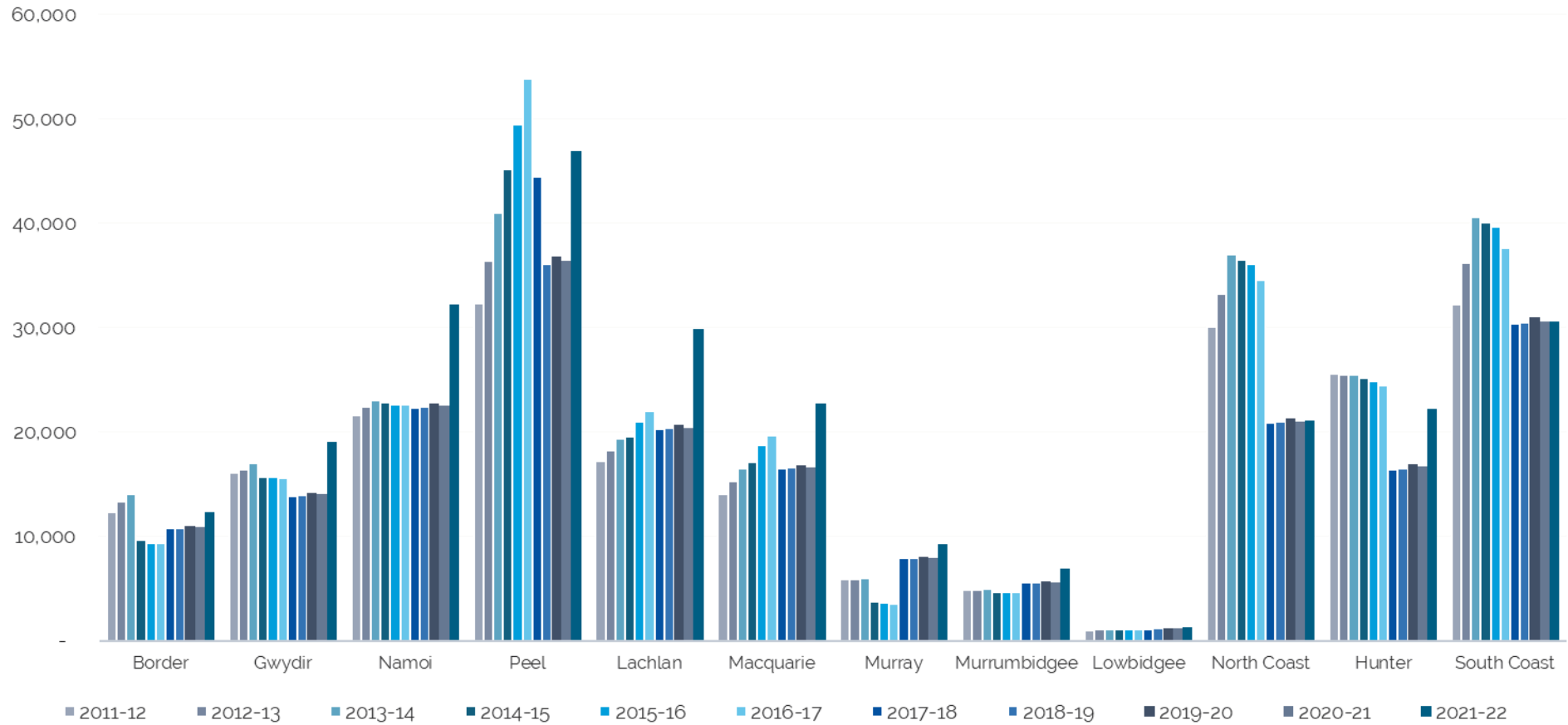
Note: Includes Water NSW and WAMC charges.
Source: IPART analysis.

The typical high security customer in an MDB valley experienced a bill increase in real terms from 2011–12 to 2021–22, with the average annual bill increase ranging from 0.1% per year in the Border valley to 5.7% per year in the Lachlan valley. In contrast, the typical high security customer in a Coastal valley experienced a bill decrease in real terms over the same period, with the average annual bill decrease ranging from 0.5% per year in the South Coast valley to 3.5% per year in the North Coast valley.

The typical general security customer experienced a bill increase in real terms from 2011–12 to 2021–22 in 8 out of 12 valleys, with the average annual bill increase ranging from 0.8% per year in the Gwydir valley to 8.1% per year in the Lowbidgee valley (driven by an increase of 105% from 2020–21 to 2021–22, see section 12.1.1). The typical general security customer experienced a bill decrease in real terms in the 4 remaining valleys, with the average annual bill decrease ranging from 0.3% in the Border valley to 2.9% in the North Coast valley.

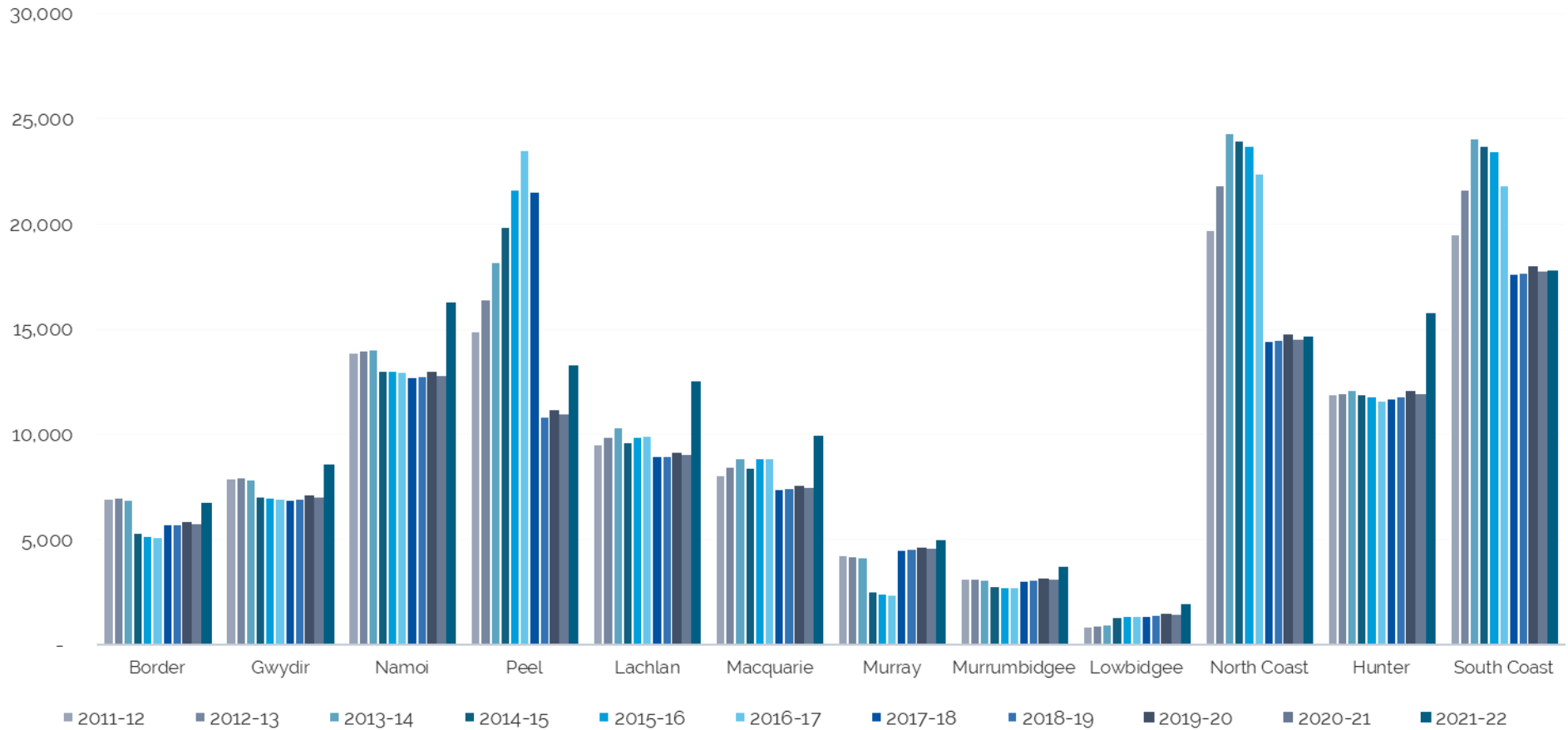
Figure 12.7 and Figure 12.8 show the annual bills in each year from 2011–12 to 2021–22 for high security water users and general security water users respectively.

Figure 12.7 Annual bill for the typical high security water user, 2011–12 to 2021–22 (\$2021–22)



Notes: Our analysis is based on the typical high security customer with 500 ML of entitlements and 100% usage of entitlements. Bills include BRC costs in the Border valley and MDBA costs in the Murray and Murrumbidgee valleys.
Data source: IPART analysis.

Figure 12.8 Annual bill for the typical general security water user, 2011–12 to 2021–22 (\$2021–22)



Notes: Our analysis is based on the typical general security customer with 500 ML of entitlements and 60% usage of entitlements. Bills include BRC costs in the Border valley and MDBA costs in the Murray and Murrumbidgee valleys.
 Data source: IPART analysis.

12.2.3 Bills in NSW are generally in line with bills in other jurisdictions

This section presents information on bills for comparable services in Victoria and Queensland. While prices vary within each state depending on geographical location and other factors, bills based on our final pricing decisions are generally in line with bills paid by irrigators in other jurisdictions.

We compared Water NSW bills with GMW bills in Victoria

Goulburn-Murray Water (GMW) is the largest rural water provider in Victoria. Figure 12.9 presents bills paid by GMW's gravity irrigation and pumped irrigation customers, for high reliability and low reliability water entitlements. We found that:

- There is greater variability in the prices paid by Water NSW customers in different valleys. For GMW, prices are generally consistent across irrigation districts, but vary depending on whether water is delivered via gravity, or through pumped piped supply systems. Prices in pumped irrigation districts are higher than prices in gravity irrigation districts.
- Total bills for the typical general security customer in NSW are lower than bills for a low reliability GMW customer with 500 ML of entitlements and 60% usage, except in the South Coast valley.
- The average bill for a typical high security customer in NSW is similar to the bill for a high reliability, gravity irrigation GMW customer with 500 ML of entitlements and 100% usage, and lower than the bill for a high reliability, pumped irrigation GMW customer with 500 ML of entitlements and 100% usage. However, the total bill in the Peel valley is higher than bills for all high reliability GMW customers.

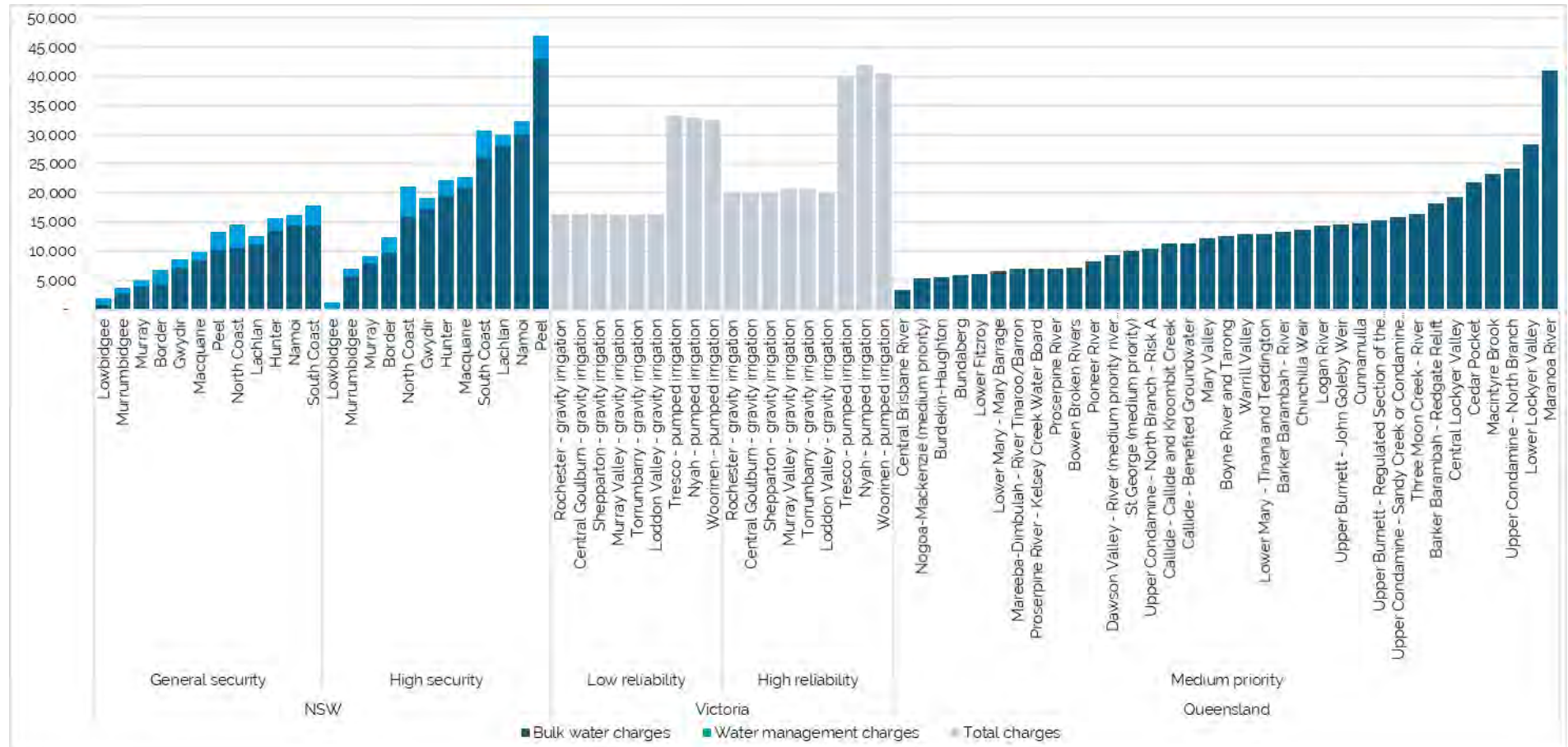
A key difference between NSW and Victoria is that distribution services are owned by users in NSW, but government-owned in Victoria.^{ccxv} In NSW, some irrigators are served directly by ICDs in the Lachlan, Murray and Murrumbidgee valleys, and we do not regulate the prices or charges levied by these ICDs on end users (see Chapter 11). For GMW, the costs of providing distribution services are reflected in its prices.

We compared Water NSW bills with Sunwater and Seqwater bills in Queensland

For Queensland, we considered prices paid by irrigation customers for the 22 water supply schemes operated by Sunwater, and 7 water supply schemes operated by Seqwater. We presented only rural bulk water charges because in Queensland, the Department of Regional Development, Manufacturing and Water (DRDMW) is responsible for water planning and management activities. While some of the costs of these activities are recovered from water users through fees and charges, this represents only a small portion of the total water planning and management costs incurred by DRDMW. These fees and charges are separate from Sunwater and Seqwater's prices.

Our analysis shows that prices vary across water supply schemes, with bills ranging from around \$3,300 (in the Central Brisbane River) to around \$41,100 (in the Maranoa River), with an average bill of around \$13,300. This is higher than the Water NSW bill for the typical general security customer in most valleys, except the Hunter, Namoi and South Coast valleys.

Figure 12.9 Rural bulk water and water management charges (\$2021–22)



Note: We discounted the Queensland Competition Authority's recommended 2020–21 prices for Sunwater and Seqwater schemes by 15% to reflect the Queensland Government's decision to reduce the cost of water for all irrigators. Horticultural growers will receive an additional 35% rebate, which will be assessed by the Queensland Rural and Industry Development Authority. We have not accounted for the additional 35% discount in our analysis because it applies only to horticultural growers.

Data source: Goulburn-Murray Water, [Pricing Simulators](#), accessed 20 June 2021; Queensland Government, [Irrigation pricing discounts 2021-24](#), accessed 18 June 2021; and IPART analysis.

The analysis is based on several assumptions. For GMW, our analysis of prices paid by gravity and pumped irrigation customers assume one property, with 500 ML of entitlements with 100% usage of entitlements for high reliability, and 60% usage of entitlements for low reliability. We also assumed a delivery share of 5 ML/day, based on GMW's guide to divide water shares by 100. Bills were generated based on these inputs using GMW's pricing simulators.²¹⁶

Our analysis of prices paid by irrigators in Queensland is based on 500 ML of entitlements with 60% usage of entitlements. This allows for comparison with prices paid by the typical general security customer in NSW. We presented only bills for medium priority entitlements, as in general, irrigators in Queensland hold medium priority entitlements.²¹⁷

12.2.4 Bills account for up to 12% of farming businesses' revenue

In the Draft Report, we used information published by the Australian Bureau of Statistics (ABS) to estimate bills as a percentage of GVIAP for farming businesses. We determined that bills based on our draft prices would account for up to 11% of farming businesses' GVIAP and concluded that bill increases will not have a significant adverse impact on farming businesses' profitability.

Stakeholders' submissions to the Draft Report disagreed with the results of our analysis. Murrumbidgee Private Irrigators Inc and Murrumbidgee Groundwater Inc's joint submission argued that the correct interpretation of the GVIAP analysis would be that water charges are far too high. In their view, a cost that grows by around 20% over one determination period, and represents around 11% of revenue, has a significant impact on farming businesses.²¹⁸

We note that the 11% figure presented in the Draft Report was the maximum percentage observed across the valleys – specifically, for general security water users in the Hunter valley. Bills as a percentage of GVIAP vary between types of farming businesses due to differences in commodity prices and water application rates, as well as between valleys due to differences in price levels.

We updated our analysis to reflect our final pricing decisions for the Water NSW and WAMC price reviews. We found that the total bill in 2021–22 would account for:

- 5% of GVIAP on average, and up to 10% in the Hunter valley, for the typical high security water user
- 4% of GVIAP on average, and up to 12% in the Hunter valley, for the typical general security water user.^a

We also calculated total bills as a percentage of GVIAP for regulated water sources over 2013–14 to 2017–18 (Table 12.5).

^a Includes Water NSW and WAMC charges.

Table 12.5 Water NSW and WAMC bill as a percentage of GVIAP

| | 2013–14 | 2014–15 | 2015–16 | 2016–17 | 2017–18 |
|-------------------------|---------|---------|---------|---------|---------|
| High security | | | | | |
| Average | 8% | 7% | 7% | 6% | 4% |
| Maximum | 18% | 16% | 14% | 15% | 8% |
| General security | | | | | |
| Average | 7% | 6% | 6% | 5% | 4% |
| Maximum | 14% | 13% | 16% | 11% | 9% |

Note: GVIAP data only available up to the 2017–18 financial year at the time of drafting.

Source: ABS, *Gross Value of Irrigated Agricultural Production*, accessed 4 June 2021; ABS, *Water Use on Australian Farms*, accessed 4 June 2021; and IPART analysis.

Based on our analysis, bills as a percentage of GVIAP are higher in 2021–22 than in 2017–18, but lower than the 4 years prior to 2017–18.

Overall, we consider that the bill impacts on farming businesses are reasonable. However, we recognise that circumstances differ between valleys and types of farming businesses, and that bills representing up to 12% of revenue may be unaffordable for irrigators in some valleys. We note that under the WCR, we must set prices that fully recover Water NSW's efficient costs for the 9 MDB valleys and rural customers in the FRWS, rather than set prices based on affordability. Irrigators having difficulties paying their water bills can contact Water NSW, which offers several options to help customers requiring affordability assistance.²¹⁹

12.2.5 Usage prices are substantially lower than prices paid on the water market

Our Draft Report compared our draft prices with prices paid for allocations and entitlements on the water market. We found that draft usage prices are relatively low compared with the historical average for allocations traded on the water market, which is between \$100 and \$200 per ML.²²⁰ Further, the present values of draft entitlement prices are also lower than prices for entitlements traded on the water market.

Stakeholders' submissions to the Draft Report stated that prices in the water market are irrelevant, because trading would involve ceasing irrigation.²²¹ We acknowledge that water trading is not a preferable alternative for all irrigators, and recognise that accessibility to the water market is not consistent across all water sources.

Market prices for allocations are higher than Water NSW usage prices

Our analysis shows that prices paid in the water market are substantially higher than IPART determined usage prices for all valleys (Table 12.6). However, the level of trading activity is not consistent across all valleys and is substantially lower in the Peel and Coastal valleys.

The table below presents the usage price, the weighted average price on the water market, and the volume of trades in allocations as a percentage of total allocations by valley.

Table 12.6 Comparison of IPART determined usage prices and weighted average prices for allocations on the water market

| | Final usage price (\$2021–22/ML) ^a | Weighted average price 2010–11 to 2019–20 (\$2021–22/ML) | Volume of trades as a percentage of total allocations (%) |
|--------------|--|---|---|
| Border | \$10 | \$210 | 10.2% |
| Gwydir | \$19 | \$319 | 22.4% |
| Namoi | \$33 | \$223 | 27.8% |
| Peel | \$29 | \$192 | 5.3% |
| Lachlan | \$33 | \$143 | 73.9% |
| Macquarie | \$24 | \$244 | 23.3% |
| Murray | \$6 | \$178 | 36.9% |
| Murrumbidgee | \$6 | \$169 | 16.7% |
| Lowbidgee | \$1 | – | – |
| North Coast | \$25 | – | – |
| Hunter | \$21 | \$138 | 1.6% |
| South Coast | \$24 | \$1,012 | 1.5% |

a. This is the sum of Water NSW and WAMC usage charges for 2021–22.

Source: NSW Department of Planning, Industry and Environment (DPIE), [Allocations dashboard](#), accessed 16 June 2021; DPIE, [Share component dashboard](#), accessed 16 June 2021; DPIE, [Trade dashboard](#), accessed 16 June 2021; and IPART analysis.

The present values of entitlement charges are lower than market prices

This section compares the present value of all future entitlement charges with prices paid for entitlements on the water market for the Murray and Murrumbidgee valleys, the 2 water systems with the highest number of trades by volume in NSW.²²²

We found that from 2010–11 to 2019–20:

- In the Murray valley, the weighted average price per ML on the water market was \$1,383 for general security entitlements, and \$4,090 for high security entitlements (in \$2021–22). For comparison, the present value per ML is \$273 for a general security entitlement, and \$527 for a high security entitlement.^b Therefore, the present value of entitlement charges is small (i.e. 20% for general security and 13% for high security) compared with the market price of the entitlements themselves.
- In the Murrumbidgee valley, the weighted average price per ML on the water market was \$1,506 for general security entitlements, and \$4,054 for high security entitlements (in \$2021–22). We also determined that the present value per ML is \$153 for a general security entitlement, and \$318 for a high security entitlement. Again, the present value of entitlement charges is small (i.e. 10% for general security and 8% for high security) compared with market prices.

^b We calculated the present value using Water NSW and WAMC entitlement charges (based on our final pricing decisions) and the pre-tax real WACC of 2.4% for MDB valleys as the discount rate.

The trade volumes for entitlements are significantly lower than trade volumes for allocations. Our analysis shows that the volume of trades in entitlements on the water market represent around 1% (on average) of total entitlements. Based on this analysis, we acknowledge that comparisons between the present value of IPART-determined entitlement charges and the weighted average prices on the water market may not be relevant for all water users.

12.2.6 Stakeholders were concerned about decreases in allocation reliability

Another issue raised by stakeholders at our Online Public Hearing (in March 2021) and in submissions to our Draft Report is that over time, water charges have increased, and allocation reliability has decreased. The NSW Irrigators' Council requested that we analyse the trends of water charges against actual usage to determine how charges per ML of actual water take have changed over time.²²³

We analysed changes in allocation reliability over time. We found that from 2010-11 to 2019-20:

- high security allocations averaged above 90% for all valleys
- general security allocations averaged below 60% for all MDB valleys, with the lowest being the Gwydir valley at 30%.

We then calculated the price per ML, adjusted for allocation reliability, for each year from 2010-11 to 2019-20. As expected, the price per ML of water take increases as allocation reliability decreases, because the fixed component per ML of water take increases.

We recognise that in periods of low allocation reliability, irrigators will pay more for each ML of water take. However, the relative reliabilities of high security entitlements and general security entitlements are already captured in the maximum prices we set through the high security premium. The impact of decreasing allocation reliability in a particular valley on the price per ML of water take may be reduced by changing the price structure and increasing the ratio of variable charges. However, we note that this change would have flow-on effects for the valley's revenue volatility allowance, and prices (see section 6.1).

12.3 We consider Water NSW will remain financially sustainable

When setting prices, we consider the financial sustainability of the business resulting from our pricing decisions. To do this, we undertake a financeability test to assess how our pricing decisions are likely to affect the business's financial sustainability, and ability to raise funds to manage its activities, over the upcoming regulatory period. The financeability test is based on the approach outlined in IPART's 2018 *Review of our financeability test* (2018 Financeability Review).²²⁴

The 2018 Financeability Review requires us to, as a default, conduct the financeability test on the portion of the business for which we set prices. Table 12.7 shows the financeability test results for Water NSW's rural water business only. Further, the results are only for the benchmark test. This is because we do not have enough information on Water NSW's actual cost of capital to apply the actual test in a meaningful way.

Table 12.7 Financeability test results based on our pricing decisions

| | Target ratios | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---------------------------------------|-----------------|-------------|-------------|-------------|-------------|
| Real interest cover | | | | | |
| Benchmark test | >2.2x | 8.4x | 8.5x | 8.9x | 9.0x |
| Does it meet the target? | | ✓ | ✓ | ✓ | ✓ |
| Real FFO over debt^a | | | | | |
| Benchmark test | >7.0% | 4.9% | 5.0% | 5.3% | 5.4% |
| Does it meet the target? | | ✗ | ✗ | ✗ | ✗ |
| Real gearing | | | | | |
| Benchmark test | <70% | 60% | 60% | 60% | 60% |
| Does it meet the target? | | ✓ | ✓ | ✓ | ✓ |

a. Funds from operations

Note: We calculated the indicators based on our NRR and pricing decisions, using a WACC of 1.8%.
Source: IPART analysis.

Overall, we did not identify a financeability concern for Water NSW. Under our final pricing decisions, Water NSW will meet 2 of the 3 ratios for the benchmark test (interest cover and gearing) in all years of the determination period. It is our view that Water NSW can remain financially sustainable and continue to provide sustainable services over the 2021 determination period.

12.3.1 Water NSW's FFO over debt ratio is below the target level

Funds from operations (FFO) over debt measures how much free cash a business generates (i.e. after covering its operating costs, interest expense and tax) relative to the size of its total borrowings. For the benchmark test, the target for the real FFO over debt ratio is 7% (i.e. less than 7% is considered below target).

In its submission to the Draft Report, Water NSW argued that the business is failing in each year on the FFO over debt ratio. It argued that while the business has sufficient cash-flow to make interest payments, it is insufficient to service the business's full debt obligation. From Water NSW's perspective, this outcome is a fail, not a pass, of the financeability test. Water NSW identified 2 reasons for a failure on the FFO over debt ratio:

- the business has an insufficient depreciation allowance, and/or
- the real return on equity is too low because:
 - the nominal return on equity is too low, and/or
 - the inflation forecast is too high.²²⁵

We do not consider that the FFO over debt ratio represents a financeability concern for the 2021 determination period. Water NSW's relatively low FFO over debt ratio can be explained by the combined effects of the current low interest rate environment and the fact that Water NSW has an asset base of relatively long lived assets, which means the initial investment in assets is recovered over a relatively long period of time through the depreciation allowance. Further, Water NSW's interest coverage ratios are well above the target level. This indicates that Water NSW can comfortably meet its interest payments, even if interest rates increase significantly over the 2021 determination period.

In its submission to the Draft Report, Water NSW proposed disaggregating its RAB into short-lived and long-lived assets.²²⁶ This approach would likely lead to a higher depreciation allowance, and improve the FFO over debt ratio. However, we decided not to disaggregate Water NSW's RAB for the 2021 determination period. We consider that stakeholders have not had an opportunity to comment on this change, and the resulting price increases, in this late stage of the price review. Further, we intend to review our weighted average cost of capital (WACC) methodology before our next review of these prices, including our approach to estimating expected inflation.

12.4 We considered implications on other matters under the IPART Act

This section discusses the impact of our pricing decisions on the environment and the NSW Government's Consolidated Fund.

We are required to consider these matters under the IPART Act in respect of the Coastal valleys and FRWS urban customers.

12.4.1 Our prices allow Water NSW to meet its environmental obligations

Under section 15 of the IPART Act, we must have regard to the need to maintain ecologically sustainable development by taking account of all feasible options to protect the environment.

Water NSW's environmental obligations are regulated by relevant Commonwealth, NSW and local environment legislation, regulation and regulatory bodies. These include:

- environmental management reports (EMRs) required under its Operating Licence
- water quality regulated under its Operating Licence and Raw Water Supply Agreement
- Portfolio Risk Assessment required as part of its dam safety requirements
- catchment management activities required under the Water NSW Act.

We consider that our decisions on operating and capital expenditure (discussed in Chapter 3 and Chapter 4) will allow Water NSW to recover all efficient costs incurred in meeting its environmental obligations through prices and government contributions.

12.4.2 Our prices would negatively impact the Consolidated Fund

Under section 16 of the IPART Act, we must report on the likely impact on the Consolidated Fund if prices are not increased to the maximum levels permitted. If this is the case, then the level of tax equivalent and dividends paid to the Consolidated Fund would fall. The extent of this fall would depend on Treasury's application of its financial distribution policy and how the change affects after-tax profit.

Our financial modelling is based on a tax rate of 30% for pre-tax profit and dividend payments at 70% of after-tax profit. A \$1 decrease in pre-tax profit would result in a loss of revenue to the Consolidated Fund of 49 cents in total, which is 70% of the decrease in after-tax profit of 70 cents.

We determined that our pricing decisions will have a negative impact on the Consolidated Fund of up to \$48.0 million per year. This comprises:

- The Government share of Water NSW's NRR of \$35.9 million per year. This amount is \$0.04 million (or 0.1%) higher per year compared with the 2017 determination period.
- Under-recovery in the short term in BRC and MDBA contributions as a result of our decision to adopt the building block approach. If the NSW Government bears this under-recovery, it would impact the Consolidated Fund by \$10.2 million per year.
- Under-recovery in the North Coast and South Coast valleys. If the NSW Government bears this under-recovery, it would impact the Consolidated Fund by \$2.0 million per year. This amount is around \$0.4 million (or 29%) higher per year compared with the 2017 determination period.

This amount is \$10.6 million (or 28%) higher per year compared with the 2017 determination period, mainly due to under-recovery in the short term in BRC and MDBA contributions.

The following sections present more details on our findings.

12.4.3 Government share of Water NSW's NRR is \$35.9 million per year

Under our final pricing decisions, the government share of Water NSW's NRR would impact the Consolidated Fund by an average of \$35.9 million per year (Table 12.8). This includes \$0.9 million per year in BRC and MDBA pass-through charges. This is \$0.04 million per year (or 0.1%) higher than the allowance in the 2017 determination period.

Table 12.8 Government share of Water NSW's NRR (\$ millions, \$2020–21)

| | 2020–21 | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Average 2022–25 | Change allowed to 2022–25 ^a |
|-----------------------|-------------|-------------|-------------|-------------|-------------|--------------------|---|
| Operating expenditure | 3.9 | 4.2 | 4.7 | 4.5 | 4.3 | 4.4 | 5.3% |
| ICD rebates | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Return of capital | 10.0 | 13.2 | 13.8 | 13.9 | 14.0 | 13.7 | 38.9% |
| Return on capital | 16.6 | 14.8 | 16.0 | 16.0 | 15.8 | 15.6 | -6.7% |
| Tax allowance | 0.7 | 1.2 | 1.3 | 1.2 | 1.2 | 1.2 | 117.8% |
| UOM payback | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Volatility allowance | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| BRC and MDBA costs | 4.6 | 0.8 | 0.9 | 0.9 | 0.9 | 0.9 | -79.7% |
| Total costs | 35.8 | 34.2 | 36.7 | 36.4 | 36.3 | 35.9 | 0.1% |

a. This is the percentage change from the 2017 determination period to the 2021 determination period.

Source: Water NSW pricing proposal to IPART, June 2020; and IPART analysis.

12.4.4 Under-recovery of BRC and MDBA impacts the Consolidated Fund

Water NSW will no longer be able to recover all BRC and MDBA costs in prices in the year they occur as a result of our decision to move to a building block approach. This revenue shortfall would need to be borne by Water NSW or recovered from the NSW Government as its shareholder.

If the NSW Government bears the under-recovery, it would impact the Consolidated Fund by about \$10.2 million per year on average (Table 12.9 and Table 12.10).^c

^c This is based on \$1.7 million of under-recovery of in the BRC component and \$39.0 million of under-recovery in the MDBA component over the 2021 determination period.

Table 12.9 Comparison of BRC pass-through costs and revenue from charges (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Sum 2022–25 |
|---|---------|---------|---------|---------|----------------|
| BRC pass-through amount | | | | | |
| Customer share | 1.0 | 1.0 | 1.0 | 1.0 | 4.0 |
| Government share | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 |
| Customer share as percentage of total | 95.0% | 95.0% | 95.0% | 95.0% | |
| Revenue from charges under our decisions | | | | | |
| Customer share | 0.6 | 0.6 | 0.6 | 0.6 | 2.4 |
| Government share | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| Customer share as a percentage of total | 95.0% | 95.0% | 95.0% | 95.0% | |
| Difference | | | | | |
| Customer share | 0.4 | 0.4 | 0.4 | 0.4 | 1.6 |
| Government share | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| Difference as percentage of pass-through amount | 39.5% | 39.9% | 39.9% | 40.0% | |

Source: Water NSW pricing proposal to IPART, Attachment 3 – Letter from NSW Government on MDBA and BRC costs, June 2020; and IPART analysis.

Table 12.10 Comparison of MDBA pass-through costs and revenue from charges (\$ millions, \$2020–21)

| | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Sum 2022–25 |
|---|---------|---------|---------|---------|----------------|
| MDBA pass-through amount | | | | | |
| Customer share | 22.6 | 24.6 | 24.6 | 24.6 | 96.5 |
| Government share | 1.8 | 1.9 | 1.9 | 1.9 | 7.5 |
| Customer share as percentage of total | 92.7% | 92.8% | 92.8% | 92.8% | |
| Revenue from charges under our decisions | | | | | |
| Customer share | 15.3 | 15.4 | 15.4 | 15.4 | 61.5 |
| Government share | 0.8 | 0.9 | 0.9 | 0.9 | 3.5 |
| Customer share as a percentage of total | 94.9% | 94.5% | 94.5% | 94.6% | |
| Difference | | | | | |
| Customer share | 7.4 | 9.2 | 9.2 | 9.2 | 35.0 |
| Government share | 1.0 | 1.0 | 1.0 | 1.0 | 4.0 |
| Difference as percentage of pass-through amount | 34.1% | 38.5% | 38.5% | 38.5% | |

Source: Water NSW pricing proposal to IPART, Attachment 3 – Letter from NSW Government on MDBA and BRC costs, June 2020; and IPART analysis.

12.4.5 Impact from under-recovery in the North Coast and South Coast valleys

Prices in the North Coast and South Coast valleys do not fully recover the customers' share of NRR.

Maintaining the current approach, fixed-to-variable ratios and level of prices in real terms results in an under-recovery of costs in these valleys. This under-recovery and resulting revenue shortfall would need to be borne by Water NSW or recovered from the NSW Government as its shareholder.

If the NSW Government bears the under-recovery, it would impact the Consolidated Fund by about \$2.0 million per year. This amount is around 29% higher in real terms compared with the 2017 determination period, with recovery of costs decreasing from 10% to 8% for the North Coast valley, and 38% to 31% for the South Coast valley.²²⁷ This is due to increases in total costs, and the user share of costs.

If the NSW Government bears the under-recovery in the North Coast valley, it would impact the Consolidated Fund by \$1.2 million per year (Table 12.11).

Table 12.11 Target revenue for the North Coast valley (\$'000s, \$2020–21)

| | 2020–21 | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Average 2022–25 | Average compared with 2020–21 |
|-------------------------|---------|---------|---------|---------|---------|--------------------|--|
| Total costs | 1,332 | 1,458 | 1,509 | 1,472 | 1,475 | 1,479 | 11.0% |
| Government share | 273 | 181 | 191 | 192 | 193 | 189 | -30.6% |
| User share | 1,060 | 1,277 | 1,318 | 1,280 | 1,282 | 1,289 | 21.7% |
| Revenue from charges | 106 | 108 | 108 | 108 | 108 | 108 | - |
| Under-recovery of costs | -953 | -1,170 | -1,210 | -1,171 | -1,174 | -1,181 | - |
| Cost recovery (%) | 10.0% | 8.4% | 8.2% | 8.4% | 8.4% | 8.4% | |

Source: IPART analysis.

If the NSW Government bears the under-recovery in the South Coast valley, it would impact the Consolidated Fund by \$0.8 million per year (Table 12.12).

Table 12.12 Target revenue for the South Coast valley (\$'000s, \$2020–21)

| | 2020–21 | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Average 2022–25 | Average compared with 2020–21 |
|-------------------------|---------|---------|---------|---------|---------|--------------------|--|
| Total costs | 1,130 | 1,226 | 1,328 | 1,240 | 1,227 | 1,255 | 11.1% |
| Government share | 205 | 100 | 120 | 112 | 110 | 111 | -45.9% |
| User share | 925 | 1,126 | 1,208 | 1,127 | 1,117 | 1,145 | 23.8% |
| Revenue from charges | 355 | 358 | 359 | 359 | 359 | 359 | - |
| Under-recovery of costs | -570 | -768 | -849 | -768 | -758 | -786 | - |
| Cost recovery (%) | 38.4% | 31.8% | 29.7% | 31.9% | 32.2% | 31.4% | |

Source: IPART analysis.

Chapter 13 »

Existing meter service charges

13

Summary of our decisions for existing meter service charges

Water NSW's existing meter service charges remain constant in real terms

We decided to continue setting cost-reflective charges based on Water NSW's June 2020 pricing proposal for its existing metering services. Our decision is to maintain Water NSW's existing meter service charges in real terms. This means that prices will only increase by inflation.

These charges are a separate fee-for-service charge for water users with government owned meters on regulated rivers. These charges do not include Water NSW's proposed additional costs to implement the NSW Government's metering reform.

Water users who are required to pay the existing meter service charge will continue to pay these charges until they are replaced by the new metering charges set out in Chapter 14.

In its June pricing proposal, Water NSW proposed recovering its ongoing metering costs via separate fee-for-service charges. As such, the costs of metering are not included in the general operating expenditure base and are not recovered from all users via the bulk water charges.

In our 2017 review, we engaged a consultant, Aither, to review the efficient costs of metering. We accepted Aither's recommendations and set the meters service charges to reflect those efficient costs.

This chapter sets out our assessment of Water NSW's metering charges from Water NSW's June pricing proposal.

13.1 Water NSW's meter service charge remains constant in real terms

Our decision is:



47. To accept Water NSW's proposal and set Water NSW's annual meter service charges for the 2021 determination period as shown in Table 13.1

Table 13.1 Decision on meter service charges for the 2021 determination period (\$/year, \$2021-22)

| Size of government-owned meter | Current 2020-21 | 2021-22 to 2024-25 |
|--------------------------------|-----------------|--------------------|
| 50mm | 481.16 | 481.16 |
| 80mm | 483.40 | 483.40 |
| 100mm | 483.39 | 483.39 |
| 150mm | 489.07 | 489.07 |
| 200mm | 491.87 | 491.87 |
| 250mm | 494.48 | 494.48 |
| 300mm | 501.19 | 501.19 |
| 350mm | 531.39 | 531.39 |
| 400mm | 549.37 | 549.37 |
| 450mm | 552.84 | 552.84 |
| 500mm | 567.57 | 567.57 |
| 600mm | 586.43 | 586.43 |
| 700mm | 608.85 | 608.85 |
| 750mm | 640.25 | 640.25 |
| 800mm | 661.47 | 661.47 |
| 900mm | 668.19 | 668.19 |
| 1,000mm | 680.61 | 680.61 |
| Channel | 6,306.04 | 6,306.04 |

Source: Water NSW (Water NSW) pricing proposal to IPART, June 2020 and IPART analysis.

Meter service charges apply to government-owned water meters, and recover the efficient cost of holding, operating and maintaining the meter. These charges are levied annually.

Water NSW proposed maintaining the 2020-21 meter service charges in real terms for the 2021 determination period. We consider that Water NSW's proposal to maintain the current meter service in real terms over the 2021 determination period is reasonable. We have decided to accept Water NSW's proposed meter service charges. This decision is unchanged from the draft report.

We note that where a government-owned meter is updated or installed to comply with the new metering framework, Water NSW proposes that the meter service charge be replaced with the new metering charges discussed in Chapter 14.

Chapter 14 »

Non-urban metering reform charges

14

Summary of decisions on non-urban metering reform charges

We decided to introduce 5 new non-urban metering charges

These new charges apportion the efficient costs of the reforms across licence holders and water users with compliant meters.

- A 'scheme management charge' to apply as an annual fee to all licensed customers (\$/licence).
- A 'telemetry charge' to apply as an annual fee per metering installation for customers that use telemetry (\$/meter).
- A 'non-telemetry charge' to apply as an annual fee per metering installation for customers that do not use telemetry capacity (\$/meter).
- 2 additional charges to apply to customers with government owned meters - 'meter service charge – operating costs' and 'meter service charge – capital costs'. These charges are to be applied as an annual fee per metering installation (\$/meter).

We set charges to recover the efficient costs of implementing the reforms

We found that the efficient cost of implementing the metering reforms is \$39.4 million to \$47.8 million. The efficient costs vary depending on the number of customers that opt in to telemetry. The efficient costs are highest under Water NSW's base case when 0% of customers voluntarily opt in to telemetry (\$47.8 million) and lowest when 100% of customers voluntarily opt in to telemetry (\$39.4 million).

Our decision includes efficiency savings that Water NSW can realistically achieve when implementing the reforms and will ensure that customers are not paying for inefficient costs.

Our decisions take account of government funding to support metering uptake

The NSW Government will contribute funding to Water NSW to cover the capital costs of upgrading government owned meters. The aim of the funding is to ensure that the costs of bringing these meters into compliance with the non-urban metering rules is not borne by users. We therefore made a decision to set a 'meter service charge – capital costs' of \$0 per year for the 2021 determination period.

In addition, the NSW Government and Australian Government will each provide \$9 million in funding to deliver a telemetry rebate program across NSW. The rebate will automatically be applied as a one-off \$975 credit on a water bill and provide a financial incentive for metered non-urban water users to use telemetry to remotely transmit their water take information. At this stage, it is unclear how many customers will voluntarily opt in to telemetry because of the rebate. We therefore decided to set charges that vary based on the proportion of customers that voluntarily opt in to telemetry.

In response to the Matthews Report on improving water resource management, Water NSW is implementing a range of non-urban metering reforms. In March 2021, we released draft reports for our Water NSW and WAMC reviews. In these reports, we did not make draft decisions on Water NSW's additional charges for implementing the non-urban metering reforms. Our preliminary view was that we did not have sufficient information to include Water NSW's proposed metering costs in regulated prices over the 2021 determination period. Instead, we sought feedback on Water NSW's proposal including the efficiency of its costs, the impacts on customers, the proposed price structure and who should pay for the policy.

In response to our draft reports, Water NSW submitted a revised proposal on non-urban metering responding to the issues we raised. We decided to delay the commencement of the 2021 determination period for Water NSW and WAMC to 1 October 2021 and release a Supplementary Draft Report on Water NSW's non-urban metering reform charges. This allowed us to assess Water NSW's revised proposal and seek feedback from stakeholders on draft decisions.

After considering feedback from stakeholders, we have made final decisions on the efficient costs and charges for implementing the non-urban metering reforms. This chapter sets out our decisions. The sections below set out further information on:

- the efficient costs of implementing the NSW Government's non-urban metering reforms
- the appropriate customer share of the efficient costs
- the appropriate charge structure including which costs should be recovered from different charges, whether the charges should apply to all licences or water users with compliant meters and how charges should vary based on the proportion of users that opt in to telemetry
- the level of charges and how we adjusted for several of Water NSW's modelling parameters
- how to transition from existing metering charges to the new charges to provide incentives for compliance as the reforms are rolled out between now and December 2023
- how to deal with uncertainty including whether to introduce an unders and overs mechanism (UOM), provide for exit fees and adjust charges at the next determination, and
- the impacts of metering reforms on customer charges and bills.

14.1 The efficient cost of metering reform is up to \$47.8 million

Our decisions are:



48. That the efficient cost of implementing the NSW Government's non-urban metering reforms under Water NSW's proposed base case is \$47.8 million over the 2021 determination period (see Table 14.1).

49. That the efficient cost of implementing the NSW Government's non-urban metering reforms varies from \$39.4 million to \$47.8 million based on the proportion of customers that voluntarily opt in to telemetry (see Table 14.2).

Our final decision is to set Water NSW's efficient costs under its base case at \$47.8 million. This amount is \$8.3 million (or 14.7%) lower than Water NSW's revised proposal and comprises:

- \$4.0 million in scope adjustments
- \$3.4 million in catch-up efficiency adjustments, based on a catch-up efficiency of 3.2% per annum for operating expenditure and 1.3% per annum for capital expenditure
- \$0.8 million in continuing efficiency adjustments, based on a continuing efficiency of 0.7% per annum.

Table 14.1 summarises our decisions on Water NSW's operating and capital expenditure to implement the non-urban metering reforms under Water NSW's proposed base case.

Table 14.1 Decision on efficient costs of implementing non-urban metering reforms under Water NSW's proposed base case for the 2021 determination period (\$ millions, \$2020-21)

| | 2021-22 ^a | 2022-23 | 2023-24 | 2024-25 | Total |
|---------------------------------|----------------------|---------|---------|---------|--------|
| Water NSW proposed ^b | 16.9 | 14.5 | 13.3 | 11.4 | 56.1 |
| IPART decision | 9.3 | 15.6 | 13.7 | 9.3 | 47.8 |
| Difference | -7.6 | 1.1 | 0.3 | -2.2 | -8.3 |
| % Difference | -45.0% | 7.8% | 2.6% | -18.9% | -14.7% |

a Including 2020-21 capital expenditure on government owned meters, which is included in the capital charge.

b The costs are slightly lower than in the Supplementary Draft Report because the Water NSW proposal and the Supplementary Draft Report costs double counted telemetry costs for government-owned meters.

Note: Water NSW proposal is based on information provided in Water NSW's April 2021 submission to IPART. Totals may not sum due to rounding.

Source: IPART analysis using data from Cardno, *Review of Water NSW's Metering Reform Costs – Final Supplementary Report*, September 2021.

We also found that the efficient costs vary with the number of customers that voluntarily opt in to telemetry.^a Under the new metering rules, water users will need telemetry for all approved surface water works, except for those with surface pumps less than 200 mm or those directed to install telemetry by an order of the Minister. However, even if users are not required to have telemetry, they may voluntarily install telemetry equipment.

We consider that our decision should reflect the potential range of telemetry opt-in based on five scenarios modelled by Water NSW: 0%, 25%, 50%, 75% and 100% telemetry opt-in. The efficient costs are highest under Water NSW's base case when 0% of customers voluntarily opt in to telemetry (\$47.8 million) and lowest when 100% of customers voluntarily opt in to telemetry (\$39.4 million). This approach is unchanged from our draft decision.

^a There are two types of meters under the new framework: telemetry meters and non-telemetry meters. Telemetry meters record data and remotely transmit it to Water NSW's centralised data systems. Non-telemetry meters record and store data on site and require periodic manual meter reading (known as data logger download).

Table 14.2 Decision on efficient costs of implementing non-urban metering reforms for different telemetry opt-in scenarios for the 2021 determination period (\$ million, \$2020-21)

| Telemetry opt-in | 2021-22 ^a | 2022-23 | 2023-24 | 2024-25 | Total |
|------------------|----------------------|---------|---------|---------|-------|
| 0% | 9.3 | 15.6 | 13.7 | 9.3 | 47.8 |
| 25% | 8.7 | 15.1 | 13.1 | 8.8 | 45.7 |
| 50% | 8.1 | 14.6 | 12.5 | 8.4 | 43.6 |
| 75% | 7.5 | 14.1 | 11.9 | 7.9 | 41.5 |
| 100% | 7.0 | 13.6 | 11.3 | 7.5 | 39.4 |

^a Including 2020-21 capital expenditure on government owned meters, which is included in the capital charge.

Note: Totals may not sum due to rounding.

Source: IPART analysis using data from Cardno, *Review of Water NSW's Metering Reform Costs – Final Supplementary Report*, September 2021.

14.1.1 Water NSW provided sufficient information to set efficient costs

Several stakeholders considered that there was insufficient information to establish Water NSW's efficient costs. They also questioned the impact on efficient costs of delays in implementing the reform and inaccuracies in the number of sites used to set efficient costs and charges.²²⁸

Our detailed review of Water NSW's expenditure found that there was sufficient information to set efficient costs including dealing with delays, uncertainty in implementing the reforms and providing incentives to Water NSW to become more efficient as they implement the reforms. Our consultant – Cardno – tested the robustness of Water NSW's assumptions and made adjustments where appropriate to arrive at the efficient costs. We consider that there is sufficient information to set efficient costs. The catch-up efficiencies also provide an incentive to Water NSW to reduce uncertainty as they implement expenditure plans over time.²²⁹

We also made decisions on how to address uncertainty associated with other areas raised by stakeholders including floodplain harvesting meters, delays in users with privately owned meters complying with the policy and delays in the rollout of government owned meters. The sections below set out our analysis of each of these areas.

Delays in users with privately owned meters complying with the policy

For **privately owned meters**, we decided to set efficient costs based on users meeting the required compliance dates, rather than reflecting possible non-compliance. We consider that this is an appropriate approach for two reasons:

- Water NSW considered that its discussions with various stakeholders (including duly qualified persons (DQPs), NRAR and DPIE) have not indicated any supply issues that would prevent users with privately owned meters from meeting compliance dates (such as lack of supply of meters, local intelligence devices (LIDs) or DQPs).²³⁰

- Although in practice some users may not meet the required compliance dates, it is our role to set charges based on the efficient costs of Water NSW implementing the reform. This should include the activities it needs to undertake to support the required compliance dates for privately owned meters. Using lower efficient costs based on delays in users becoming compliant and then to setting lower charges would not provide an appropriate incentive for users to comply with the policy.

Delays in government owned meter rollout

For **government owned meters**, we also decided to set efficient costs based on Water NSW meeting the required compliance dates. Water NSW's proposal included operating and capital expenditure forecasts based on accelerating compliance for government owned meters. Water NSW advised that it has now revised this profile to align with the compliance dates required by the Regulation.²³¹

We decided to set efficient costs based on Water NSW's revised profile as this reflects our best estimate of the expenditure profile based on current information and is consistent with meeting the required compliance dates. We also decided that customers should not start paying charges associated with these costs until the later of the compliance date and when Water NSW makes the meter compliant (see section 14.5 for further information).

Floodplain harvesting meters

Water NSW's April proposal included the costs of 1,066 floodplain harvesting meters being compliant and telemetered in 2020-21 and 2021-22.²³² However, amendments to the *Water Management (General) Regulation 2018* (the Regulation) that would require floodplain harvesting meters to comply were recently disallowed. Water NSW advised that this reduction of available meters being connected to telemetry from its original calculations will have material implications on the quantum that can be recovered from regulated charges as fixed telemetry costs will be spread across fewer meters.²³³

We asked Cardno to recommend efficient costs under two scenarios:

- Scenario 1 where the requirement for compliance for floodplain harvesting meters does not take effect until the next regulatory period.
- Scenario 2 where the requirement for compliance for floodplain harvesting meters takes effect from 2022-23.

Since the amendments to the Regulation were not approved, the compliance dates included in costs and charges in our Supplementary Draft Report will not be met. We decided to use Cardno's Scenario 2 as the basis for efficient costs and charges, where the compliance for floodplain harvesting meters take effect from 2022-23, as this our best estimate of the likely compliance dates based on currently available information. In addition, we consider that uncertainty around the timing of the requirements should be addressed by potentially adjusting charges at the next review (see section 14.6 for further information).

14.1.2 Water NSW's efficient expenditure is \$8.3 million less than Water NSW's base case proposal

Water NSW proposed \$56.1 million in operating and capital expenditure over the 2021 determination period to implement the NSW Government's non-urban metering reforms.^b This amount is made up of:

- \$32.4 million in scheme management costs (which Water NSW proposed are to be recovered from all customers via scheme management and telemetry/non-telemetry charges), and
- \$23.6 million in government owned meter costs (which Water NSW proposed are to be recovered only from customers with government owned meters).

Water NSW's base case proposal assumes no customers voluntarily opt in to telemetry.²³⁴ However, it also provided modelling of four additional scenarios with 25%, 50%, 75% and 100% of customers opt-in to telemetry.

Water NSW's efficient cost is \$47.8 million which is \$8.3 million less than what Water NSW proposed. Our reductions in Water NSW's proposed expenditure are comprised of:

- \$4.0 million in scope adjustments
- \$3.4 million in catch-up efficiency adjustments, based on a catch-up efficiency factor of 3.2% per annum for operating expenditure and 1.3% per annum for capital expenditure
- \$0.8 million in continuing efficiency adjustments, based on a continuing efficiency factor of 0.7% per annum.

Further analysis on our reductions to Water NSW's scheme management costs and government owned meter costs are set out in the following sections.

Scheme management costs

Scheme management costs include the wider costs of introducing the reform, such as recording and reporting, customer self-reporting, general enquiries and education. They also include metering scheme management costs such as compliance activities, water take assessments, meter reading and meter data services.

Our decisions on adjustments to Water NSW's proposed scheme management operating costs are summarised in Table 14.3.

^b These costs are slightly lower than in the Supplementary Draft Report because the Water NSW proposal and the Supplementary Draft Report costs double counted telemetry costs for government-owned meters.

Table 14.3 Decision on efficient scheme management operating and capital expenditure for the 2021 determination period (\$ millions, \$2020-21)

| | 2021-22 | 2022-23 | 2023-24 | 2024-25 | Total |
|--|------------|------------|------------|------------|-------------|
| Water NSW proposed | 7.1 | 7.8 | 9.2 | 8.4 | 32.4 |
| Scope adjustments ^a | -0.9 | -0.5 | -0.4 | -0.4 | -2.3 |
| Catch-up efficiency | -0.2 | -0.4 | -0.8 | -1.0 | -2.4 |
| Continuing efficiency | 0.0 | -0.1 | -0.2 | -0.2 | -0.5 |
| Total efficient operating and capital expenditure | 5.9 | 6.7 | 7.8 | 6.8 | 27.3 |
| Difference | -1.1 | -1.0 | -1.4 | -1.6 | -5.2 |
| Difference (%) | -16.1% | -13.4% | -15.0% | -19.0% | -15.9% |

a Including adjustment due to delayed rollout of floodplain harvesting meters.

Note: Totals may not sum due to rounding.

Source: IPART analysis using Cardno, *Review of Water NSW's Metering Reform Costs – Final Supplementary Report*, September 2021.

We consider that Water NSW can make **scope adjustment** efficiency savings of \$2.3 million, consistent with Cardno's recommendations. These adjustments include:

- An annual adjustment based on the revision of the working weeks included in Water NSW's cost model from 40.66 to 41.41. This recognises that non-field staff are not subject to the same training, down-time and leave requirements of field staff and as such have slightly higher average working weeks per year. Cardno considered that Water NSW had not provided sufficient evidence of a resourcing plan to support its proposal and on balance applied an adjustment based on 41.41 weeks to forecast efficient costs.²³⁵
- An annual adjustment based on an observation in Water NSW's cost model that the 'Other' salary costs for Team Leaders had not been revised to from \$25,000 to \$15,000 as set out in the changes that Water NSW had made to its expenditure forecasts in its April 2021 submission.²³⁶
- An annual adjustment to remove the double counting of 1 FTE salary costs for Customer Systems activities. These costs have been correctly included in the operating and maintaining the Data Acquisition Service (DAS) and DQP portal costs but were double counted in the overall Customer Serve and Systems total.²³⁷
- An annual adjustment to remove the GST component for several items included in the cost build-up.²³⁸
- Removal of the \$0.3 million that Water NSW has included in 2021-22 as a capital allowance to automate upload time for initial site inspection. Cardno considered that this expenditure duplicates the WAVE program expenditure and should not be included as an uplift allowed above WAVE program.

It is our view that Water NSW has not fully demonstrated that it could not flexibly and cost effectively adapt the program with its service provider to deliver this functionality within its existing contract. WAVE is a collection of many initiatives in work streams that will be met through different systems and functionality with scope that allows Water NSW to be flexible in prioritising the overall program to meet its business needs.²³⁹ We consider that an efficient business should work with its service provider to cost effectively adapt the program to the best available information within the contract.

- An adjustment for the compliance for floodplain harvesting meters taking effect from 2022-23 as outlined above.

We consider that Water NSW can make **catch-up efficiency** savings of \$2.4 million over the 2021 determination period. This is based on accepting Cardno's recommended catch-up efficiency adjustments of 3.2% per year for operating expenditure and 1.25% in 2021-21 increasing to 4.5% in 2024-25 for capital expenditure.²⁴⁰

Some areas where Water NSW can achieve these catch-up efficiencies include:

- Automating the upload of local intelligence device (LID) data into the Data Acquisition System (DAS) earlier than allowed for in Water NSW's assumptions. Water NSW's cost model currently includes a declining profile of time taken to upload data (0.4 hours in year 1, 0.2 hours in year 2 and 0 hours thereafter), reflecting its expected timeframe for implementing an automated solution.
- Optimising travelling routes, as currently Water NSW has assumed a flat 1 hour per site. More work will need to be completed by Water NSW to develop meter site rounds so that the most efficient routes can be planned for the field officers for each area.
- Achieving synergies with other field-based activities for downloading of the LID for meters not connected to telemetry to remove the need for a second visit to download the LID. The metering activities have considerable similarities with the surface water and groundwater monitoring activities in that they involve field staff undertaking activities across the State to collect information and then manage this information, which creates the potential for synergies.²⁴¹

We consider that Water NSW can make **continuing efficiency** savings of \$0.5 million. This is based on continuing efficiency adjustments of 0.7% per year over the 2021 determination period.²⁴² The continuing efficiency applied is consistent with that applied to Water NSW's expenditure for WAMC and Rural Valley activities.

Government owned meter costs

Government owned meter costs include the costs that Water NSW will incur in upgrading and maintaining existing government owned meters to ensure they are compliant with the new regulatory framework. It does not include the replacement or installation of new government owned meters.

Our decisions on adjustments to Water NSW's proposed government owned meter costs are summarised in Table 14.4.

Table 14.4 Decision on efficient government owned meter expenditure for the 2021 determination period (\$ millions, \$2020-21)

| | 2021-22 ^a | 2022-23 | 2023-24 | 2024-25 | Total |
|--|----------------------|------------|------------|------------|-------------|
| Water NSW's proposal | 9.8 | 6.7 | 4.2 | 3.0 | 23.6 |
| Scope adjustments ^b | -6.4 | 2.6 | 2.2 | -0.2 | -1.7 |
| Catch-up efficiency | 0.0 | -0.3 | -0.4 | -0.3 | -1.0 |
| Continuing efficiency | 0.0 | -0.1 | -0.1 | -0.1 | -0.3 |
| Total efficient operating and capital expenditure | 3.3 | 8.9 | 5.9 | 2.4 | 20.5 |
| Difference | -6.4 | 2.2 | 1.7 | -0.6 | -3.1 |
| Difference (%) | -65.9% | 32.3% | 41.4% | -18.7% | -13.2% |

a Including 2020-21 capital expenditure on government owned meters, which is included in the metering capital charge.

b Including adjustment due to updated rollout for government-owned meters.

Source: IPART analysis using Cardno, *Review of Water NSW's Metering Reform Costs – Final Supplementary Report*, September 2021.

Note: Totals may not sum due to rounding.

We consider that Water NSW can make **scope adjustment** efficiency savings of \$1.7 million consistent with Cardno's recommendations. These adjustments include:

- Reducing the consumables for each site visit from \$75 per visit to \$65 per visit based on Cardno's assessment of the cost build-up for this item.²⁴³
- Incorporating new information on Water NSW's profile of operating and capital expenditure for government owned meters as discussed above.

We consider that Water NSW can make **catch-up efficiency** savings of \$1.0 million over the 2021 determination period. This is based on accepting Cardno's recommended catch-up efficiency adjustments of 3.2% per year for operating expenditure and 1.25% in 2021-21 increasing to 4.5% in 2024-25 for capital expenditure.²⁴⁴

We consider that Water NSW can achieve these catch-up efficiencies for example by optimising the level of testing of government-owned meters to confirm accuracy of the fleet. Water NSW has assumed that it will need to test 5% of the meter fleet to confirm overall accuracy. We consider that this may be conservative as Water NSW may be able to test fewer meters when it better understands the underlying variance in the population of meters.

We consider that Water NSW can make **continuing efficiency** savings of \$0.3 million. As noted above, this is based on a continuing efficiency adjustment of 0.7% consistent with the approach we applied for the rest of this review.²⁴⁵

14.1.3 Efficient costs decrease as more customers voluntarily opt in to telemetry

We found that the efficient costs of implementing the non-urban metering reforms are sensitive to changes in the number of customers that voluntarily opt in to telemetry. At the time of submitting its April revised proposal, Water NSW considered that there was no evidence to suggest that there will be any voluntary uptake of telemetry. However, the NSW Government has now decided to provide a one-off rebate for customers who use telemetry.

We consider that our decision should reflect the potential range of telemetry opt-in based on 5 scenarios modelled by Water NSW: 0%, 25%, 50%, 75% and 100% telemetry opt-in. The efficient costs are highest when 0% of customers voluntarily opt in to telemetry (\$47.8 million) and lowest when 100% of customers voluntarily opt in to telemetry (\$39.4 million).

Water NSW raised concerns about us using its telemetry modelling scenarios to set efficient costs and charges that vary with telemetry opt-in. It submitted that this analysis was based on the hypothetical long run costs of administering the reforms and would take approximately 2 years to fully implement the proposed cost reductions as more user opt in to telemetry.²⁴⁶

We considered the long-term nature of the costs that underpin Water NSW's scenarios when setting charges for each of the telemetry ranges. We applied a conservative approach to setting the charges for each band, using the lower end of each band to set the charge (e.g. the 0% voluntary uptake costs apply throughout the 0-24% range of voluntary uptake). It is our view that an efficient business should be able to plan appropriately and recovers its costs through the charges we set.

14.2 A customer share of 100% is appropriate

Our decision is:



50. To adopt a 100% customer share of efficient costs incurred by Water NSW implementing the NSW Government's non-urban metering reforms.

We allocate the efficient costs of Water NSW's rural bulk water services and WAMC's water management costs based on whichever party created the need for an activity (and its associated costs) to be incurred.

Irrigators generally disagreed with the draft decision for a 100% customer share. For example, NSWIC considered that the NSW Government created the need for the expenditure, in order to rebuild public confidence following Government failures in enforcing compliance. Similarly, Murray Valley Private Diverters Inc considered that southern basin participants should not incur 100% of expenditure for regulatory and compliance failures of the NSW Government or Water NSW. Coleambally Irrigation Co-operative Limited (CICL) recommended a customer share of 50% given there is some uncertainty around Water NSW's efficient costs.²⁴⁷

Our view is that it is water customers who create the need for expenditure on metering reform and therefore customers should contribute 100% of the efficient costs. This is unchanged from our draft decision.

We consider that the underlying driver for metering reform is protecting the rights of water customers and that a 100% customer share is consistent with our 2019 rural water cost shares report. We also note that the relevant policies including the National Water Initiative and the national framework for non-urban metering pre-date compliance shortcomings identified in NSW.

14.3 Water NSW's proposed metering charge structure is appropriate

Our decisions are:



51. To recover the wider costs of introducing the reform, such as recording and reporting, customer self-reporting, general enquiries and education, through a 'scheme management charge' to be applied annually to all licence holders.
52. To recover the costs of compliance activities, water take assessments, meter reading and meter data services through:
 - a telemetry charge to be applied annually to customers who use telemetry
 - a non-telemetry charge to be applied annually to customers who do not use telemetry.
53. To recover the costs of bringing government owned meters up to the required standard under the non-urban metering reforms through a 'meter service charge – capital costs' and maintaining these meters to ensure regulatory compliance through a 'meter service charge – operating costs'. These charges are applied annually to customers with a compliant government owned meter.

These are unchanged from our draft decisions.

14.3.1 The scheme management charge applies to all licence holders

We have decided to set a common scheme management charge for all licence holders that does not distinguish between water source and meter size. We consider that this provides a simple approach to recover Water NSW's costs of scheme management over the metering lifecycle.

In response to our draft decision, Water NSW agreed that the scheme management charge should be levied on those customers who benefit from the metering scheme, such as all billable licence holders and Zero Share Water Access Licences (WAL).²⁴⁸ Coleambally Irrigation Co-Operative Limited agreed that it is appropriate that WALs that are not linked to a works approval also make some contribution to the costs incurred by Water NSW to administer the reform as all Water Access Licence holders are beneficiaries of robust metering.²⁴⁹

However, Murray Valley Private Diverters did not support a universal scheme management charge. It considered that Southern Basin Government owned meter holders should not bear the cost burden of bringing Northern Basin irrigators into national metering standards and NSW regulatory compliance regime.²⁵⁰

We consider that all users are driving the need to improve water resource management and associated compliance management, not just those that need to comply with the new policy.^c These activities are similar to the compliance and enforcement activities of NRAR where the need is driven by all licence holders rather than just those with meters. We consider it appropriate that the charge is applied to all licence holders.

14.3.2 A telemetry or non-telemetry charge applies based on meter technology

There are two types of compliant meters under the metering reforms:

- telemetry meters – meters with data recording and remote transmitting of meter data reads to Water NSW's centralised data systems
- non-telemetry meters – meters without remote transmitting systems that store meter data on-site and require periodic manual data logger download.²⁵¹

Water users are required to have telemetry installed on their meters if they relate to surface water works, except for pumps below 200mm in diameter or those directed to install telemetry by an order of the Minister.²⁵²

We set separate telemetry and non-telemetry charges that vary by level of telemetry opt-in

Water NSW proposed separate telemetry and non-telemetry charges for the 2021 determination period, based on the meter technology applied to the metering installation. The charges would be applied as an annual \$/per metering installation.²⁵³

Although the charges would be separate, Water NSW proposed these charges should be set at the same level over the 2021 determination period. This is because the initial telemetry costs are higher than the costs of non-telemetry. It would not provide a price signal to incentivise telemetry uptake.²⁵⁴

We consider that a separate telemetry and non-telemetry charge structure takes account of uncertainty over how many users will voluntarily opt in to telemetry, provides an incentive for users to opt in to telemetry and better reflects the efficient costs of providing services.

Using information from Water NSW and Cardno, we have modelled the telemetry and non-telemetry charges required to recover the efficient costs of providing services using 4 bands of telemetry opt-in (see Table 14.5). We considered the long-term nature of the costs that underpin Water NSW's scenarios and applied a conservative approach to setting the charges for each band, using the lower end of each band to model the charge (e.g. the 0% voluntary uptake costs apply throughout the 0-24% range of voluntary uptake).

^c Only users with meters >100 mm are required to comply.

Table 14.5 Charges and bills for different telemetry opt-in proportions (\$2021-22)

| Telemetry opt-in | Up to 24% | 25-49% | 50-74% | 75% or more |
|---|-----------|--------|--------|-------------|
| Charges | | | | |
| Scheme management charge | 73 | 66 | 59 | 51 |
| Telemetry charge | 251 | 209 | 191 | 182 |
| Non-telemetry charge | 219 | 219 | 219 | 219 |
| Blended telemetry/non-telemetry charge | 226 | 214 | 202 | 189 |
| Bills (one meter plus one licence) | | | | |
| Scheme management charge <i>plus</i> telemetry charge | 324 | 275 | 250 | 234 |
| Scheme management charge <i>plus</i> non-telemetry charge | 292 | 285 | 277 | 270 |
| Scheme management charge <i>plus</i> blended telemetry/non-telemetry charge | 300 | 280 | 260 | 240 |

Note: The non-telemetry charge does not vary as telemetry uptake increases since the underlying costs are all variable (i.e. staff time for site inspections and downloading LIDs).

Source: IPART analysis using information provided by Water NSW and Cardno.

Stakeholders had mixed views on a telemetry and non-telemetry price structure that varies with the number of users that opt in to telemetry. For example:

- Murray Valley Private Diverters did not support the introduction of a new telemetry charge to apply as a new annual fee to existing meters for government owned meters (Southern Basin).²⁵⁵
- NSWIC raised concerns about assumptions of voluntary uptake of telemetry given government rebates. It is highly concerned that this pricing structure is designed to shift people to 'voluntarily' opt-in to telemetry when they are not required under regulation to do so. It considered that there will be relatively low rates of voluntary opt-in to telemetry because the rebate is relatively small in the scheme of total costs for purchasing, installing and maintaining telemetry equipment.²⁵⁶
- PIAC considered that greater incentives to opt in to telemetry should be created using the price structure. It submitted that there should be a differential between telemetry and non-telemetry charges and that the telemetry charge should be set at a level according with more than 75% of meters opting-in from the outset.²⁵⁷

We consider that our decision to set charges that vary with the number of customers that opt in to telemetry appropriately balances incentives to opt in to telemetry, the costs of providing telemetry and non-telemetry and takes account of government rebates to accelerate uptake of telemetry (see Box 14.1). This recommendation is unchanged from the draft decision.

Our analysis indicates that telemetry is more expensive than non-telemetry when voluntary uptake is less than 25%. Further, it gets progressively less expensive at even higher levels of voluntary uptake, as fixed costs – such as IT systems – are spread over a greater number of water users. Non-telemetry costs do not vary as telemetry uptake increases. However, a blended telemetry/non-telemetry charge would decrease as telemetry uptake increases given the contribution of telemetry charges to the blended charge. The scheme management charge (levied on all water licence holders) would also be lower if more customers opt in to telemetry.

When the proportion of customers that opt in is low (up to 24%), the telemetry costs per meter are higher than the non-telemetry costs per meter. However, to ensure that these charges do not provide a disincentive for customers to opt in to telemetry, we decided to set the same charge of \$226 for up to 24% telemetry opt-in. Once telemetry opt-in is 25% or more, the telemetry and non-telemetry charges will reflect the efficient costs of providing these services.

Box 14.1 Government rebate for customers that use telemetry

In June 2021, the NSW Government and Australian Government decided that they will each provide \$9 million in funding to deliver an \$18 million telemetry rebate program across NSW over the rollout of the non-urban metering rules. The rebate will automatically be applied as a one-off \$975 credit on a water bill when an eligible water user with a meter connects to the NSW Government's telemetry system. This will provide a financial incentive for metered non-urban water users to use telemetry to remotely transmit their water take information.

The rebate program aims to accelerate uptake of telemetry in NSW, increasing transparency of water take, supporting on-farm management, and positioning NSW to better deliver efficiencies in water management.

At this stage, it is unclear how many customers will voluntarily opt in to telemetry because of the rebate. However, we expect that the proportion would be greater than the 0% adopted in Water NSW's proposed base case which was developed prior to government's decision on the rebate.

14.3.3 Government owned meter charges recover operating and capital costs

There are around 2,800 water users with government owned meters (i.e. the meters are owned and maintained by Water NSW). Government owned meters are located in the Southern Basin, Hawkesbury-Nepean and Bega Bemboka regions.²⁵⁸

We decided to adopt Water NSW's proposed price structure and set separate meter service charges for capital costs and operating costs for all water users. However, we decided not to embed the telemetry or non-telemetry charge within the meter service charges to create a more transparent price structure. This is unchanged from our draft decision.

In relation to the meter service charges, Water NSW proposed to:

- have separate charges for capital costs and operating costs
- not vary these charges by meter size, telemetry use or water source.

The 'meter service charge – operating costs' recovers Water NSW's ongoing operating costs for the maintenance and repair of government owned meters to ensure they are in a condition that complies with the new metering requirements. It includes activities such as onsite accuracy testing, calibration and resealing of meters. Some key cost drivers for these activities include contract administration costs to manage staff conducting field visits and travel time because of the distance between meters.

The 'meter service charge – capital costs' recovers the capital expenditure Water NSW will incur to bring the government owned meters up to a standard that complies with the new metering requirements.

Coleambally Irrigation Council Limited supported water users with government owned meters being charged a meter service charge to recover the costs of the ongoing maintenance of these meters. It considered that it is important going forward that cross subsidisation or socialisation does not occur (in either direction) between water users who own their meter and water users with government owned meters.²⁵⁹

However, Murray Valley Private Diverters did not support the two proposed additional charges to customers with government owned meters. It considered that there is insufficient explanation of why these additional charges are needed when Water NSW already recovers its operational costs under existing meter service charges. It was also concerned that there is likely to be a capital cost in the future if the government funding for the next determination period is removed.²⁶⁰

We consider that separate charges for government owned meters are a transparent way of recovering the different capital and operating costs for this service. The charges recover the additional costs of implementing the new policy, which are incremental to those recovered from existing meter service charges. We also support moving to a simpler charge structure that does not vary between different water users because:

- This is consistent with the approach we have used to set the scheme management, telemetry and non-telemetry charges. For example, none of these charges vary by meter size.
- The existing meter service charges are relatively complex and may imply an overly precise level of cost-reflectiveness. They vary not only by meter size, but also by telemetry use and whether the water source is regulated, unregulated or groundwater. This price structure was proposed by Water NSW for the 2017 and 2021 Determinations, which we then accepted. We consider the new meter service charges proposed by Water NSW presents an opportunity to reduce this complexity.

14.3.4 Meter service charge for channel meters

Water NSW has proposed an updated meter service charge for 19 government owned channel meters. These meters are all open channel construction with sensors in the channels, each site with more than one sensor in-situ. Water NSW proposed a new charge of \$9,500 compared to existing charges of \$6,237 (\$2020-21).²⁶¹ This does not include telemetry and non-telemetry costs.

Under the new policy, there is a requirement for annual validation of the accuracy of channel meters. However, Water NSW's build-up for the channel meter costs is based on three visits each year to each site.

Cardno considered Water NSW's proposed costs and charges for channel meters. It was unable to conclude that the proposed costs are efficient as no evidence could be provided to substantiate further site visits. Cardno recommended maintaining the current channel meter charge. We agree with Cardno's conclusion and decided to maintain the charge in real terms giving a charge \$6,306 (\$2021-22) from 1 October 2021.

14.4 We set metering charges to reflect our decisions on efficient costs and charge structure

Our decision is:



54. To set charges for Water NSW's non-urban metering reforms as set out in Table 14.6 and Table 14.7.

Table 14.6 compares our final decision on non-urban metering charges to Water NSW's revised proposal.

Table 14.6 Decision on non-urban metering charges compared to Water NSW's revised proposal (\$/year, \$2021-22)

| | Charge (\$/year) Water NSW 2021 revised proposal | Charge (\$/year) IPART final decision | Privately owned meter | Government owned meter |
|---|--|---|--------------------------|---------------------------|
| Scheme management charge | 79 | 73 | ✓ | ✓ |
| Telemetry charge | 257 | 226 | ✓ | ✓ |
| Non-telemetry charge | 257 | 226 | ✓ | ✓ |
| Meter service charge – operating costs | 934 | 899 | ✗ | ✓ |
| Meter service charge – capital costs | 608 | 0 | ✗ | ✓ |

Note: Totals may not sum due to rounding. Water NSW's April 2021 proposed charges are shown in \$2021-22. The scheme management charges, telemetry charge and non-telemetry charge will vary if more customers use telemetry. See Table 14.7 for further information. Source: Water NSW, Response to the IPART Draft Determination on Rural Bulk Water and WAMC Pricing – Metering Reform, April 2021, p 21, 28, 29. Cost for telemetry/non-telemetry is not included in the 'meter service charge – operating costs' for government owned meters.

We decided that the level of the scheme management charge, telemetry charge and non-telemetry charge should vary as the proportion of customers that voluntarily opt in to telemetry increases, as set out in Table 14.7. This is consistent with our draft decision.

Table 14.7 Decision on scheme management, telemetry and non-telemetry charges for different telemetry opt-in proportions (\$2021-22)

| Telemetry opt-in | Up to 24% | 25-49% | 50-74% | 75% or more |
|--------------------------|-----------|--------|--------|-------------|
| Scheme management charge | 73 | 66 | 59 | 51 |
| Telemetry charge | 226 | 209 | 191 | 182 |
| Non-telemetry charge | 226 | 219 | 219 | 219 |

Note: The non-telemetry charge for 25-49%, 50-74% and 75-100% does not vary since the underlying costs are all variable (i.e. staff time for site inspections and downloading LIDs).

Source: IPART analysis using information provided by Water NSW and Cardno.

When the proportion of customers that opt in is low (up to 24%), the telemetry costs per meter are higher than the non-telemetry costs per meter. However, to ensure that these charges do not provide a disincentive for customers to opt in to telemetry, we recommend setting the same charge of \$226 for up to 24% telemetry opt-in. Once telemetry opt-in is 25% or more, the telemetry and non-telemetry charges will reflect the efficient costs of providing these services.

PIAC considered that there should be greater incentives to opt in to telemetry. It proposed a differential between telemetry and non-telemetry charges from the outset, with the telemetry charge initially based on more than 75% of meters opting in.²⁶²

Water NSW submitted that while the sliding telemetry scale is based on Water NSW's sensitivity analysis on the impact of telemetry uptake rates, this analysis was based on the hypothetical long run costs of administering the non-urban metering reforms. Water NSW proposed a one-year lag is introduced between when the telemetry take-up rates move into the next higher band and when the new tariff band takes effect.²⁶³

We do not consider that the adjustment proposed by PIAC is necessary and that our approach is more cost reflective. As noted above, the NSW and Australian Governments are funding a telemetry rebate program which already provides a financial incentive to opt in to telemetry.

Further, we do not consider that a one-year lag should be introduced between when the telemetry take-up occurs and the relevant telemetry opt-in charge commences. We considered the long-term nature of the costs that underpin Water NSW's modelling when setting charges for each of the telemetry ranges and have applied a conservative approach, using the lower end of each band to set the charge (e.g. the 0% voluntary uptake costs apply throughout the 'Up to 24%' range of voluntary uptake). We consider that an efficient business should be able to plan appropriately and recover its costs through the charges we have set.

Water NSW will notify IPART of the proportion of customers that opt in to telemetry before the beginning of each year. Its estimate will be based on the best available information. If Water NSW does not provide this information, we decided that the price in the next band up from the previous year should be applied. For example, if the proportion of voluntary telemetry uptake in 2022 is 20%, and there is a failure to notify in 2023, then the presumption for that year will be that the proportion is in the range of 25% - 49%. On balance, we consider that this should provide an appropriate incentive for Water NSW to provide an estimate based on the best available information each year.

Charges under our final decisions are:

- 11% or \$36 lower than Water NSW's revised proposal for water customers with privately owned meters
- 36% of \$679 lower than Water NSW's revised proposal for water customers with government owned meters.

There are 5 main reasons for these differences:

- We adopted Cardno's recommended levels of efficient operating and capital expenditure which are 15% lower than Water NSW's revised proposal. These estimates are based on:
 - forecasting the efficient costs of the activities required to implement the policy for of all users (privately owned and government owned meters) consistent with compliance dates required by the *Water Management (General) Regulation 2018*.
 - incorporating new information on Water NSW's proposed deferral of operating and capital expenditure for government owned meters. Water NSW's April proposal included operating and capital expenditure forecasts based on accelerating compliance for government owned meters. Water NSW has provided a revised profile where expenditure aligns with the compliance dates required by the Regulation.
 - including the costs of compliance for floodplain harvesting meters from 2022-23.
- We applied a WACC of 1.8% real post-tax, calculated with regard to the ACCC's pricing principles as required under the WCR. Water NSW applied a higher WACC, calculated using IPART's standard approach and submitted that the return on corporate system and vehicle assets should be calculated using a weighted average of the approaches to reflect the nature of these costs.²⁶⁴ To prevent over-recovery of costs for customers in Murray-Darling Basin valleys (if we use the higher WACC), we have applied the lower WACC to all customers.
- We calculated charges to apply from 1 October 2021 rather than from 1 July 2021.
- We adjusted the 'meter service charge – capital costs' to reflect government funding which offsets Water NSW's capital costs for upgrading government owned meters. We have set 'meter service charge – capital costs' of \$0 per year for the 2021 determination period (see Table 14.6). In the absence of this funding, water customers with government owned meters would have faced a higher 'meter service charge – capital costs' of \$602 per year.

The 'scheme management charge', 'telemetry' and 'non-telemetry charge' are either the same or slightly lower than our draft decisions. The 'meter service charge – operating costs' is \$68 (or 8%) higher than our draft decision. Although this charge is higher, under our final decisions, customers will not pay this charge until the later of the compliance date or when Water NSW makes meters compliant.

14.5 We have a framework to transition metering charges

Our decision is:



55. To apply the following transitional arrangements in moving from existing to new metering charges:

- Scheme management charge to apply annually from the start of the determination period, 1 October 2021.
- Telemetry or non-telemetry charge for customers with privately owned meters to be prorated using the number of days remaining in the financial year from the relevant compliance date set out in the *Water Management (General) Regulation 2018*.
- Telemetry or non-telemetry charge and government owned 'meter service charge – operating costs' for customers with government owned meters to be prorated using the number of days remaining in the financial year from the later of the relevant compliance date set out in the *Water Management (General) Regulation 2018* or the date the meter is made compliant.

Our decision ensures the transition to new charges is transparent and that there are appropriate incentives in place for water customers with privately owned meters and Water NSW, who is responsible for government owned meters, to achieve compliance with the required roll out dates. This is unchanged from the draft decision.

Stakeholders generally supported these transitional arrangements. NSWIC agreed with the transitory approach for new charges coming into effect, aligned with the various rollout dates (but noting delays in implementation will almost certainly cause issues).²⁶⁵ Coleambally Irrigation Co-operative Limited supported the scheme management charge applying from the start of the determination period, and new charges applying from the compliance date. It noted that commencement of the new charges in parallel with the compliance date will provide the incentive required for water customers to make decisions about their works.²⁶⁶

Water NSW proposed two amendments to the arrangements for new charges:

- Scheme management charges should be charged in full in Year 1 when the charge is applicable.
- For those customers subject to the 1 December 2020 compliance date which is prior to the commencement of the upcoming determination, the full non-telemetry/telemetry charges should be levied from Year 1.²⁶⁷

Our proposed approach to pro-rating charges addresses Water NSW's concerns. We have set annual equivalent charges that, when pro-rated from 1 October 2021, recover Water NSW's efficient costs from 1 July 2021. This means that the sum of the prorated charge in 2021-22 plus the full year charges in 2022-23 to 2024-25 is equal to the efficient costs from 1 July 2021 to 30 June 2025 (on a net present value basis).

14.5.1 Bulk water charges can be adjusted for metering costs at the next review

The existing bulk water charges for regulated rivers may include some activities associated with existing metering. If these activities are either no longer undertaken by Water NSW once meters are made compliant or are duplicating new metering activities, we will need to consider how to ensure that there is no over-recovery or double counting of costs between bulk water and non-urban metering charges. We estimate that these activities may make up less than 1% of Water NSW's net revenue requirement.

Water NSW submitted that the proposed metering reforms and associated new meter charges have been developed as new and incremental charges to existing metering costs. The activity that is expected to be undertaken is a new activity and does not replace any of the existing metering work undertaken by Water NSW. Until all water users have made their works compliant to the new regulations and made their choice in relation to telemetry up take, Water NSW is not in a position to consider the scale or extent to which these new metering functions can be integrated into its normal business operations.²⁶⁸

In line with our draft decision, we propose seeking further information from Water NSW on its metering activities adjustment as part of the next review of bulk water charges and if necessary, make an adjustment at that time.

14.5.2 Water NSW cannot charge users both existing and new metering charges

Water NSW advised that there may be circumstances where it needs to charge a user both the existing and new metering charges.²⁶⁹ It considered that if a customer fails to self-report their water usage throughout the year, Water NSW will be required to visit the site to determine water take. Water NSW will incur additional labour costs to provide this service. This is in addition to the new metering services (i.e. site visit to complete a data download of the meter). Water NSW proposed to recover these additional costs by applying the existing metering charge to these customers.

We do not agree with Water NSW's proposal. We consider that if a customer has failed to self-report their water usage, this is considered non-compliance with the new water metering rules. NRAR is responsible for enforcing metering compliance. On NRAR's website it notes that it will first provide directions to water users to ensure compliance before issuing fines and further responses to non-compliance. We consider that NRAR is the appropriate regulator to ensure metering compliance.

In addition, we note that the circumstances identified by Water NSW may not occur and we are unable to quantify the amount of additional costs involved or determine the efficiency of these costs as these costs vary depending on the location of the non-complying customer. There may also be other unforeseen circumstances if we allow Water NSW to recover both the existing and new metering charges from a particular water user. Therefore, we decided not to allow Water NSW to charge both existing and new charges under the final determinations.

14.6 We considered different ways to deal with uncertainty

Our decisions are:



56. Not to provide an unders and overs mechanism to Water NSW for the rollout of the non-urban metering reforms.

57. That the Tribunal intends to consider the impact of any further deferral of the floodplain harvesting policy and potentially make an adjustment to future charges if needed at the next determination.

58. To set an exit charge for the 2021 determination period of \$0.

14.6.1 An unders and overs mechanism is not appropriate

Water NSW submitted that an unders and overs (UOM) mechanism provides a reasonable and balanced solution for the potential risks and uncertainty of the roll out of the non-urban metering reform. It considered that there is uncertainty attached to the program roll out and the cost estimates, due to potential changes in the policy landscape and the roll out schedule and volumes, which is ultimately outside of Water NSW's reasonable control.²⁷⁰

We do not consider that it is appropriate for Water NSW to have a UOM to mitigate its financial risks arising from cost uncertainty or other factors that are within its control, higher or lower unit costs or a delay in the rollout for government owned meters based on its ability to deliver the program.

However, we consider that we may need to make an adjustment to charges at the next review for uncertainty surrounding floodplain harvesting meters. While it is still government policy for floodplain harvesting meters to use telemetry, there is uncertainty over when the policy will take effect. If the policy takes effect earlier (or later) than what we have assumed when setting costs and charges, Water NSW may materially over (or under) recover its costs. Water NSW has no control over the timing of when the changes may take effect.

14.6.2 Exit fees for the 'meter service charge – capital cost' for government owned meters may be needed in future reviews

We consider that an exit fee may be needed to mitigate the financial risks Water NSW faces associated with customers leaving the government owned meters program after investment has occurred.

Stakeholders generally supported our draft decision that exit fees may be needed in future determinations. For example:

- Coleambally Irrigation Co-operative Limited supported the approach in principle. It understands that currently the exit fee would be zero because government is funding the upgrade of the meter and it is only in the future that an exit fee may apply.²⁷¹
- Water NSW supported the introduction of exit fees at a future determination to recoup any unfunded costs (including capital costs not covered by government funding).²⁷²

In theory, we consider that an exit fee is needed to mitigate the financial risks Water NSW faces from customers leaving the government owned meters program after investment has occurred. However, our modelling indicates that the NSW Government's funding for government owned meters will cover Water NSW's capital costs for upgrading these meters. As a result, we have set the exit charge for the 2021 determination period at \$0.

In future determination periods, if Water NSW incurs prudent and efficient capital expenditure that is greater than the level of government funding, it may be appropriate for Water NSW to charge customers an exit fee. In this case, we consider that customers should be charged an exit fee based on the residual value of the RAB for each meter.

When a customer opts out after WNSW have incurred costs, then it is reasonable for the customer to pay a fee which is equivalent to the outstanding amount of principal paid for that meter – that is the capital expenditure less cumulative depreciation. Water NSW advised that when users opt out of the government owned meter program, they will have the option of retaining the meter with this to be decided on a case by case basis.²⁷³

We consider that the exit fee should be calculated based on the residual value of the RAB for each meter on the day a customer opts out. The exit fee would be calculated as:

Exit fee = Average capital expenditure per meter (\$) – depreciation since meter made compliant (\$)

If Water NSW incurred \$1,000 of efficient and prudent expenditure that was not covered by government funding, an exit fee could be calculated as follows. The determination would specify the following formula (see Box 14.2 for further details)

$$\text{Exit fee } (\$2020-21) = \$1,000 - (\$0.27 \times \text{Days since meter made compliant})$$

Murray Valley Private Diverters raised concerns that 'un-burying' the meters is a vital requirement if individual landholders wish to opt out of government meters. This issue also relates to arrangements once government owned meters reach 'end of life' and who would wear the costs of future inspection requirements (meters would need to be on the surface of land not buried).²⁷⁴

The policy requires that customers with privately owned meters that are not on the surface need to excavate meters to for testing and compliance. However, Water NSW, as a government agency, is permitted to use a fleet-based approach to compliance, meaning that only a percentage of sites need to be 'un-buried' or excavated for testing. If a water user opts out of the government owned meter program, they would no longer be part of the government owned fleet. Their meter would not be included in the fleet-based approach and hence the meter would need to be excavated for compliance purposes.

Water NSW confirmed that that end of life arrangements for government owned meters have not yet been decided. It does not anticipate any meters reaching end of life during the 2021 determination period.²⁷⁵

Box 14.2 Calculating an exit fee for meter service charge – capital costs

This example of how to calculate an exit fee is based on capital expenditure of \$1,000 per meter depreciated over a ten-year asset life. This equates to annual depreciation of \$100 a year or \$0.27 a day. The table below sets out the exit fee that would apply through the determination period.

| | RBA value of meter on | Cumulative depreciation at end of day | Exit fee (end of day) |
|-------|---|--|------------------------------|
| 1 | Day 1 | 0.27 | 1,000 |
| 90 | Day 90 | 24.66 | 975 |
| 180 | Day 180 | 49.32 | 951 |
| 270 | Day 270 | 73.97 | 926 |
| 360 | Day 360 | 98.63 | 901 |
| ... | ... | ... | ... |
| ... | ... | ... | ... |
| 1,080 | Day 1,080 | 295.89 | 704 |
| 1,170 | Day 1,170 | 320.55 | 679 |
| 1,260 | Day 1,260 | 345.21 | 655 |
| 1,350 | Day 1,350 | 369.86 | 630 |
| 1,440 | Day 1,440 | 394.52 | 605 |
| 1,461 | Day 1,461 (end of determination period) | 400.27 | 600 |
| 3,650 | Day 3,650 (end of asset life) | 1,000.00 | - |

Note: \$2020-21

14.7 New metering charges will increase bills for customers

The change in meter charges and customers' total bills depend on the water source (regulated, unregulated or ground water), whether the meter is privately owned or government owned, entitlement and usage volumes and meter size. In addition, if more customers opt in to telemetry, then metering charges and customer bills will be lower than if fewer customers opt in to telemetry.

We considered these impacts across a range of customers and for different levels of telemetry opt-in. Appendix D sets out the combined impact of our decisions on non-urban metering reform charges and Water NSW and WAMC bulk water and water management charges.

14.7.1 Customers with government owned meters face larger increases

The additional costs faced by customers relative to their existing bills are greatest for customers with government owned meters. For example, if up to 24% of customers opt in to telemetry, general security licence holders on regulated rivers with a 500 ML entitlement and 100mm meter with telemetry:

- that is **government owned** would face additional metering charges of \$720 (or an increase of up to 20%) in their bills caused by metering.
- that is **privately owned** would face additional metering charges of \$300 (or an increase of up to 10% in their bills caused by metering).

Customers with privately owned meters will also be required to purchase and maintain a new or replacement meter at their own expense. These costs would be borne by customers and have not been included in our impact analysis.

Several stakeholders were very concerned about the affordability of the increases proposed by Water NSW. The NSW Government has acknowledged these concerns and is providing funding of \$14.6 million to Water NSW to cover the capital costs of upgrading government owned meters. This funding reduces the 'meter service charge – capital costs' to \$0 for the 2021 determination period. In the absence of this funding, users with government owned meters would have faced a higher 'meter service charge – capital costs' of \$602 per year.

14.7.2 Impacts will be smaller if more users opt in to telemetry

If more customers opt in to telemetry, then metering charges and customer bills will be lower than if fewer customers opt in to telemetry. For example, if 75-99% of customers opt in to telemetry then general security licence holders on regulated rivers with a 500 ML entitlement and a 100mm meter with telemetry:

- that is **government owned** and uses telemetry would face additional metering charges of \$654 (or an increase of up to 18% in their bills caused by metering).
- that is **privately owned** and uses telemetry would face additional metering charges of \$234 (or an increase of 8% in their bills caused by metering).

As discussed above, the NSW Government and Australian Government are providing funding to deliver a telemetry rebate program across NSW. This will provide a financial incentive for a user to install a telemetered meter to remotely transmit their water take information by providing funding for the capital costs of telemetry. We expect that this rebate will encourage users to opt in to telemetry and over time will reduce the scheme management and telemetry charges.

14.7.3 Impacts are relatively larger for customers with smaller entitlements

The percentage impacts increase with smaller licence entitlement volumes and usage. This is because the fixed nature of the meter charge means that the lower the water charge bill, the greater the increase caused by the proposed metering charges. For example, if up to 24% of customers opt in to telemetry, general security licence holders on regulated rivers with a 100mm meter with telemetry with a privately owned meter:

- with an entitlement of 500 ML in the Murray would face a 7% increase resulting from the \$300 increase caused by metering
- with an entitlement of 250 ML in the Murray would face a 13% increase caused by metering resulting from the \$300 increase caused by metering.

Appendices

Appendix A >>

Matters considered by IPART



This appendix explains how we considered certain matters we are required to consider under the *Independent Pricing and Regulatory Tribunal Act 1992* (the IPART Act) and the *Water Charge Rules 2010* (Cth) (WCR).

On 1 July 2020, the Water Charge Amendment Rules 2019 (Cth) took effect, amending the WCR. However, as Water NSW submitted its pricing application before 30 June 2020, transitional arrangements apply and we can set prices for Murray–Darling Basin (MDB) services for one more determination period under the WCR as in force on 30 June 2020 and IPART’s current accreditation with the ACCC.²⁷⁶

A.1 Matters under section 15 of the IPART Act

IPART is required under section 15(1) of the IPART Act to have regard to the following matters in making determinations and recommendations:

- a. the cost of providing the services concerned
- b. the protection of consumers from abuses of monopoly power in terms of prices, pricing policies and standard of services
- c. the appropriate rate of return on public sector assets, including appropriate payment of dividends to the Government for the benefit of the people of New South Wales
- d. the effect on general price inflation over the medium term
- e. the need for greater efficiency in the supply of services so as to reduce costs for the benefit of consumers and taxpayers
- f. the need to maintain ecologically sustainable development (within the meaning of section 6 of the *Protection of the Environmental Administration Act 1991*) by appropriate pricing policies that take account of all the feasible options available to protect the environment
- g. the impact on pricing policies of borrowing, capital and dividend requirements of the government agency concerned and, in particular, the impact of any need to renew or increase relevant assets
- h. the impact on pricing policies of any arrangements that the government agency concerned has entered into for the exercise of its functions by some other person or body
- i. the need to promote competition in the supply of services concerned
- j. considerations of demand management (including levels of demand) and least cost planning
- k. the social impact of the determinations and recommendations
- l. standards of quality, reliability and safety of the services concerned (whether those standards are specified by legislation, agreement or otherwise).

Table A.1 outlines the sections of the report that address each matter.

Table A.1 Consideration of section 15(1) matters by IPART

| Section 15(1) | Report reference |
|--|--|
| a. Cost of providing the services | Chapter 7 sets out Water NSW's total efficient costs to deliver its regulated services over the determination period. Further detail is provided in Chapters 3, 4, 5 and 6 on efficient historical and forecast expenditure, MDBA and BRC costs and other costs. |
| b. Protection of consumers from abuses of monopoly power | We consider our decisions would protect consumers from abuses of monopoly power, as they reflect the efficient costs Water NSW requires to deliver its regulated services. This is addressed throughout the report, particularly in Chapters 3 and 4 (where we establish the efficient historical and forecast expenditure) and Chapters 10, 11 and 12 (where we set out our pricing decisions and impacts). |
| c. Appropriate rate of return and dividends | Chapter 7 outlines that we have allowed a market-based rate of return on debt and equity that would enable a benchmark business to return an efficient level of dividends. |
| d. Effect on general price inflation | Chapter 12 outlines that we estimate the impact of our prices on general inflation is negligible. |
| e. Need for greater efficiency in the supply of services | Chapter 3 and 4 set out our decisions on Water NSW's efficient historical and forecast expenditure. These decisions would promote greater efficiency in the supply of Water NSW's regulated services. |
| f. Ecologically sustainable development | Chapters 3 and 4 set out Water NSW's efficient historical and forecast expenditure that allows it to meet all of its regulatory requirements, including its environmental obligations. |
| g. Impact on borrowing capital and dividend requirements | Chapters 7 and 12 explain how we have provided Water NSW with an allowance for a return on and of capital; and our assessment of its financeability. |
| h. Impact on pricing policies of any arrangements that the government agency concerned has entered into for the exercise of its functions by some other person or body | Chapters 3 and 4 determine the prudent and efficient cost of construction and operational contracts that Water NSW has entered into and costs associated with these over the next period. |
| i. Need to promote competition | In determining efficient costs, we were mindful of relevant principles such as competitive neutrality (e.g. we included a tax allowance for Water NSW as set out in Chapter 7). |
| j. Considerations of demand management and least cost planning | Chapters 3 and 4 outline how we assessed Water NSW's efficient historical and forecast expenditure required to deliver its regulated services at least cost. Chapter 10 outlines how we set prices to reflect efficient costs, including the usage price to reflect the approximate estimate of marginal cost of supply – such cost-reflective prices promote the efficient use and distribution of resources (all else being equal). |
| k. Social impact | Chapter 12 considers the potential impact of our pricing decisions on Water NSW, its customers and the NSW Government (on behalf of the broader community). |
| l. Standards of quality, reliability and safety | Chapters 3 and 4 detail our consideration of Water NSW's efficient historical and forecast expenditure so it can meet the required standards of quality, reliability and safety in delivering its services. |

A.2 Matters considered by IPART under the *Water Act (2007)*

Rule 29 of the WCR sets out the matters that we are required to consider in determining charges for MDB valleys.^a Rules 29(2) and (3) specify the matters that IPART must be satisfied of when approving or determining regulated charges. Rule 29(4) explains the relevance of the Basin water charging objectives and principles that are set out below.^b

A.2.1 Schedule 2 – Basin water charging objectives and principles^c

Part 2 – Water charging objectives

The water charging objectives are:

- a. to promote the economically efficient and sustainable use of:
 - i. water resources; and
 - ii. water infrastructure assets; and
 - iii. government resources devoted to the management of water resources; and
- b. to ensure sufficient revenue streams to allow efficient delivery of the required services; and
- c. to facilitate the efficient functioning of water markets (including interjurisdictional water markets, and in both rural and urban settings); and
- d. to give effect to the principles of user-pays and achieve pricing transparency in respect of water storage and delivery in irrigation systems and cost recovery for water planning and management; and
- e. to avoid perverse or unintended pricing outcomes.

Part 3 – Water charging principles

Water storage and delivery

1. Pricing policies for water storage and delivery in rural systems are to be developed to facilitate efficient water use and trade in water entitlements.
2. Water charges are to include a consumption-based component.
3. Water charges are to be based on full cost recovery for water services to ensure business viability and avoid monopoly rents, including recovery of environmental externalities where feasible and practical.
4. Water charges in the rural water sector are to continue to move towards upper bound pricing where practicable.

^a Water Charge Rules 2010 (Cth).

^b Under the *Water Act 2007* (Cth), schedule 2.

^c See *Water Act 2007* (Cth), schedule 2.

5. In subclause (4): upper bound pricing means the level at which, to avoid monopoly rents, a water business should not recover more than:
 - a. the operational, maintenance and administrative costs, externalities, taxes or tax equivalent regimes; and
 - b. provision for the cost of asset consumption; and
 - c. provision for the cost of capital (calculated using a weighted average cost of capital).
6. If full cost recovery is unlikely to be achieved and a Community Service Obligation is deemed necessary:
 - a. the size of the subsidy is to be reported publicly; and
 - b. where practicable, subsidies or Community Service Obligations are to be reduced or eliminated.
7. Pricing policies should ensure consistency across sectors and jurisdictions where entitlements are able to be traded.

Cost recovery for planning and management

1. All costs associated with water planning and management must be identified, including the costs of underpinning water markets (such as the provision of registers, accounting and measurement frameworks and performance monitoring and benchmarking).
2. The proportion of costs that can be attributed to water access entitlement holders is to be identified consistently with the principles set out in subclauses (3) and (4).
3. Water planning and management charges are to be linked as closely as possible to the costs of activities or products.
4. Water planning and management charges are to exclude activities undertaken for the Government (such as policy development and Ministerial or Parliamentary services).
5. States and Territories are to report publicly on cost recovery for water planning and management annually. The reports are to include:
 - a. the total cost of water planning and management; and
 - b. the proportion of the total cost of water planning and management attributed to water access entitlement holders, and the basis upon which this proportion is determined.

Environmental externalities

1. Market-based mechanisms (such as pricing to account for positive and negative environmental externalities associated with water use) are to be pursued where feasible.
2. The cost of environmental externalities is to be included in water charges where feasible.

Benchmarking and efficiency reviews

1. Independent and public benchmarking or efficiency reviews of pricing and service quality relevant to regulated water charges is or are to be undertaken based on a nationally consistent framework.
2. The costs of operating these benchmarking and efficiency review systems are to be met through recovery of regulated water charges.

Table A.2 outlines the sections of the report that address each matter.

Table A.2 Consideration of *Water Act 2007* schedule 2 matters by IPART

| Provision of the <i>Water Act 2007</i> (Cth) | Report reference |
|---|---|
| Part 2 – Water charging objectives | |
| To promote the economically efficient and sustainable use of: (i) water resources; and (ii) water infrastructure assets; and (iii) government resources devoted to the management of water resources | Chapters 3 and 4 set out our decisions on Water NSW's efficient historical and forecast expenditure. These decisions would promote greater efficiency in the supply of Water NSW's regulated services. |
| To ensure sufficient revenue streams to allow efficient delivery of the required services | Chapter 7 sets out the efficient economic costs of delivering water infrastructure services over the period. Chapter 11 sets out the prices we set to generate the revenue needed to meet the efficient costs. |
| To facilitate the efficient functioning of water markets (including inter-jurisdictional water markets, and in both rural and urban settings) | Chapter 11 sets out our decisions on entitlement and usage charges for infrastructure services. Chapter 5 sets out the MDBA and BRC costs we included in setting prices. |
| To give effect to the principles of user-pays and achieve pricing transparency in respect of water storage and delivery in irrigation systems and cost recovery for water planning and management | Chapters 3 and 4 set out efficient expenditure required to deliver the services. Chapter 5 sets out our decisions on the efficient recovery of MDBA and BRC costs. Chapter 6 sets out the other costs associated with bulk water services. Chapter 7 shows the total efficient economic costs of the services. Chapter 8 describes how we share the efficient costs between water users and government. |
| To avoid perverse or unintended pricing outcomes | Chapter 7 describes how we set the revenue requirement to meet efficient costs. Chapter 10 describes how we set prices to meet those costs. Chapter 12 discusses the impacts of our prices on customers, Water NSW and government. |
| Part 3 – Water charging principles | |
| Water storage and delivery | |
| Pricing policies for water storage and delivery in rural systems are to be developed to facilitate efficient water use and trade in water entitlements. | Chapter 10 shows how we set prices that reflect the user share of costs of delivering the infrastructure services. |
| Water charges are to include a consumption-based component. | Chapter 10 sets out how we set water usage charges. |
| Water charges are to be based on full cost recovery for water services to ensure business viability and avoid monopoly rents, including recovery of environmental externalities where feasible and practical. | Chapter 7 sets out our decisions on the efficient costs of delivering the services. Chapter 8 details how we allocated those costs between water users and the government, based on an impactor-pays approach. |
| Water charges in the rural water sector are to continue to move towards upper bound pricing where practicable. | Chapter 7 sets out the efficient costs of delivering the services, including an allowance for a market return on assets and tax. |

| Provision of the <i>Water Act 2007</i> (Cth) | Report reference |
|---|--|
| | Chapter 10 sets out how we set prices to recover the user share of those efficient costs. |
| <p>In subclause (4): upper bound pricing means the level at which, to avoid monopoly rents, a water business should not recover more than:</p> <ul style="list-style-type: none"> (a) the operational, maintenance and administrative costs, externalities, taxes or tax equivalent regimes; and (b) provision for the cost of asset consumption; and (c) provision for the cost of capital (calculated using a weighted average cost of capital). | <p>Chapters 3 and 4 detail our decisions on efficient operating costs. Chapter 8 sets out our decisions on allowances for tax equivalent costs. Chapter 7 sets out our decisions on allowances for regulatory depreciation, and the cost of capital (WACC) applied to the regulatory asset base.</p> |
| <p>If full cost recovery is unlikely to be achieved and a Community Service Obligation is deemed necessary:</p> <ul style="list-style-type: none"> (a) the size of the subsidy is to be reported publicly (b) where practicable, subsidies or Community Service Obligations are to be reduced or eliminated. | <p>Chapter 8 describes how we shared costs between users and Government. Chapter 10 sets out how we set prices to fully recover the user share of those costs.</p> |
| <p>Pricing policies should ensure consistency across sections and jurisdictions where entitlements are able to be traded.</p> | <p>Chapter 10 sets out that we set fixed entitlement charges and variable usage charges that facilitate effective trade of water entitlements.</p> |
| <p>Cost recovery for planning and management</p> | <p>Not applicable.</p> |
| <p>Environmental externalities</p> | |
| <p>Market-based mechanisms (such as pricing to account for positive and negative environmental externalities associated with water use) are to be pursued where feasible.</p> | <p>Chapter 10 sets out our decisions on the usage charges that send signals to water extractors.</p> |
| <p>The cost of environmental externalities is to be included in water charges where found to be feasible.</p> | <p>Chapter 8 sets out our decisions on the user share of costs, including the benefits and costs of environmental services and activities.</p> |
| <p>Benchmarking and efficiency reviews</p> | |
| <p>Independent and public benchmarking or efficiency reviews of pricing and service quality relevant to regulated water charges is or are to be undertaken based on a nationally consistent framework.</p> | <p>Chapters 3 and 4 set out our decisions on efficient expenditure, including the recommendations arising from expenditure review undertaken by Atkins.</p> |
| <p>The costs of operating these benchmarking and efficiency review systems are to be met through recovery of regulated water charges.</p> | <p>Chapters 3 and 4 set out our decisions on Water NSW's efficient historical and forecast expenditure.</p> |

Appendix B 

Output measures

B

We set output measures for the water agencies that we regulate to inform us and stakeholders whether they are delivering on their planned capital expenditure. This is important because we set prices to enable them to recover the forecast costs of those plans. Moreover, ongoing inability to meet output measure targets could indicate that the required levels of service, to which we have linked our prices, are not being met and a deficiency in the planning and delivery of capital projects exists.

While meeting output measure targets is important, conclusions about Water NSW's performance should not be drawn on the basis of whether or not it has met these targets. There may be reasonable explanations why it does not meet targets. In fact, as circumstances evolve over a determination period, changing a target may result in a better outcome for stakeholders. In such cases, the output measures can provide a reference point for articulating changes in priorities.

B.1 Output measures – 2017 determination period

We set output measures as part of our 2017 Determination. Our output measures were based on advice from Aither, our expenditure review consultants, and refined in consultation with Water NSW. In developing the output measures, Aither gave consideration to:

- past output measures, including any that should be continued
- issues raised in its expenditure review, including broad and project-specific issues, and any that may need monitoring to ensure they are addressed
- specific project-based outcomes that would be expected from the expenditure
- dam safety issues.²⁷⁷

We asked our expenditure review consultants, Atkins to assess Water NSW's performance against these output measures as part of its expenditure review. Table B.1 shows Atkins' comments against the information provided by Water NSW in their pricing proposal outlining their activity against each of the output measures.

Table B.1 Activity against output measures 2018-19 – Rural valleys

| Project | Output measure | Expected completion | Activity 2018-19 | Review comments |
|---|---|---------------------|---|--|
| Asset renewals and condition | Report on: a) service orders requiring reactive maintenance, broken down by asset sub-types b) number of assets with a criticality rating of 4 or above, broken down by asset sub-types | Report annually | The Rural Valleys had 2,441 reactive work orders in 2018-19. The Rural Valleys have 1,361 assets with a criticality of 4 or 5. | Water NSW transitioned to a new Enterprise Asset Management System in April 2019. This transition included a revision of standard asset classes. Reactive work orders on the legacy system Jul-18 to Apr-19 – 1914 Reactive work orders on the ERP system Apr-19 to Jun-19 – 527 |
| Water NSW Enterprise Resource Planning (ERP) | Ceased use of legacy information/ERP systems | 1 July 2020 | Work is continuing on building suitable solutions for components of legacy applications that were not completed at CIMS go live. Also, data archiving and access processes are also in progress. | Some of the original plans were de-scoped and for others it was identified that the existing solution was better than the alternative. Customer Relationship Management (CRM) and Water Licensing System (WLS) were pushed back and are now deliverables under the WAVE program in the future price path. Overall, we concur it is reasonable to conclude that this output measure has been met. |
| Regulatory health and safety expenditure by valley on 'Renewals – safety' | WHS risks lowered to As Low As Reasonably Practicable, providing a safe working environment for staff, reducing risk to the public, and maintaining operability | 30 June 2020 | Works were substantively completed to undertake safety improvements on 42 sites in the Murrumbidgee and Lowbidgee Valleys. Planning activities were undertaken on a further program of works across rural valleys the 'Rural MCP Program (All Valleys)'. The program comprises works across 170 sites, approximately 40% of which have health and safety improvement as the primary driver. Additionally, a project has progressed to execution to address 161 inherent hazards with access to survey points at 17 dams across Water NSW. | |
| Keepit Dam | Completion of works meeting the stated needs & requirements | 30 June 2020 | Additional strengthening works outside the original scope were carried out on the spillway section of the dam, extending the works until December 2020. | The works are substantially complete in terms of meeting the original scope. |

| Project | Output measure | Expected completion | Activity 2018-19 | Review comments |
|--|---|--|---|--|
| Keepit Dam safety project | Life safety risk position from Keepit Dam reduced to below Australian National Committee on Large Dams (ANCOLD) Limit of Tolerability for societal risk (ANCOLD Guidelines on Risk Assessment Figure 7.4) | 30 June 2020 | As above, the benefits will be realised on completion of the project. | The works are substantially complete in terms of meeting the original scope. |
| Future Dam Safety capital works strategy | Following expected changes in dam safety regulations, formulate a medium-term (5-10 year) plan of capital works required | 24 months after confirmation of applicable dam safety regulations in NSW | The new regulations commenced on 1 November 2019. The standards and guidance material that stipulate regulatory requirements below the safety threshold are still to be developed. This is expected to be delivered within a 2-year window starting at the inception of the new regulations. The development of the corporate strategy is dependent on the publication of these requirements and guidelines. When the standards and guidance material have been gazetted, we will require at least 12 months to develop the strategy (i.e. apply the methodology, assess compliance and develop risk mitigation solutions). | Since this comment the Water NSW dam engineering team have provided a plan for developing the strategy for meeting the 2-year window. They have been proactive in providing their own interpretations of the new regulations in advance of the further guidance awaited from Dam Safety NSW. |

Source: Atkins, *Water NSW Expenditure Review – Final Report for IPART*, 19 February 2021, pp 142-144.

B.2 Output measures – 2021 determination period

Table B.2 lists our output measures for the 2021 Determination. These are based on advice from Atkins, our expenditure review consultations. Since our Draft Report, we updated output measures for the fish pass offset pilot projects and the customer measure.

Table B.2 Output measures for the 2021 Determination

| Project | Output measure | Target completion | Activity |
|--|---|-------------------|--|
| Lake Cargelligo Embankment upgrade works | Completion of embankment safety works to bring risk assessment into tolerable zone of SFAIRP ('so far as reasonably practicable') | FY23 | Detailed design and construction of embankment raising and filter works. |
| Fish pass offset pilot projects | Completion of the Gunidgera, Marebone Break Weir and Lake Cargelligo Outlet Regulator fish passage offset schemes to the satisfaction of DPI Fisheries | FY25 | Detailed design and construction of the novel fish passage schemes at the 3 weirs and agreed with DPI Fisheries. |
| Fish pass planning, design, programming | Final business case and detailed designs for the remaining 9 fish passage offset schemes, taking account of the lessons learned from the pilot schemes, to the satisfaction of DPI Fisheries | FY25 | On the basis of the construction and evaluation of the 3 pilot fish pass schemes at Gunidgera, Marebone Break Weir and Lake Cargelligo, and following progression of the construction at Tyreel Weir, progress with developing the business cases and detailed design and program for delivery of the remaining 8 fish pass schemes in the 2025 determination period to the satisfaction of DPI Fisheries. |
| Asset renewals and condition | Report on: a) service orders requiring reactive maintenance, broken down by asset sub-types b) number of assets with a criticality rating of 4 or above, broken down by asset sub-types. | Report annually | |
| Asset performance and health | Develop asset risk evaluations across all appropriate asset classes | FY25 | This will improve understanding of underlying asset risk and ultimately support future expenditure and investment decisions. |
| Fish river scheme | Develop and implement a customer impact measure (e.g. minutes lost per customer) for water supply interruption events that can be used to measure performance | FY22 | This will improve the focus on customer impacts of water supply interruption events rather than only the number of events that take place and drive operational improvements within the scheme. Once baselined this can be used to show performance and impact of events against various asset classes on the scheme. |
| Implementation of the WAVE Program | Completion of full scope of the programme on budget as per final business case presented to Board 27 May 2020, comprising operational technology, analytics and water market components and providing the benefits identified in the business case(s) used to justify the expenditure | FY24 | Program objectives: - service and efficiency improvements by allowing low value tasks to be automated |

| Project | Output measure | Target completion | Activity |
|-------------------------------------|--|--|---|
| | | | <ul style="list-style-type: none"> - centralised management of water information by improving access to up-to-date and reliable water information for personnel and customers. <p>Consolidation of ICT systems with harmonisation and integration of ICT landscape to drive operational efficiencies and enable improved performance of services through better insights from high integrity data.</p> <p>Mitigation of risks through improving integrity and reliability of business processes and data management.</p> |
| Customer measure | Achieve 68% score for 'Skyline' composite measure and regularly publish regularly the results | FY25 | The measure is based on customer perception from the annual research programme survey and built up from 4 sub measures: the suitability of services provided; satisfaction with services provided; value for money; and quality of relationships. Results should be shared via the principal customer communication channels (e.g. WaterNSW website, annual report). |
| Cost Allocation Manual | Agreement on an updated Cost Allocation Manual with IPART | December 2021 | To reflect the recommendations of the corporate cost allocation review in Section 8 of Atkins' Final Report, March 2021. |
| Long term transformational strategy | Development and implementation of a detailed transformational strategy setting out clear actions, quantified expenditure efficiencies and customer benefits by year with the aim of becoming an efficient, effective and customer-focused organisation. The strategy should also set out the approach to be used for benefits realisation tracking | <p>July 2023 – Development of strategy</p> <p>FY24 and FY25 – Implementation and benefits realisation tracking</p> | Report progress in the AIR or as agreed with IPART. |

Source: Atkins, *Water NSW Expenditure Review – Final Report for IPART*, 19 February 2021, pp 144–145.

Appendix C 

Weighted average cost of capital



To calculate an allowance for the return on assets in the revenue requirement, we multiply the value of the regulatory asset base (RAB) in each year of the determination period by an appropriate rate of return. To do this, we determine the rate of return using a weighted average cost of capital (WACC).

This appendix shows the parameters we used to calculate the WACC and explains our decision about how to treat annual changes in the WACC over the determination period.

Our decisions on the WACC for Water NSW's assets for Murray-Darling Basin (MDB) valleys and Coastal valleys is set out in Chapter 7.

C.1 We use 2 methods to calculate a WACC

For our review of Water NSW's rural bulk water services we use 2 separate methods to calculate and apply a WACC as outlined below.

- For customers in MDB valleys we set prices using a WACC calculated with regard to the ACCC's pricing principles as required under the WCR.
- For customers in Coastal valleys we set prices using our standard approach to calculating the WACC.^a

C.1.1 We set a WACC for rural MDB valleys in accordance with the WCR

We use the ACCC's WCR methodology to calculate the WACC for Water NSW's MDB valleys. Under the transitional arrangements as part of the revised WCR, we must apply the same pricing principles as set out under the WCR.²⁷⁸ This methodology stipulates the use of a market risk premium of 6.0%, an equity beta of 0.7 and a gearing ratio of 60%, and is the same approach we applied in our 2017 price review.²⁷⁹

Section C.2 explains our methodology for each parameter in more detail.

Table C.1 sets out the parameters that were used to derive the 1.8% post-tax real WACC for Water NSW's MDB valleys.

^a We set prices in Coastal valleys under the *Independent Pricing and Regulatory Tribunal Act 1992*.

Table C.1 WACC calculation for MDB valleys using WCR parameters

| | Market data |
|---|-------------|
| Nominal risk-free rate | 1.55% |
| Inflation | 2.20% |
| Implied debt margin | 1.28% |
| Market risk premium | 6.0% |
| Debt funding | 60% |
| Equity funding | 40% |
| Total funding (debt + equity) | 100% |
| Gamma | 0.25 |
| Corporate tax rate | 30% |
| Effective tax rate for equity | 30% |
| Effective tax rate for debt | 30% |
| Equity beta | 0.70 |
| Cost of equity (nominal post-tax) | 5.7% |
| Cost of equity (real-post tax) | 3.5% |
| Cost of debt (nominal pre-tax) | 2.8% |
| Cost of debt (real pre-tax) | 0.6% |
| Nominal vanilla (post-tax nominal) WACC | 4.0% |
| Post-tax real WACC | 1.8% |
| Pre-tax nominal WACC | 4.7% |
| Pre-tax real WACC point estimate | 2.4% |

Source: IPART analysis.

C.1.2 We used our standard approach to calculate a WACC for Coastal valleys

We used our standard methodology to calculate the WACC for Water NSW's Coastal valleys. Under our approach we estimate one WACC based on current market data and one based on long-term average data. When our uncertainty index, which indicates the level of volatility in capital markets, is within one standard deviation of its mean value, we select the mid-point of the current and long-term WACC values. The uncertainty index is currently within this range.

Section C.2 explains our methodology for each parameter in more detail.

Table C.2 sets out the parameters that were used to derive the 3.0% post-tax real WACC for Water NSW's Coastal valleys.

Table C.2 WACC calculation for Coastal valleys using IPART's standard approach

| | Step 1 – Market data | | Step 2 – Final WACC range | | |
|---|----------------------|-------------|---------------------------|-------------|-------------|
| | Current | Long term | Lower | Mid-point | Upper |
| Nominal risk-free rate | 1.60% | 2.70% | | | |
| Inflation | 2.20% | 2.20% | | | |
| Implied debt margin | 1.40% | 2.50% | | | |
| Market risk premium | 7.9% | 6.0% | | | |
| Debt funding | 60% | 60% | | | |
| Equity funding | 40% | 40% | | | |
| Total funding (debt + equity) | 100% | 100% | | | |
| Gamma | 0.25 | 0.25 | | | |
| Corporate tax rate | 30% | 30% | | | |
| Effective tax rate for equity | 30% | 30% | | | |
| Effective tax rate for debt | 30% | 30% | | | |
| Equity beta | 0.70 | 0.70 | | | |
| Cost of equity (nominal post-tax) | 7.1% | 6.9% | | | |
| Cost of equity (real-post tax) | 4.8% | 4.6% | | | |
| Cost of debt (nominal pre-tax) | 3.0% | 5.2% | | | |
| Cost of debt (real pre-tax) | 0.8% | 2.9% | | | |
| Nominal vanilla (post-tax nominal) WACC | 4.7% | 5.9% | 4.7% | 5.3% | 5.9% |
| Post-tax real WACC | 2.4% | 3.6% | 2.4% | 3.0% | 3.6% |
| Pre-tax nominal WACC | 5.5% | 6.7% | 5.5% | 6.1% | 6.7% |
| Pre-tax real WACC point estimate | 3.2% | 4.4% | 3.2% | 3.8% | 4.4% |

Source: IPART analysis.

C.2 Our methodology to calculate WACC parameters

This section sets out some of the key methodologies we use to derive the component parameters used to calculate the WACC under both our standard approach and the ACCC's WCR.

C.2.1 Gearing and beta

In selecting proxy industries, we consider the type of business the firm is in. If we can't directly identify proxy firms that are in the same business, then we would consider which other industries exhibit returns that are comparably sensitive to market returns.

We adopted the standard values of 60% gearing and an equity beta of 0.7. We undertook preliminary proxy company analysis on several different types of industries with risk profiles that appear similar to water utilities. The results for the electric utilities industry and the multi-line utilities activity support continuing to use an equity beta of 0.7 when 60% gearing is used. While some other industries and activities analysed suggest a higher beta, the sample sizes for those proxy groupings are too small to warrant making what would be a major change from the status quo.

C.2.2 Sampling dates for market observations

We sampled all market observations as of 31 March 2021.^b We decided not to sample at a later date even though we had a 3-month delay to our decisions. This is because:

- sampling at a different time of year creates unnecessary complexity and may introduce seasonal effects
- failing to use the most up-to-date market data is not a particular problem given we use the trailing average cost of debt, which minimises the impact of any one interest rate sample
- any movements in the cost of debt within the regulatory period will be picked up in our true-up calculation.

For earlier years in the trailing average calculation of the historic cost of debt, we also sampled to the end of March in each year.

Our inflation forecast is produced using IPART's standard approach, with the Reserve Bank of Australia's 1-year ahead forecast sourced from the February 2021 Statement of Monetary Policy.²⁸⁰ This approach is consistent with the approach we applied in our 2017 price review.

C.2.3 Tax rate

We assumed the Benchmark Equivalent Entity is a large public water utility. The scale economies that are important to firms of this type suggest that the Benchmark Equivalent Entity would be likely to be well above the turnover threshold at which a firm becomes ineligible for a reduced corporate income tax rate. Therefore, we used a tax rate of 30%.

C.2.4 Regulatory period

We applied the WACC estimate for the duration of the determination period.

^b In our Draft Report, we used a post-tax real WACC of 1.3% for Water NSW's MDB valleys and 2.8% for Water NSW's Coastal valleys, based on market observations as of 31 December 2020.

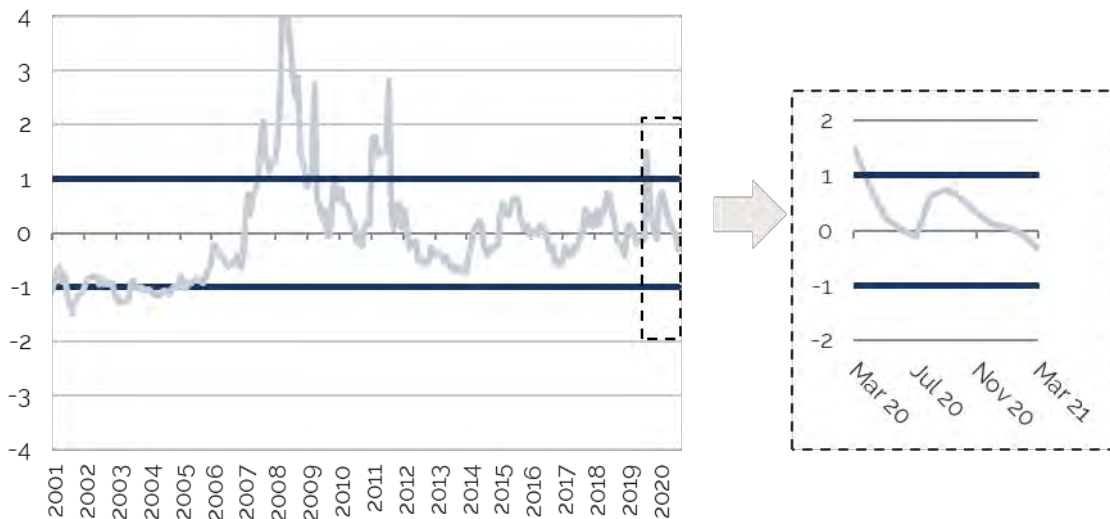
C.2.5 Application of trailing average method

Our 2018 review of the WACC method introduced a decision to estimate both the long-term and current cost of debt using a trailing average approach, which updates the cost of debt annually over the regulatory period. As foreshadowed in our 2018 review of the WACC method, we employed a transition to trailing average in the calculations presented above.

C.2.6 Uncertainty index

We tested the uncertainty index for market observations to the end of March 2021. It was within the bounds of plus and minus one standard deviation of the long-term mean value of zero. The uncertainty index for July 2021 also remains within the normal change. Therefore we maintained the default 50%/50% weighting between current and historic market estimates of the cost of debt and the cost of equity (Figure C.1).

Figure C.1 IPART's uncertainty index



Data source: Refinitiv; Bloomberg; and IPART calculations

Appendix D

Impacts of our decisions on non-urban
metering reform charges



D.1 Impacts on customers in regulated rivers

D.1.1 Government owned meters

Table D.1 Indicative impact of our decisions on bills on regulated rivers with government owned meters with telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage (%) | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|-------------------------|----------------|-----------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| High Security | | | | | | | | | |
| Murray | 500 | 100% | 8,377 | 9,931 - 9,881 | 19% - 18% | 10,519 - 10,452 | 26% - 25% | 9% - 8% | 18% |
| Murrumbidgee | 500 | 100% | 6,059 | 7,645 - 7,595 | 26% - 25% | 8,244 - 8,177 | 36% - 35% | 12% - 11% | 26% |
| South Coast | 500 | 100% | 30,704 | 31,577 - 31,528 | 3% - 3% | 32,209 - 32,142 | 5% - 5% | 2% - 2% | 3% |
| General Security | | | | | | | | | |
| Murray | 500 | 60% | 4,998 | 5,923 - 5,874 | 19% - 18% | 6,290 - 6,223 | 26% - 25% | 14% - 13% | 13% |
| Murrumbidgee | 500 | 60% | 3,557 | 4,586 - 4,537 | 29% - 28% | 4,988 - 4,921 | 40% - 38% | 20% - 18% | 23% |
| South Coast | 500 | 60% | 18,030 | 18,796 - 18,746 | 4% - 4% | 19,309 - 19,242 | 7% - 7% | 4% - 4% | 3% |

a. Includes Water NSW bulk water charges, WAMC charges, MDBA and BRC charges and meter service charge (MSC). Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

Table D.2 Indicative impact of our decisions on bills on regulated rivers with government owned meters without telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage (%) | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|-------------------------|----------------|-----------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| High Security | | | | | | | | | |
| Murray | 500 | 100% | 8,377 | 9,931 - 9,908 | 19% - 18% | 10,519 - 10,489 | 26% - 25% | 9% - 8% | 18% |
| Murrumbidgee | 500 | 100% | 6,059 | 7,645 - 7,623 | 26% - 26% | 8,244 - 8,214 | 36% - 36% | 12% - 11% | 26% |
| South Coast | 500 | 100% | 30,704 | 31,577 - 31,555 | 3% - 3% | 32,209 - 32,179 | 5% - 5% | 2% - 2% | 3% |
| General Security | | | | | | | | | |
| Murray | 500 | 60% | 4,998 | 5,923 - 5,901 | 19% - 18% | 6,290 - 6,260 | 26% - 25% | 14% - 13% | 13% |
| Murrumbidgee | 500 | 60% | 3,557 | 4,586 - 4,564 | 29% - 28% | 4,988 - 4,958 | 40% - 39% | 20% - 18% | 23% |
| South Coast | 500 | 60% | 18,030 | 18,796 - 18,773 | 4% - 4% | 19,309 - 19,279 | 7% - 7% | 4% - 4% | 3% |

a. Includes Water NSW bulk water charges, WAMC charges, MDBA and BRC charges and meter service charge (MSC). Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

D.1.2 Privately owned meters

Table D.3 Indicative impact of our decisions on bills on regulated rivers with privately owned meters with telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage (%) | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|-------------------------|----------------|-----------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| High security | | | | | | | | | |
| Border | 500 | 100% | 10,736 | 12,359 - 12,309 | 15% - 15% | 13,025 - 12,959 | 21% - 21% | 3% - 2% | 19% |
| Gwydir | 500 | 100% | 13,874 | 18,011 - 17,961 | 30% - 29% | 19,485 - 19,419 | 40% - 40% | 2% - 2% | 38% |
| Namoi | 500 | 100% | 22,244 | 29,966 - 29,916 | 35% - 34% | 32,540 - 32,474 | 46% - 46% | 1% - 1% | 45% |
| Peel | 500 | 100% | 35,989 | 44,476 - 44,426 | 24% - 23% | 47,495 - 47,429 | 32% - 32% | 1% - 1% | 31% |
| Lachlan | 500 | 100% | 20,212 | 27,695 - 27,646 | 37% - 37% | 30,300 - 30,234 | 50% - 50% | 1% - 1% | 48% |
| Macquarie | 500 | 100% | 16,473 | 21,428 - 21,378 | 30% - 30% | 23,195 - 23,129 | 41% - 40% | 2% - 1% | 39% |
| Murray | 500 | 100% | 7,899 | 9,137 - 9,087 | 16% - 15% | 9,620 - 9,554 | 22% - 21% | 4% - 3% | 18% |
| Murrumbidgee | 500 | 100% | 5,581 | 6,851 - 6,802 | 23% - 22% | 7,345 - 7,279 | 32% - 30% | 5% - 4% | 26% |
| North Coast | 500 | 100% | 20,773 | 21,262 - 21,212 | 2% - 2% | 21,825 - 21,759 | 5% - 5% | 1% - 1% | 4% |
| Hunter | 500 | 100% | 16,507 | 21,047 - 20,997 | 27% - 27% | 22,770 - 22,704 | 38% - 38% | 2% - 1% | 36% |
| South Coast | 500 | 100% | 30,226 | 30,784 - 30,734 | 2% - 2% | 31,310 - 31,244 | 4% - 3% | 1% - 1% | 3% |
| General security | | | | | | | | | |
| Border | 500 | 60% | 5,674 | 6,851 - 6,802 | 21% - 20% | 7,347 - 7,281 | 29% - 28% | 5% - 4% | 24% |
| Gwydir | 500 | 60% | 6,945 | 8,438 - 8,389 | 21% - 21% | 9,013 - 8,947 | 30% - 29% | 4% - 3% | 25% |
| Namoi | 500 | 60% | 12,663 | 15,588 - 15,538 | 23% - 23% | 16,563 - 16,497 | 31% - 30% | 2% - 2% | 28% |
| Peel | 500 | 60% | 10,861 | 12,955 - 12,905 | 19% - 19% | 13,797 - 13,731 | 27% - 26% | 3% - 2% | 24% |
| Lachlan | 500 | 60% | 8,916 | 11,864 - 11,815 | 33% - 33% | 12,929 - 12,863 | 45% - 44% | 3% - 3% | 42% |
| Macquarie | 500 | 60% | 7,395 | 9,530 - 9,481 | 29% - 28% | 10,333 - 10,267 | 40% - 39% | 4% - 3% | 36% |
| Murray | 500 | 60% | 4,520 | 5,130 - 5,080 | 13% - 12% | 5,391 - 5,325 | 19% - 18% | 7% - 5% | 13% |
| Murrumbidgee | 500 | 60% | 3,079 | 3,793 - 3,743 | 23% - 22% | 4,089 - 4,023 | 33% - 31% | 10% - 8% | 23% |
| North Coast | 500 | 60% | 14,365 | 14,855 - 14,806 | 3% - 3% | 15,329 - 15,263 | 7% - 6% | 2% - 2% | 5% |
| Hunter | 500 | 60% | 11,774 | 14,994 - 14,944 | 27% - 27% | 16,243 - 16,177 | 38% - 37% | 3% - 2% | 35% |
| South Coast | 500 | 60% | 17,552 | 18,002 - 17,952 | 3% - 2% | 18,410 - 18,344 | 5% - 5% | 2% - 1% | 3% |

a. Includes Water NSW bulk water charges, WAMC charges and MDBA and BRC charges. Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

Table D.4 Indicative impact of our decisions on bills on regulated rivers with privately owned meters without telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage (%) | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|-------------------------|----------------|-----------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| High security | | | | | | | | | |
| Border | 500 | 100% | 10,736 | 12,359 - 12,337 | 15% - 15% | 13,025 - 12,995 | 21% - 21% | 3% - 3% | 19% |
| Gwydir | 500 | 100% | 13,874 | 18,011 - 17,989 | 30% - 30% | 19,485 - 19,455 | 40% - 40% | 2% - 2% | 38% |
| Namoi | 500 | 100% | 22,244 | 29,966 - 29,944 | 35% - 35% | 32,540 - 32,510 | 46% - 46% | 1% - 1% | 45% |
| Peel | 500 | 100% | 35,989 | 44,476 - 44,453 | 24% - 24% | 47,495 - 47,465 | 32% - 32% | 1% - 1% | 31% |
| Lachlan | 500 | 100% | 20,212 | 27,695 - 27,673 | 37% - 37% | 30,300 - 30,270 | 50% - 50% | 1% - 1% | 48% |
| Macquarie | 500 | 100% | 16,473 | 21,428 - 21,406 | 30% - 30% | 23,195 - 23,165 | 41% - 41% | 2% - 2% | 39% |
| Murray | 500 | 100% | 7,899 | 9,137 - 9,115 | 16% - 15% | 9,620 - 9,590 | 22% - 21% | 4% - 3% | 18% |
| Murrumbidgee | 500 | 100% | 5,581 | 6,851 - 6,829 | 23% - 22% | 7,345 - 7,315 | 32% - 31% | 5% - 5% | 26% |
| North Coast | 500 | 100% | 20,773 | 21,262 - 21,240 | 2% - 2% | 21,825 - 21,795 | 5% - 5% | 1% - 1% | 4% |
| Hunter | 500 | 100% | 16,507 | 21,047 - 21,024 | 27% - 27% | 22,770 - 22,740 | 38% - 38% | 2% - 2% | 36% |
| South Coast | 500 | 100% | 30,226 | 30,784 - 30,761 | 2% - 2% | 31,310 - 31,280 | 4% - 3% | 1% - 1% | 3% |
| General security | | | | | | | | | |
| Border | 500 | 60% | 5,674 | 6,851 - 6,829 | 21% - 20% | 7,347 - 7,317 | 29% - 29% | 5% - 5% | 24% |
| Gwydir | 500 | 60% | 6,945 | 8,438 - 8,416 | 21% - 21% | 9,013 - 8,983 | 30% - 29% | 4% - 4% | 25% |
| Namoi | 500 | 60% | 12,663 | 15,588 - 15,566 | 23% - 23% | 16,563 - 16,533 | 31% - 31% | 2% - 2% | 28% |
| Peel | 500 | 60% | 10,861 | 12,955 - 12,933 | 19% - 19% | 13,797 - 13,767 | 27% - 27% | 3% - 2% | 24% |
| Lachlan | 500 | 60% | 8,916 | 11,864 - 11,842 | 33% - 33% | 12,929 - 12,899 | 45% - 45% | 3% - 3% | 42% |
| Macquarie | 500 | 60% | 7,395 | 9,530 - 9,508 | 29% - 29% | 10,333 - 10,303 | 40% - 39% | 4% - 4% | 36% |
| Murray | 500 | 60% | 4,520 | 5,130 - 5,107 | 13% - 13% | 5,391 - 5,361 | 19% - 19% | 7% - 6% | 13% |
| Murrumbidgee | 500 | 60% | 3,079 | 3,793 - 3,770 | 23% - 22% | 4,089 - 4,059 | 33% - 32% | 10% - 9% | 23% |
| North Coast | 500 | 60% | 14,365 | 14,855 - 14,833 | 3% - 3% | 15,329 - 15,299 | 7% - 7% | 2% - 2% | 5% |
| Hunter | 500 | 60% | 11,774 | 14,994 - 14,971 | 27% - 27% | 16,243 - 16,213 | 38% - 38% | 3% - 2% | 35% |
| South Coast | 500 | 60% | 17,552 | 18,002 - 17,980 | 3% - 2% | 18,410 - 18,380 | 5% - 5% | 2% - 2% | 3% |

a. Includes Water NSW bulk water charges, WAMC charges and MDBA and BRC charges. Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

D.2 Impacts on customers in unregulated rivers

D.2.1 Government owned meters

Table D.5 Indicative impact of our decisions on bills on unregulated rivers with government owned meters with telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage (%) | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|--------------|----------------|-----------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| Murray | 500 | 60% | 3,096 | 3,580 - 3,531 | 16% - 14% | 3,922 - 3,855 | 27% - 25% | 22% - 20% | 5% |
| Murrumbidgee | 500 | 60% | 3,893 | 4,446 - 4,396 | 14% - 13% | 4,887 - 4,820 | 26% - 24% | 18% - 16% | 9% |
| South Coast | 500 | 60% | 1,836 | 2,216 - 2,166 | 21% - 18% | 2,343 - 2,276 | 28% - 24% | 37% - 34% | -13% |

a. Includes Water NSW bulk water charges, WAMC charges and MDBA and BRC charges. Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

Table D.6 Indicative impact of our decisions on bills on unregulated rivers with government owned meters without telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage (%) | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|--------------|----------------|-----------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| Murray | 500 | 60% | 3,096 | 3,580 - 3,558 | 16% - 15% | 3,922 - 3,892 | 27% - 26% | 22% - 21% | 5% |
| Murrumbidgee | 500 | 60% | 3,893 | 4,446 - 4,423 | 14% - 14% | 4,887 - 4,857 | 26% - 25% | 18% - 17% | 9% |
| South Coast | 500 | 60% | 1,836 | 2,216 - 2,194 | 21% - 19% | 2,343 - 2,313 | 28% - 26% | 37% - 36% | -13% |

a. Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

D.2.2 Privately owned meters

Table D.7 Indicative impact of our decision on bills on unregulated rivers with privately owned meters with telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|--------------|----------------|-------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| Border | 500 | 60% | 1,896 | 1,881 - 1,831 | -1% - -3% | 1,990 - 1,924 | 5% - 1% | 16% - 12% | -11% |
| Gwydir | 500 | 60% | 1,896 | 1,881 - 1,831 | -1% - -3% | 1,990 - 1,924 | 5% - 1% | 16% - 12% | -11% |
| Namoi | 500 | 60% | 1,896 | 1,881 - 1,831 | -1% - -3% | 1,990 - 1,924 | 5% - 1% | 16% - 12% | -11% |
| Peel | 500 | 60% | 1,896 | 1,881 - 1,831 | -1% - -3% | 1,990 - 1,924 | 5% - 1% | 16% - 12% | -11% |
| Lachlan | 500 | 60% | 2,219 | 2,395 - 2,345 | 8% - 6% | 2,608 - 2,542 | 18% - 15% | 14% - 11% | 4% |
| Macquarie | 500 | 60% | 2,219 | 2,395 - 2,345 | 8% - 6% | 2,608 - 2,542 | 18% - 15% | 14% - 11% | 4% |
| Far West | 500 | 60% | 2,822 | 3,504 - 3,454 | 24% - 22% | 3,731 - 3,665 | 32% - 30% | 11% - 8% | 22% |
| Murray | 500 | 60% | 2,582 | 2,777 - 2,728 | 8% - 6% | 3,023 - 2,957 | 17% - 15% | 12% - 9% | 5% |
| Murrumbidgee | 500 | 60% | 3,379 | 3,643 - 3,593 | 8% - 6% | 3,988 - 3,922 | 18% - 16% | 9% - 7% | 9% |
| North Coast | 500 | 60% | 3,773 | 4,045 - 3,995 | 7% - 6% | 4,432 - 4,366 | 17% - 16% | 8% - 6% | 10% |
| Hunter | 500 | 60% | 1,288 | 1,538 - 1,489 | 19% - 16% | 1,718 - 1,652 | 33% - 28% | 23% - 18% | 10% |
| South Coast | 500 | 60% | 1,322 | 1,413 - 1,364 | 7% - 3% | 1,444 - 1,378 | 9% - 4% | 23% - 18% | -13% |

a. Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

Table D.8 Indicative impact of our decision on bills on unregulated rivers with privately owned meters without telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|--------------|----------------|-------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| Border | 500 | 60% | 1,896 | 1,881 - 1,859 | -1% - -2% | 1,990 - 1,960 | 5% - 3% | 16% - 14% | -11% |
| Gwydir | 500 | 60% | 1,896 | 1,881 - 1,859 | -1% - -2% | 1,990 - 1,960 | 5% - 3% | 16% - 14% | -11% |
| Namoi | 500 | 60% | 1,896 | 1,881 - 1,859 | -1% - -2% | 1,990 - 1,960 | 5% - 3% | 16% - 14% | -11% |
| Peel | 500 | 60% | 1,896 | 1,881 - 1,859 | -1% - -2% | 1,990 - 1,960 | 5% - 3% | 16% - 14% | -11% |
| Lachlan | 500 | 60% | 2,219 | 2,395 - 2,373 | 8% - 7% | 2,608 - 2,578 | 18% - 16% | 14% - 12% | 4% |
| Macquarie | 500 | 60% | 2,219 | 2,395 - 2,373 | 8% - 7% | 2,608 - 2,578 | 18% - 16% | 14% - 12% | 4% |
| Far West | 500 | 60% | 2,822 | 3,504 - 3,481 | 24% - 23% | 3,731 - 3,701 | 32% - 31% | 11% - 10% | 22% |
| Murray | 500 | 60% | 2,582 | 2,777 - 2,755 | 8% - 7% | 3,023 - 2,993 | 17% - 16% | 12% - 10% | 5% |
| Murrumbidgee | 500 | 60% | 3,379 | 3,643 - 3,621 | 8% - 7% | 3,988 - 3,958 | 18% - 17% | 9% - 8% | 9% |
| North Coast | 500 | 60% | 3,773 | 4,045 - 4,023 | 7% - 7% | 4,432 - 4,402 | 17% - 17% | 8% - 7% | 10% |
| Hunter | 500 | 60% | 1,288 | 1,538 - 1,516 | 19% - 18% | 1,718 - 1,688 | 33% - 31% | 23% - 21% | 10% |
| South Coast | 500 | 60% | 1,322 | 1,413 - 1,391 | 7% - 5% | 1,444 - 1,414 | 9% - 7% | 23% - 20% | -13% |

a. Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

D.3 Impacts on customers in groundwater

D.3.1 Government owned meters

Table D.9 Indicative impact of our decisions on bills on groundwater with government owned meters with telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage (%) | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|--------------|----------------|-----------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| Inland | 500 | 60% | 3,385 | 3,735 - 3,685 | 10% - 9% | 3,852 - 3,785 | 14% - 12% | 20% - 18% | -8% |
| Murrumbidgee | 500 | 60% | 2,420 | 3,115 - 3,065 | 29% - 27% | 3,504 - 3,437 | 45% - 42% | 28% - 26% | 21% |
| Coastal | 500 | 60% | 2,383 | 2,944 - 2,894 | 24% - 21% | 3,279 - 3,212 | 38% - 35% | 29% - 26% | 11% |

a. Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

Table D.10 Indicative impact of decisions on bills on groundwater with government owned meters without telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage (%) | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|--------------|----------------|-----------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| Inland | 500 | 60% | 3,385 | 3,735 - 3,713 | 10% - 10% | 3,852 - 3,822 | 14% - 13% | 20% - 19% | -8% |
| Murrumbidgee | 500 | 60% | 2,420 | 3,115 - 3,093 | 29% - 28% | 3,504 - 3,474 | 45% - 44% | 28% - 27% | 21% |
| Coastal | 500 | 60% | 2,383 | 2,944 - 2,921 | 24% - 23% | 3,279 - 3,249 | 38% - 36% | 29% - 27% | 11% |

a. Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

D.3.2 Privately owned meters

Table D.11 Indicative impact of our decisions on bills on groundwater with privately owned meters with telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage (%) | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|--------------|----------------|-----------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| Inland | 500 | 60% | 2,871 | 2,932 - 2,883 | 2% - 0% | 2,953 - 2,887 | 3% - 1% | 10% - 8% | -8% |
| Murrumbidgee | 500 | 60% | 1,905 | 2,312 - 2,263 | 21% - 19% | 2,605 - 2,539 | 37% - 33% | 16% - 12% | 21% |
| Coastal | 500 | 60% | 1,868 | 2,141 - 2,091 | 15% - 12% | 2,380 - 2,314 | 27% - 24% | 16% - 13% | 11% |

a. Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

Table D.12 Indicative impact of our decisions on bills on groundwater with privately owned meters without telemetry (\$/year, \$2021-22)

| Valley | ML entitlement | Usage (%) | 2020-21 bill ^a | 2021-22 bill including metering | % change to 2020-21 bill | 2024-25 bill including metering | % change to 2020-21 bill | Contribution to change of metering | Contribution to change of bulk water charges |
|--------------|----------------|-----------|---------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|------------------------------------|--|
| Inland | 500 | 60% | 2,871 | 2,932 - 2,910 | 2% - 1% | 2,953 - 2,923 | 3% - 2% | 10% - 9% | -8% |
| Murrumbidgee | 500 | 60% | 1,905 | 2,312 - 2,290 | 21% - 20% | 2,605 - 2,575 | 37% - 35% | 16% - 14% | 21% |
| Coastal | 500 | 60% | 1,868 | 2,141 - 2,119 | 15% - 13% | 2,380 - 2,350 | 27% - 26% | 16% - 14% | 11% |

a. Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. \$2020-21).

Note: Assumes a 100mm meter. Bills in 2021-22 reflect that new prices apply from 1 October 2021.

Glossary



| | |
|---------------------------|---|
| 2017 Determination | Review of prices for Water NSW (formerly State Water Corporation) from 1 July 2017 – Determination and Final Report, June 2017 (Determination No. 2, 2017) |
| 2017 determination period | The period from 1 July 2017 to 30 June 2021, as set in the 2017 Determination |
| 2021 Determination | Refers to the upcoming price period – i.e. prices from 1 Oct 2021 |
| 2021 determination period | The period from 1 October 2021 to 30 June 2025, that will be set in the 2021 Determination, prices have been based on efficient costs to be incurred by Water NSW between 1 July 2021 to 30 June 2025. |
| ACCC | Australian Competition and Consumer Commission |
| ACCC's Pricing Principles | Pricing principles for price approvals and determinations under the WCR |
| BHP | Broken Hill pipeline |
| BRC | Dumaresq–Barwon Border Rivers Commission |
| CEWO | Commonwealth Environmental Water Office |
| CICL | Coleambally Irrigation Co-operative Limited |
| CPI | Consumer Price Index |
| Customer share of costs | We decided to refer to what has previously been known as the 'user share of costs' as the 'customer share of costs', given that there are users of rural bulk water services (e.g. the community at large), that do not contribute to the recovery of Water NSW's NRR |
| DPI Fisheries | Department of Primary Industries Fisheries |
| DPI Water | Department of Primary Industries Water |
| DPIE | Department of Planning, Industry and Environment |
| DPIE ESS | Department of Planning, Industry and Environment – Environment, Energy and Science |

| | |
|---------------------|---|
| DRDMW | Department of Regional Development, Manufacturing and Water |
| EGS | Environmental gauging station |
| EMR | Environmental management report |
| EPP | Environmental planning and protection |
| FCR | Full cost recovery |
| FFO | Funds from operations |
| FRWS | Fish River Water Supply Scheme |
| FTE | Full-time equivalent |
| GL | Gigalitre |
| GMW | Goulburn-Murray Water |
| GS | General security |
| Greater Sydney area | Water catchments that service Water NSW storages including the Blue Mountains, Shoalhaven, Warragamba, Upper Nepean and Woronora catchments |
| G VIA | Gwydir Valley Irrigators Association |
| GVIAP | Gross value of irrigated agricultural production |
| HS | High security |
| IAP2 | International Association for Public Participation |
| ICDs | Irrigation corporations and districts |
| IPART | Independent Pricing and Regulatory Tribunal of NSW |
| IPART Act | <i>Independent Pricing and Regulatory Tribunal Act 1992</i> |
| kL | Kilolitre |

| | |
|--------|---|
| LCC | Lithgow City Council |
| LRMC | Long-run marginal cost |
| MDB | Murray–Darling Basin |
| MDBA | Murray Darling Basin Authority |
| MAQ | Minimum Annual Quantity |
| MFP | Multi-factor productivity |
| ML | Megalitre |
| MLDRIN | Murray and Lower Darling River Indigenous Nations |
| mm | Millimetre |
| MSC | Meter service charges |
| NRR | Notional revenue requirement. Revenue requirement set by IPART that represents the efficient costs of providing Water NSW's regulated monopoly services |
| NPV | Net present value |
| NRAR | Natural Resources Access Regulator |
| NSW | New South Wales |
| NSWALC | NSW Aboriginal Land Council |
| NSWIC | NSW Irrigators' Council |
| NWI | National Water Initiative |
| PIAC | Public Interest Advocacy Centre |
| PVWUA | Peel Valley Water Users Association |
| RAB | Regulatory asset base |
| RTP | Risk transfer product |

| | |
|----------------|--|
| SIS | Salt Inception Scheme |
| SOC | State-owned corporation |
| SRMC | Short-run marginal cost |
| Target revenue | The revenue Water NSW generates from prices set by IPART for that year |
| TCorp | NSW Treasury Corporation |
| TOTEX | Total expenditure, includes expenditure on operations and capital |
| TRC | Tamworth Regional Council |
| UOM | Unders and overs mechanism |
| VaR | Value at risk |
| WACC | Weighted average cost of capital |
| WAMC | Water Administration Ministerial Corporation |
| Water Act | <i>Water Act 2007</i> (Cth) |
| WCR | Water Charge Rules 2010 made under s 92 of the <i>Water Act 2007</i> (Cth) |
| YACTAC | Yanco Creek and Tributaries Advisory Council |

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- ¹ Matthews Review, *Independent investigation into NSW water management and compliance, Final Report*, November 2017.
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