# 6 Revenue requirement and financial metrics

## Technical Paper 6

- IPART's 2016 Determination set a revenue requirement for the 2016 to 2020 period of $1,284 million. We expect to receive $32 million more than IPART's target revenue, mainly due to above forecast water sales.
- We have calculated the target revenue requirement, total and by product, for the proposed five years to mid-2025: $343.9 million in 2020-21 increasing steadily to $392.2 million in 2024-25.
- The lower WACC estimate (4.9% to 4.1%) results in a lower return on assets, even though the regulatory asset base increases from $3.1 billion to $3.4 billion.
- We have disaggregated our asset base by asset class. Regulatory depreciation increases from $42 million in 2019-20 to $89.2 million in 2024-25 – reflecting the useful economic lives of all assets.
- IPART's financeability test shows the importance of the changes to asset lives and regulatory depreciation. Our financial metrics are under pressure should IPART's WACC estimate fall to 3.5% or below.

# Contents

# 1. Building block components

Hunter Water has calculated target revenues required over the five-year period to 30 June 2025 using IPART's building block approach. The building block approach allows a utility to charge prices that recover efficient costs through the calculation of an annual 'notional revenue requirement' that reflects these costs. The notional revenue requirement is the sum of the following cost allowances:

- operating, maintenance and administrative expenditure – detailed in Technical Paper 5
- an allowance for a return on capital invested in the business – Regulatory Asset Base (RAB) multiplied by the weighted average cost of capital (WACC)
- a depreciation allowance (an allowance for a return of capital)
- a working capital allowance
- a tax allowance.

IPART adopts a post-tax building block methodology. The rate of return applied to the RAB excludes tax, and the tax allowance are calculated separately.

When setting prices, IPART considers revenue that can be generated outside of that recovered through water, wastewater and stormwater service and usage charges. Accounting for around three per cent of overall revenues, this includes other regulated income (see Technical Paper 9) and other non-regulated income (the majority of which relates to rental income). Forecasts of this 'other' revenue have been deducted from the derived notional revenue requirement to derive the target revenue to be recovered through service and usage charges.

This Technical Paper sets out Hunter Water's proposed notional revenue requirement and target revenue by product for the five-year period to 30 June 2025. The paper explains the calculation of each of the building block allowances for the price period. Regulated revenues over the current regulatory period are also documented.

# 2. Regulated revenue over the current price period

In 2016, IPART calculated a target revenue for Hunter Water for each year in the 2016 to 2020 regulatory period (Table 2.1). Key building block cost assumptions which underpin this target revenue include:[1]

- A post-tax WACC of 4.9 per cent based on IPART's 2013 review of the WACC methodology.
- Regulatory depreciation based on one weighted average life for all asset classes. The average life for new assets transitioned downwards over the price period from 96 years to 84 years. The average life for existing assets transitioned downwards over the price period from 69 years to 66 years.
- A Net Present Value (NPV) neutral smoothing technique applied to the revenue requirements as to smooth out bill impacts across the price period.

**Table 2.1 Target revenue ($millions, $2015-16)**

| | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 4-year total |
|---|---|---|---|---|---|
| Target revenue | 281.9 | 290.1 | 299.0 | 307.8 | 1,178.8 |

Source: IPART, 2016, p. 44.

[1] IPART, 2016, Review of prices for Hunter Water – Final Report.

Based on forecast connections and demand for services over the period, IPART set prices that would allow Hunter Water to recover the above target revenue allowance. Throughout the period, the Consumer Price Index (CPI) (as notified annually by IPART) is applied to these real prices and charged to customers based on actual connections and demand. Actual revenue expected to be received is shown in Table 2.2.

**Table 2.2 Actual/projected revenue ($millions, $nominal)**

| | 2016-17 | 2017-18 | 2018-19[2] | 2019-20[2] | 4-year total |
|---|---|---|---|---|---|
| Net revenue including non-regulated[1] | 290.2 | 322.4 | 326.7 | 342.0 | 1,281.4 |
| Cash contributions | - | - | - | (2.4) | (2.4) |
| Environmental credits | - | (3.3) | - | - | |
| 50% non-regulated income | (1.7) | (1.6) | (1.7) | (1.3) | (6.3) |
| **Actual/projected revenue** | 288.5 | 317.5 | 325.0 | 338.3 | 1,269.4 |

Notes:
1. Net revenue plus non-regulated income aligns with revenue reported in the Hunter Water 2019 AIR/SIR, Revenue, rows 121 (total net revenue) and 153 (non-regulated income).
2. 2018-19 contains six months forecast. 2019-20 is a forecast.

Source: Hunter Water analysis.

We have made some adjustments to the total net revenue (including non-regulated income) to improve comparability to IPART's 2016 target revenue. Adjustments include:

- Exclusion of $2.4 million related to the NSW government's cash contribution for the connecting property owners' share of costs for the Wyee backlog sewer scheme. We deduct this amount from the RAB (see section 4.1) as it is a cash contribution to capital expenditure rather than operating revenue.
- Exclusion of $3.3 million related to the recognition of environmental credits (primarily in relation to the biodiversity offset scheme). This has been excluded in the above as it relates to the accounting recognition of assets, rather than cash received as revenue.
- Non-regulated income has been included at 50 per cent of its value - consistent with IPART's regulatory treatment of non-regulated income. IPART considers that this provides a financial incentive for Hunter Water to pursue such revenue where appropriate.

For ease of comparison, actual/projected and target revenues have been converted to $2019-20 real dollars ($2019-20). We expect to receive $28 million (or 2 per cent) more revenue over the price period than IPART's 2016 target (Table 2.3).

**Table 2.3 Revenue – actual/projected versus target ($millions, $2019-20)**

| | 2016-17 | 2017-18 | 2018-19[2] | 2019-20[2] | 4-year total |
|---|---|---|---|---|---|
| Target revenue | 307.2 | 316.1 | 325.8 | 335.4 | 1,284.6 |
| Actual/projected revenue[1] | 308.7 | 332.7 | 333.2 | 338.3 | 1,312.9 |

Notes:
1. 50 per cent of non-regulated income is excluded. 2017-18 revenue excludes the additional $3.3m in non-regulated income related to environmental credits. 2019-20 revenue excludes the additional $2.4m related to a cash contribution for the Wyee backlog sewer scheme.
2. Actual/projected revenue for 2018-19 contains six months forecast. 2019-20 is a forecast.

Source: Hunter Water analysis.

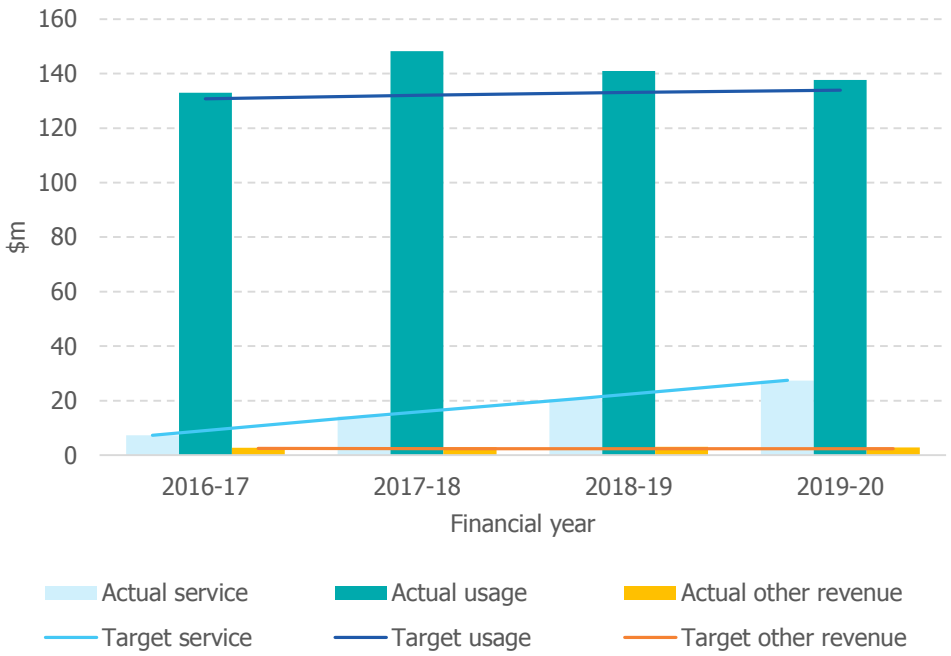
The following section compares actual/projected revenues against the IPART target by product – water, wastewater and stormwater. For each product, revenue is compared between that which is recovered through service charges (the fixed component levied per connection), usage charges (the variable component levied on a per kL basis) and other revenue (other regulated and non-regulated income). Revenue for 2018-19 contains six months of actuals and a six month forecast. Revenue for 2019-20 is a forecast.

## 2.1 Water

Water revenue is recovered predominately through usage charges which account for nearly 90 per cent of the target revenue for the period 2016 to 2020. As such, revenue outcomes are highly variable and dependent on climatic conditions experienced throughout a regulatory period.

Over the four-year regulatory period, Hunter Water expects to receive $32 million (or 5 per cent) more in water revenue than the IPART target (see Figure 2.1 and Table 2.4). Technical Paper 7 provides a comparison of actual and forecast water usage volumes. The technical paper indicates that over the price period, water sales are projected to be around seven per cent higher than the 2016 forecast. This is primarily due to lower than expected rainfall over the last three years.

**Figure 2.1 Water revenue – actual/projected versus target ($millions, $2019-20)**




Note: Actual results in 2018-19 contains six months forecast. 2019-20 is a forecast.
Source: Hunter Water analysis.

Variances between target and actual service revenue are marginal. This reflects that our latest connection figures were within 0.5 per cent of IPART's 2016 forecast.

Other revenue is slightly higher than target, in both other regulated revenues and non-regulated revenues.

**Table 2.4 Water revenue – actual/projected versus target ($millions, $2019-20)**

| | 2016-17 | 2017-18 | 2018-19 [2] | 2019-20 [2] | 4-year total |
|---|---|---|---|---|---|
| Target revenue | 140.4 | 148.6 | 156.2 | 163.9 | 609.1 |
| Actual/projected revenue [1] | 142.9 | 165.3 | 164.6 | 167.9 | 640.7 |
| Variance | 2.5 | 16.7 | 8.4 | 4.0 | 31.6 |
| Variance due to: | | | | | |
| Service charges | 0.0 | 0.0 | (0.1) | (0.2) | (0.2) |
| Usage charges | 2.2 | 16.2 | 7.9 | 3.7 | 30.0 |
| Other revenue | 0.3 | 0.5 | 0.6 | 0.4 | 1.8 |

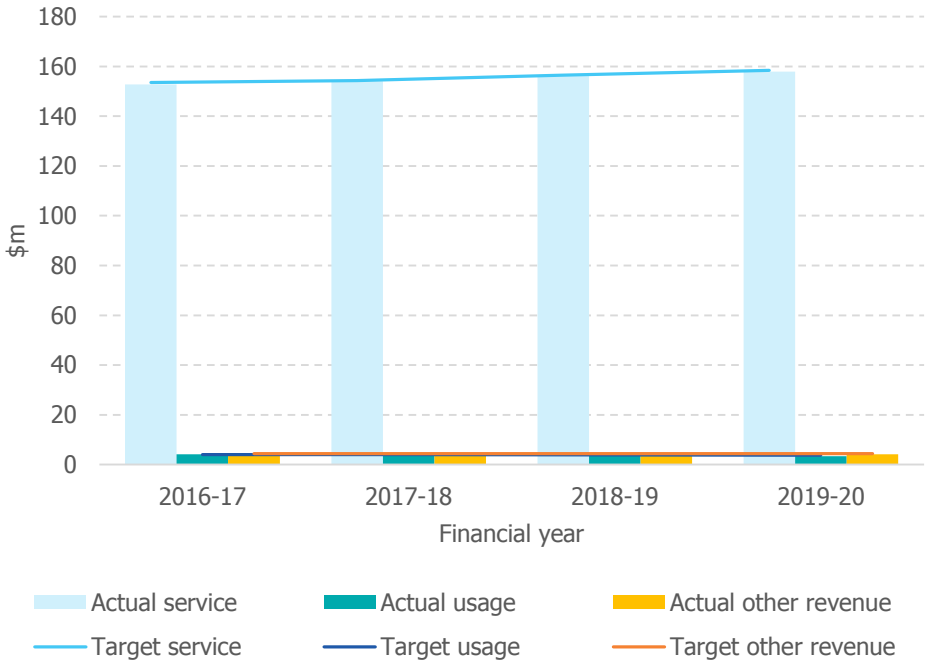
Notes:
1. 50 per cent of non-regulated income is excluded. 2017-18 revenue excludes the additional $3.3m in non-regulated income related to environmental credits as detailed under Table 2.2.
2. Actual/projected revenue for 2018-19 contains six months forecast. 2019-20 is a forecast.

Source: Hunter Water analysis.

## 2.2 Wastewater

Wastewater revenue is recovered predominately through service charges. These account for almost 95 per cent of the target revenues of the period.

**Figure 2.2 Wastewater revenue – actual/projected versus target ($millions, $2019-20)**




Note: Actual results in 2018-19 contains six months forecast. 2019-20 is a forecast.
Source: Hunter Water analysis.

Over the four-year regulatory period, Hunter Water expects to receive $3 million (or 0.5 per cent) less in wastewater revenue than IPART's 2016 target (see Figure 2.2 and Table 2.5). Wastewater connections are close to forecast (within 1.5 per cent variance).

**Table 2.5 Wastewater revenue – actual/projected versus target ($millions, $2019-20)**

| | 2016-17 | 2017-18 | 2018-19 [2] | 2019-20 [2] | 4-year total |
|---|---|---|---|---|---|
| Target revenue | 162.1 | 162.7 | 164.7 | 166.5 | 656.0 |
| Actual/projected revenue [1] | 161.1 | 162.6 | 163.7 | 165.5 | 652.8 |
| Variance | (1.1) | (0.1) | (0.9) | (1.1) | (3.2) |
| Variance due to: | | | | | |
| Service charges | (0.8) | (0.2) | (0.3) | (0.5) | (1.9) |
| Usage charges | 0.1 | 0.3 | (0.2) | (0.3) | (0.1) |
| Other revenue | (0.4) | (0.2) | (0.4) | (0.2) | (1.2) |

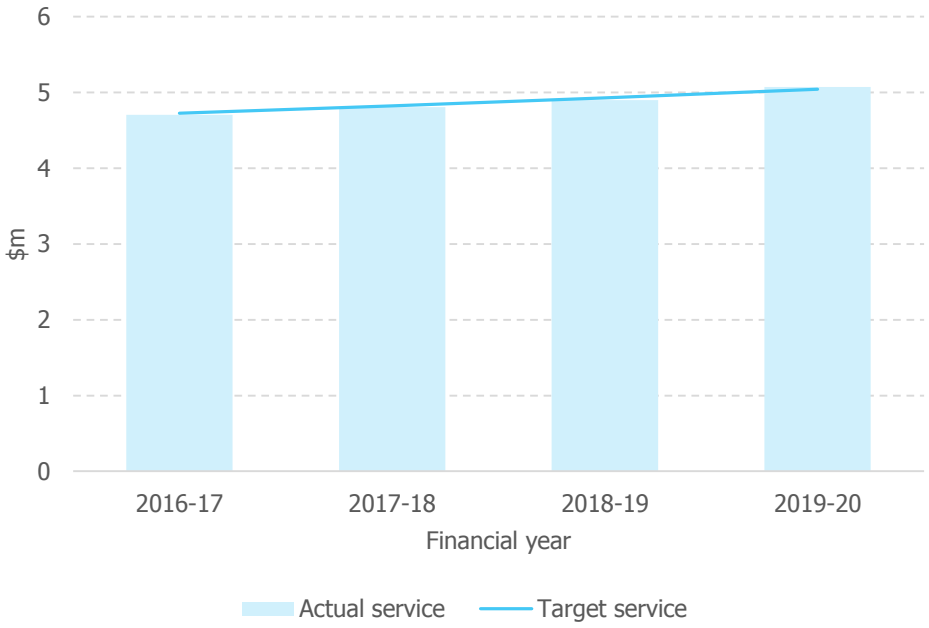
Notes:
1. 50 per cent of non-regulated income is excluded. 2019-20 revenue excludes the additional $2.4m related to a cash contribution for the Wyee backlog sewer scheme as detailed under Table 2.2.
2. Actual/projected revenue for 2018-19 contains six months forecast. 2019-20 is a forecast.

Source: Hunter Water analysis.

## 2.3 Stormwater

Stormwater revenue is recovered through fixed service charges, differences to target are minimal (Figure 2.3).

**Figure 2.3 Stormwater revenue – actual/projected versus target ($millions, $2019-20)**




Note: 2018-19 contains six months forecast, 2019-20 is a forecast.
Source: Hunter Water analysis.

Technical Paper 7 details a review of the stormwater customer base from 2019-20 onwards. Stormwater revenue in 2019-20 is marginally higher than target (Table 2.6) as a result.

**Table 2.6 Stormwater revenue – actual/projected versus target ($millions, $2019-20)**

| | 2016-17 | 2017-18 | 2018-19 [1] | 2019-20 [1] | 4-year total |
|---|---|---|---|---|---|
| Target revenue | 4.7 | 4.8 | 4.9 | 5.0 | 19.5 |
| Actual/projected revenue | 4.7 | 4.8 | 4.9 | 5.1 | 19.5 |
| Variance | (0.0) | (0.0) | (0.0) | 0.0 | (0.0) |
| Variance due to: | | | | | |
| Service charges | (0.0) | (0.0) | (0.0) | 0.0 | (0.0) |
| Usage charges | - | - | - | - | - |
| Other revenue | - | - | - | - | - |

Notes: 1. Actual/projected revenue for 2018-19 contains six months forecast, 2019-20 is a forecast.
Source: Hunter Water analysis.

# 3. Annual revenue requirement

Hunter Water's proposed notional revenue requirements for each year of the regulatory period are shown in Table 3.1. The 2016 IPART determined revenue requirement for 2019-20 is included for comparison.

Hunter Water has applied a 'net-present-value (NPV) smoothing' technique to smooth the annual price movement over the five-year period to derive the annual target revenue requirement. Applied across all products, the approach smooths the bill increase in each year, while allowing Hunter Water to achieve full cost recovery over the regulatory period in NPV terms. IPART's 2016 Determination applied the same smoothing approach to derive the target annual revenue requirement.

**Table 3.1 Annual revenue requirement – total, ($millions, $2019-20)**

| | 2019-20[1] | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|---|
| Operating costs | 144.9 | 157.3 | 156.2 | 157.4 | 155.8 | 155.7 |
| Return on assets | 133.4 | 119.6 | 124.9 | 129.3 | 133.0 | 135.9 |
| Regulatory depreciation | 42.0 | 60.5 | 68.9 | 76.2 | 82.9 | 89.2 |
| Tax allowance | 7.4 | 11.9 | 12.4 | 13.3 | 15.1 | 17.2 |
| Return on working capital | 1.7 | 1.0 | 1.2 | 1.3 | 1.5 | 1.6 |
| Notional revenue requirement | 329.3 | 350.4 | 363.5 | 377.6 | 388.3 | 399.5 |
| Less revenue adjustments[2] | 6.5 | 6.5 | 6.6 | 6.6 | 7.0 | 7.3 |
| **Target revenue from usage and service charges (unsmoothed)** | **322.8** | **343.9** | **357.0** | **371.0** | **381.3** | **392.2** |
| **Target revenue from usage and service charges (smoothed)** | **328.9** | **343.6** | **355.9** | **368.5** | **381.9** | **396.0** |

Notes:
1. 2019-20 is as per IPART 2016 Final Report inflated to $2019-20. 2019-20 target revenue from usage and service charges (2016 Final Report page.44) has bulk water sales, revenue from potable top-up and unfiltered water sales added back.
2. Revenue adjustments include other regulated, non-regulated, miscellaneous and trade waste revenue.

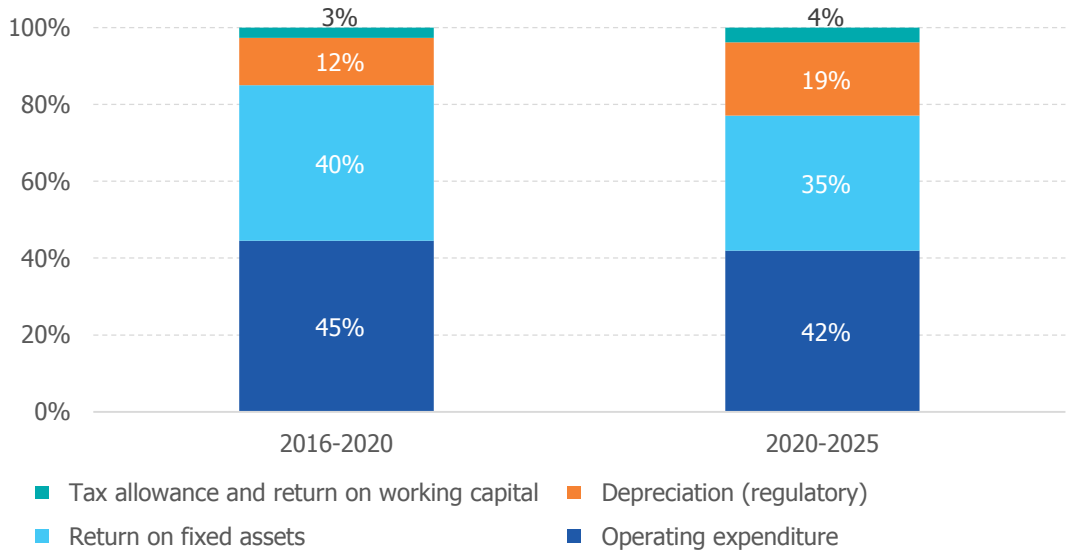
Source: Hunter Water analysis.

There are some large movements in the building block components between the current determination period (with 2019-20 being the final year) and the next regulatory period (the five-year period commencing in 2020-21). Movements include:

- An increase in operating costs between 2019-20 (IPART 2016 Determination) and 2020-21 proposed. Operating costs then remain stable over the 2020 – 2025 regulatory period. Technical Paper 5 outlines proposed operating costs relative to those in the current price period. Costs in 2020 to 2025 reflect Hunter Water's 2018-19 forecast operating costs of $152 million.
- A decrease in the return on assets. The rate of return (WACC) of 4.9 per cent applied in IPART's 2016 Determination decreases to 4.1 per cent in our proposed prices. Section 4.2 of this Technical Paper outlines the movement in WACC.
- An increase in regulatory depreciation between regulatory periods. Regulatory depreciation continues to increase over the 2020 – 2025 period. Section 5 of the Technical Paper details our proposed changes to the asset lives used in this calculation.

There is a shift in the composition of the building block cost allowances between regulatory periods towards regulatory depreciation (from 12 per cent to 19 per cent of the total) and away from the return on assets (from 40 per cent to 35 per cent of the total) and operating costs (from 45 per cent to 42 per cent of the total). This is shown in Figure 3.1.

**Figure 3.1 Building block cost components – comparison between regulatory periods**




Source: Hunter Water analysis.

Table 3.2, Table 3.3 and Table 3.4 provide the annual revenue requirements by product: water, wastewater and stormwater.

**Table 3.2 Annual revenue requirement – water ($millions, $2019-20)**

| | 2019-20[1] | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|---|
| Operating costs | 71.3 | 73.2 | 70.7 | 70.2 | 69.4 | 69.8 |
| Return on assets | 60.3 | 53.6 | 54.9 | 56.3 | 57.5 | 58.5 |
| Regulatory depreciation | 19.0 | 33.3 | 36.6 | 39.7 | 42.6 | 45.4 |
| Tax allowance | 5.0 | 8.5 | 8.6 | 9.1 | 9.8 | 10.6 |
| Return on working capital | 0.8 | 0.7 | 0.6 | 0.7 | 0.7 | 0.8 |
| Notional revenue requirement | 156.4 | 169.3 | 171.5 | 176.0 | 180.0 | 185.2 |
| Less revenue adjustments[2] | 2.1 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 |
| **Target revenue from usage and service charges (unsmoothed)** | **154.2** | **167.0** | **169.2** | **173.7** | **177.7** | **182.8** |
| **Target revenue from usage and service charges (smoothed)** | **161.7** | **168.1** | **171.1** | **173.8** | **176.9** | **180.1** |

Notes:
1. 2019-20 is as per IPART 2016 Final Report inflated to $2019-20. 2019-20 target revenue from usage and service charges is as reported by IPART with bulk water sales, revenue from potable top-up and unfiltered water sales added back.
2. Revenue adjustments include other regulated, non-regulated and miscellaneous revenue.

Source: Hunter Water analysis.

**Table 3.3 Annual revenue requirement – wastewater, ($millions, $2019-20)**

| | 2019-20[1] | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|---|
| Operating costs | 71.5 | 82.3 | 83.7 | 85.4 | 84.6 | 84.0 |
| Return on assets | 71.0 | 63.7 | 67.6 | 70.5 | 72.8 | 74.4 |
| Regulatory depreciation | 22.4 | 26.0 | 30.9 | 34.9 | 38.6 | 41.9 |
| Tax allowance | 2.2 | 3.2 | 3.4 | 3.9 | 5.0 | 6.2 |
| Return on working capital | 0.9 | 0.3 | 0.5 | 0.6 | 0.7 | 0.8 |
| Notional revenue requirement | 168.0 | 175.4 | 186.1 | 195.3 | 201.7 | 207.3 |
| Less revenue adjustments [2] | 4.4 | 4.1 | 4.3 | 4.3 | 4.7 | 5.0 |
| **Target revenue from usage and service charges (unsmoothed)** | **163.6** | **171.3** | **181.8** | **191.0** | **197.0** | **202.4** |
| **Target revenue from usage and service charges (smoothed)** | **162.1** | **169.9** | **178.9** | **188.4** | **198.4** | **208.8** |

Notes:
1. 2019-20 is as per IPART 2016 Final Report inflated to $2019-20.
2. Revenue adjustments include other regulated, non-regulated, miscellaneous and trade waste revenue.

Source: Hunter Water analysis.

**Table 3.4 Annual revenue requirement – stormwater, ($millions, $2019-20)**

| | 2019-20[1] | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|---|
| Operating costs | 2.0 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| Return on assets | 2.1 | 2.3 | 2.4 | 2.5 | 2.7 | 2.9 |
| Regulatory depreciation | 0.7 | 1.2 | 1.4 | 1.6 | 1.7 | 1.9 |
| Tax allowance | 0.1 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 |
| Return on working capital | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Notional revenue requirement | 5.0 | 5.6 | 6.0 | 6.3 | 6.6 | 7.0 |
| **Target revenue from usage and service charges (smoothed)** | **5.0** | **5.6** | **5.9** | **6.3** | **6.6** | **7.1** |

Note 1: 2019-20 is as per IPART 2016 Final Report inflated to $2019-20.
Source: Hunter Water analysis.

# 4. Return on assets

IPART calculates the return on assets by multiplying the rate of return (WACC) to an approximate mid-year Regulatory Asset Base (RAB) value (the opening value of the RAB plus half of the capital expenditure and disposals) in each year of the regulatory period.

## 4.1 Regulatory Asset Base (RAB)

Hunter Water established the opening value of the RAB in 2020-21 by rolling forward the 1 July 2015 RAB to 30 June 2020. The 1 July 2015 RAB is the most recent that has been calculated by IPART based on actual data (IPART's 2016 Determination included forecast figures for 2015-16). We have included actual capital expenditure to 31 December 2018 and forecast capital expenditure for the remaining 18 months (see Technical Paper 4).

We made a number of other adjustments across the current regulatory period (see Table 4.1):

- Deducting actual and forecast cash capital contributions (discussed below)
- Deducting actual and forecast asset disposals (discussed below)
- Deducting IPART's 2016 allowance for regulatory depreciation, and
- Adding indexation using actual and forecast inflation – consistent with rates prescribed in IPART's 2018 Submission Information Package.[2]

**Table 4.1 Annual value of the RAB, 2015-16 to 2019-20 ($millions, $nominal)**

| | 2015-16 | 2016-17 | 2017-18 | 2018-19 [1] | 2019-20 [1] |
|---|---|---|---|---|---|
| Opening RAB | 2,260.6 | 2,339.7 | 2,430.2 | 2,544.2 | 2,676.7 |
| Capital expenditure | 99.7 | 86.8 | 104.1 | 120.7 | 181.4 |
| Cash capital contributions | (8.9) | (5.0) | (4.2) | (5.1) | (6.9) |
| Asset disposals | (0.4) | (1.1) | (0.3) | - | - |
| Regulatory depreciation | (34.3) | (35.4) | (37.7) | (40.2) | (43.0) |
| Indexation | 23.1 | 45.2 | 52.1 | 57.2 | 69.1 |
| **Closing RAB** | **2,339.7** | **2,430.2** | **2,544.2** | **2,676.7** | **2,877.3** |

Note 1: 2018-19 contains six months forecast data. 2019-20 is forecast.
Source: Hunter Water analysis.

The calculation of the opening and closing RAB values for the next regulatory period are shown in Table 4.2.

[2] IPART, 2018, Submission Information Package, Appendix C.

**Table 4.2 Annual value of the RAB, 2020-21 to 2024-25 ($millions, $2019-20)**

| | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|
| Opening RAB | 2,877.3 | 3,015.9 | 3,130.8 | 3,228.2 | 3,307.2 |
| Capital expenditure | 200.4 | 185.2 | 175.1 | 163.7 | 147.0 |
| Cash capital contributions | - | - | - | - | - |
| Asset disposals | - | - | - | - | - |
| Regulatory depreciation | (61.8) | (70.3) | (77.7) | (84.6) | (91.0) |
| **Closing RAB** | **3,015.9** | **3,130.8** | **3,228.2** | **3,307.3** | **3,363.3** |

Source: Hunter Water analysis.

The opening and closing RAB values by product for each year of the next regulatory period are shown in Table 4.3.

**Table 4.3 Annual RAB values for water, wastewater and stormwater ($millions, $2019-20)**

| Product | 2020-21 Opening | 2020-21 Closing | 2021-22 Closing | 2022-23 Closing | 2023-24 Closing | 2024-25 Closing |
|---|---|---|---|---|---|---|
| Water | 1,241.1 | 1,248.9 | 1,271.6 | 1,298.9 | 1,320.9 | 1,343.2 |
| Wastewater | 1,435.7 | 1,531.2 | 1,589.4 | 1,647.4 | 1,691.7 | 1,721.5 |
| Stormwater | 50.0 | 52.5 | 54.2 | 57.7 | 62.3 | 67.1 |
| Corporate | 150.5 | 183.2 | 215.6 | 224.3 | 232.4 | 231.5 |
| **Total RAB** | **2,877.3** | **3,015.9** | **3,130.8** | **3,228.2** | **3,307.3** | **3,363.3** |

Source: Hunter Water analysis.

### 4.1.1 Cash capital contributions

Hunter Water has subtracted cash capital contributions from the RAB. Contributions external to our regulated revenues are deducted from our RAB to ensure we do not earn a return on or of capital expenditure related to these contributions.

Hunter Water's cash capital contributions during the current price period include the Environmental Improvement Charge (EIC) and third-party cash contributions (see Table 4.4). The NSW government's $2.4 million contribution for the connecting property owners' share of costs for the Wyee backlog sewer scheme is included in 2019-20. [3]

From 2016-17 onwards, we have deducted a 30 per cent tax from the contribution value, consistent with IPART's revised approach (see Table 4.4). Prior to 2016-17, cash capital contributions were deducted from the RAB at their full value and a separate allowance for tax was included in the tax allowance building block.

Hunter Water proposes to discontinue the EIC in the next regulatory period. We are not aware of any further cash capital contributions beyond 2019-20.

[3] In November 2014, the Minister for Natural Resources, Land and Water Management announced that the NSW Government will contribute $2.4m to the project to connect 400 lots in Wyee to the Hunter Water sewer system under the Priority Sewerage Program.

**Table 4.4 Cash capital contributions ($millions, $nominal)**

| Cash capital contributions | 2015-16 | 2016-17 | 2017-18 | 2018-19 (1) | 2019-20 |
|---|---|---|---|---|---|
| Water | 0.2 | 0.0 | - | - | - |
| Wastewater | 8.7 | 7.1 | 6.0 | 7.3 | 9.8 |
| **Total** | **8.9** | **7.1** | **6.0** | **7.3** | **9.8** |
| Tax allowance | n/a | 2.1 | 1.8 | 2.2 | 2.9 |
| **Total deducted from RAB** | **8.9** | **5.0** | **4.2** | **5.1** | **6.9** |

Note 1: 2018-19 cash capital contributions have been revised since the Building Block Model and associated pricing was finalised. The revised 2018-19 value of $7.4m ($5.2m deducted from the RAB) is reflected in the AIR.
Source: Hunter Water AIR/SIR, Capex by RAB, Table 5.1.3.

### 4.1.2 Asset disposals

IPART's 2016 Final Report outlined its policy on the regulatory treatment of asset disposals.[4] IPART's policy explains:

- How and when to remove an asset from the RAB, given it is no longer used to provide regulated services to customers.
- Whether the notional revenue requirement should include an allowance to pay any capital gains tax related to the sale of the assets.

The value to be deducted from the RAB for an asset disposal depends on the regulatory value of the asset or estimates of this value, if unknown. The regulatory value is generally known if the asset is post 'line-in-the sand' (post 2000). IPART's asset disposal policy outlines how to estimate the regulatory value of pre-'line-in the sand' assets based on the RAB to Depreciated Replacement Cost (DRC) ratio at 1 July 2000. For Hunter Water this RAB to DRC ratio is 0.42.

The value to be deducted from the RAB also depends on whether the asset is considered significant or non-significant based on whether or not the asset is subject to capital gains tax (CGT) or exceeds 0.5 per cent of the total RAB value.

Hunter Water's treatment of asset disposals over the regulatory period is as follows:

2015-16

- Land sale at Bennetts Green – significant post line-in-the-sand asset deducted at RAB value, and
- Land sale at Mirrabooka – significant pre line-in-the-sand asset deducted at 0.42 of the sales value less sales and remediation costs.

2016-17

- Land sale at Bendolba – significant post line-in-the-sand asset deducted at RAB value
- Land sale at East Maitland – significant pre line-in-the-sand asset deducted at 0.42 of the sales value less sales and remediation costs
- Maryville adjustment to property boundaries – significant post line-in-the-sand asset deducted at RAB value, and
- Sale of general support assets – non-significant asset deducted at 0.42 of the sales value less sales and remediation costs.

[4] IPART, 2016, Review of prices for Hunter Water - Final Report, p.186.

2017-18

- Land and buildings sale in Hunter Street – significant pre line-in-the-sand asset deducted at 0.42 of the sales value less sales and remediation costs, and
- Sale of general support assets – non-significant asset deducted at 0.42 of the sales value less sales and remediation costs.

2018-19, 2019-20 and next regulatory period

- At the time of writing, there were no asset disposals in 2018-19 and we do not forecast asset disposals in 2019-20.

Hunter Water does not anticipate any asset disposals in the next regulatory period.

Our asset disposals shown in Table 4.5 are at the value that has been taken out of the RAB.

**Table 4.5 Asset disposals ($millions, $nominal)**

| Product | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 |
|---|---|---|---|---|---|
| Water | 0.4 | 1.0 | - | - | - |
| Wastewater | - | 0.1 | 0.1 | - | - |
| Stormwater | - | 0.0 | 0.2 | - | - |
| **Total** | **0.4** | **1.1** | **0.3** | **-** | **-** |

Source: Hunter Water AIR/SIR, Disposals by RAB, rows 61, 123, 142, 195 and 219. The AIR includes two low-value sales in 2018-19 ($14,000 to be deducted from the RAB), which were not included at the time the Building Block Model was prepared.

## 4.2 Weighted average cost of capital

The WACC estimate is used to calculate the return on Hunter Water's regulatory asset base. It is IPART's measure of the cost of financing Hunter Water's regulated business activities. The WACC methodology takes into account the efficient cost of debt and equity through time for a benchmark firm. IPART applies a real, post-tax WACC method.

The WACC estimate is a crucial input to IPART's building block model – even small movements in the WACC estimate result in material movements in the revenue requirement and customer bills.

IPART carried out an extensive review of the WACC methodology during 2017-18. IPART's 2018 Final Report made a number of improvement and refinements to IPART's 2013 WACC method, including changes to the way IPART calculates and updates the efficient cost of debt.[5] IPART introduced a trailing-average approach for measuring the historic and current estimates of the cost of debt, risk-free rate and debt risk premium, over the regulatory period.

IPART's 2018 WACC method documents two methods for updating the cost of debt: an annual adjustment to regulated prices or a regulatory true-up in the notional revenue requirement in the next regulatory period. Hunter Water discusses the advantages and disadvantage of these options in Technical Paper 3.

Hunter Water appreciates the time and effort that IPART has dedicated to improving the WACC method and associated processes over the past five years. We are able to closely reproduce IPART's WACC estimates at any point in time, given the WACC formula is hardwired and almost all of the input data is publicly available from various external sources. The introduction of bi-annual market updates in which IPART publish the WACC estimate and calculation each February and August has also improved the transparency of WACC estimates over time.

[5] IPART, 2018, Review of our WACC method - Final Report.

### 4.2.1 IPART's February 2019 WACC estimate

Hunter Water used IPART's February 2019 WACC bi-annual update for calculating the return on assets – a WACC estimate of 4.1 per cent for a water utility at the first regulatory reset under the 2018 WACC method.

IPART's 2018 WACC method takes the mid-point of the current market data and long-term averages, a 50:50 weighting. Hunter Water has reproduced IPART's February 2019 input parameters and data in Table 4.6. [6]

**Table 4.6 IPART's water industry WACC, first regulatory reset, as at 28 February 2019**

| Parameter | Current market data | Mid-point | Long term averages |
|---|---|---|---|
| Nominal risk free rate | 2.4% | | 3.6% |
| Inflation | 2.4% | | 2.4% |
| Implied debt margin | 2.5% | | 2.7% |
| Market risk premium | 8.6% | | 6.0% |
| Debt funding | 60% | | 60% |
| Equity funding | 40% | | 40% |
| Gamma | 0.25 | | 0.25 |
| Corporate tax rate | 30% | | 30% |
| Equity beta | 0.7 | | 0.7 |
| Post tax real WACC | 3.8% | 4.1% | 4.4% |

Source: IPART February 2019 WACC update – addendum.

#### Equity beta

IPART published a Fact Sheet: Estimating Equity Beta, on 1 April 2019. The fact sheet outlines a new method of using market data to estimate the equity beta. IPART has previously indicated that it would only change the equity beta estimate if there was sufficient evidence that it would improve the accuracy of the WACC estimate.

IPART's fact sheet shows a median equity beta estimate of about 0.7 and a final re-levered equity beta estimate of 0.74 using a 60 per cent gearing. [7]

IPART applied a 0.7 equity beta in its final decision for Central Coast Council in May 2019.[8]

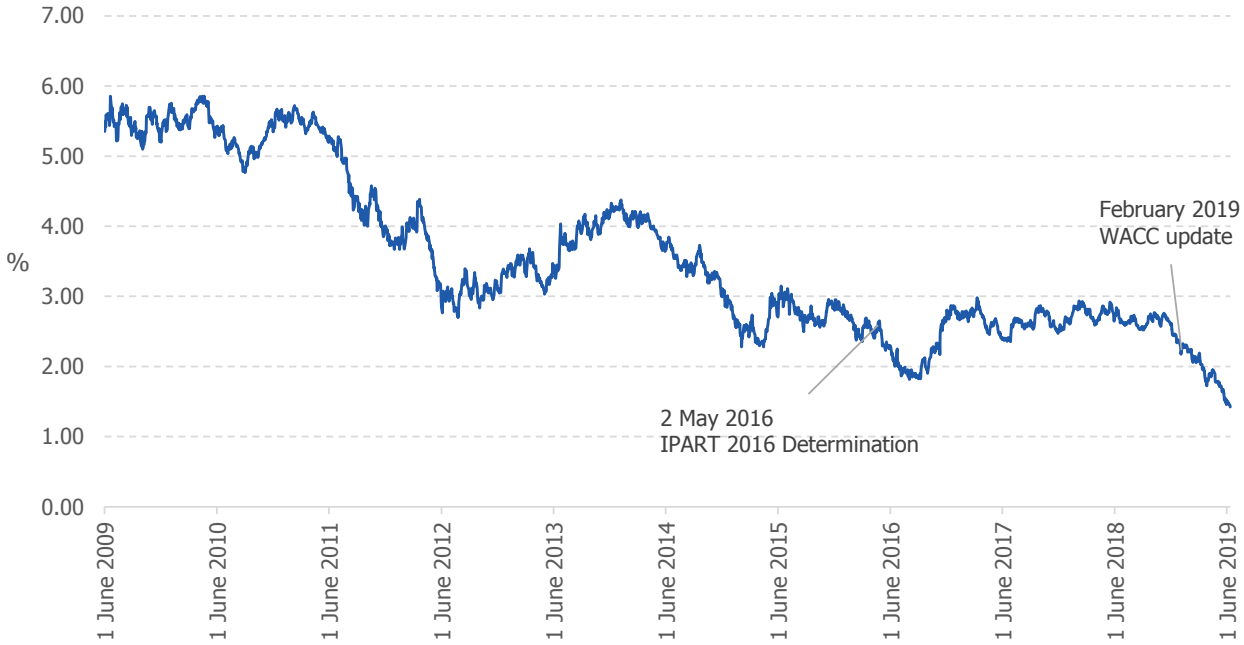
Hunter Water will respond separately to IPART's fact sheet by the due date of 30 June 2019.

### 4.2.2 Movements in WACC since 2016 Final Report

IPART's 2016 Final Report included a rate of return of 4.9 per cent. This was based on IPART's 2013 WACC methodology and market data until 2 May 2016. Since this time there has been consistent downward movement in the risk-free rate and implied debt margin market parameters (Figure 4.1).

[6] IPART, 2019, Bi-annual update - addendum.
[7] IPART, 2019, Estimating Equity Beta (1 April).
[8] IPART, 2019, Review of Central Coast pricing – Final Report.

**Figure 4.1 Daily yields on Australian government bonds – ten years to maturity**




Source: RBA Statistical tables – Capital Market Yields – Government Bonds- Daily – F2.

The movement in WACC parameters between the 2016 IPART Final Report and the February 2019 WACC update are shown in Table 4.7.

**Table 4.7 WACC movement – 2016 Final Report to February 2019 WACC update**

| Parameter | 2016 Final Report | 2019 February update | Movements |
|---|---|---|---|
| Nominal risk-free rate | 3.6% | 3.0% | (0.6%) |
| Inflation | 2.5% | 2.4% | (0.1%) |
| Implied debt margin | 3.2% | 2.6% | (0.6%) |
| Market risk premium | 7.3% | 7.3% | - |
| Debt funding | 60% | 60% | - |
| Equity funding | 40% | 40% | - |
| Gamma | 0.25 | 0.25 | - |
| Corporate tax rate | 30% | 30% | - |
| Equity beta | 0.7 | 0.7 | - |
| Post tax real WACC | 4.9% | 4.1% | (0.8%) |

Source: IPART 2016 Final Report, February 2019 WACC bi-annual update and Hunter Water analysis. For the 2016 Final Report, the WACC lower and upper bounds have been averaged to present the point estimate WACC by parameter. For the 2019 February bi-annual update, current market data and long-term data have been averaged to present the point estimate WACC by parameter.

### 4.2.3 IPART's 2020 WACC estimate

IPART will set the WACC estimate for calculating Hunter Water's return on assets at the start of the next regulatory period – in April or May 2020. IPART will use current market data at that time, calculating a 40-day trailing average. IPART will also update the long-term averages for debt and equity using 10-years of data at the same date.

Hunter Water is of the understanding that IPART's 2020 WACC estimate is likely to be below IPART's February 2019 WACC estimate of 4.1 per cent. There are two factors driving the WACC estimate lower:

- The Commonwealth government 10-year bond yield has fallen considerably in recent months – this impacts the debt and equity risk-free rates for current market data.
- IPART's 2020 WACC calculation will look at a 10-year period dating back to 2010 – the long-term averages will exclude the higher, post-GFC risk-free rates in 2008 and 2009, as well as the higher debt margins in those years.

Hunter Water has calculated a most-likely WACC estimate for April 2020 (see Table 4.8). This has been based on market data in May 2019 using the following assumptions:

- The Commonwealth government 10-year bond yield and corporate bond spreads are held constant at the 30 April 2019 figure until 30 April 2020.
- The inflation rate, market risk premium, equity beta, gamma, corporate tax rate and gearing are held constant at IPART's February 2019 WACC estimate until 30 April 2020.
- IPART's uncertainty index is not triggered.

**Table 4.8 IPART's water industry WACC, first regulatory reset, April 2020 forecast**

| Parameter | Current market data | Mid-point | Long term averages |
|---|---|---|---|
| Nominal risk free rate | 1.8% | | 3.1% |
| Inflation | 2.4% | | 2.4% |
| Implied debt margin | 2.3% | | 2.6% |
| Market risk premium | 8.6% | | 6.0% |
| Debt funding | 60% | | 60% |
| Equity funding | 40% | | 40% |
| Gamma | 0.25 | | 0.25 |
| Corporate tax rate | 30% | | 30% |
| Equity beta | 0.7 | | 0.7 |
| Post tax real WACC | 3.1% | 3.5% | 3.8% |

Source: Hunter Water.

A 3.5 per cent WACC results in a significant decrease in the notional revenue requirement and resulting indicative price increases (Table 4.9).

**Table 4.9 Target revenue and indicative price increases with a 3.5 per cent WACC**

| WACC scenario | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | Total |
|---|---|---|---|---|---|---|
| **Target Revenue ($millions, $2019-20)** | | | | | | |
| 4.1 per cent WACC | 343.5 | 355.9 | 368.5 | 381.9 | 395.9 | 1,845.8 |
| 3.5 per cent WACC | 337.2 | 342.9 | 348.4 | 354.2 | 360.1 | 1,742.8 |
| **Indicative price increases (%)** | | | | | | |
| 4.1 per cent WACC | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 13.4 |
| 3.5 per cent WACC | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 3.3 |

Source: Hunter Water analysis.

Hunter Water considers the revenue requirements and resulting prices contained in this price submission to reflect an upper limit. We chose the 4.1 per cent WACC as it reflected the most recent published bi-annual update by IPART when we completed our revenue modelling. If the WACC does decrease to 3.5 per cent, real price increases may be in the order of 0.6 per cent per year (Table 4.9).

# 5. Regulatory depreciation

The regulatory depreciation building block allows the initial investment in a regulated asset to be recovered from customers over the asset's useful life. A key consideration in the calculation of this allowance is the determination of appropriate useful lives at which to depreciate the assets in the RAB. Regulatory depreciation should be based on the economic lives of assets. We consider this promotes efficient planning and investment in assets over time. Getting the asset lives right should also ensure intergenerational equity, such that today's customers only pay for those assets used in the provision of services – not for past investments in assets that are no longer in productive use (assets that are replaced, decommissioned, renewed or scraped).

Hunter Water's 2015 Price Submission proposed straight-line depreciation with 100-year lives for new assets and 70-year lives for existing assets – the same approach as applied in price reviews dating back to the early 2000s. [9] IPART's 2016 Final Report accepted adjustments to shorten Hunter Water's asset lives, as recommended by IPART's expenditure consultant. IPART decided to phase-in the shorter asset lives, noting that: [10]

> *Hunter Water also submitted, in response to our Draft Report, that it intends to outline more specific assets lives at its next price review (consistent with that in place for Sydney Water) as opposed to an overall weighted average.*

IPART's 2019 Draft Report on the Review of Central Coast Council's water, wastewater and stormwater prices commented on the Council's current used of a weighted average useful life:[11]

> *Our analysis suggests the Council's RAB could be better disaggregated into asset classes that more closely reflect the underlying economic lives of its actual water, sewerage and stormwater assets. A more accurate disaggregation would promote more cost-reflective prices and support the Council's financial sustainability over time.*

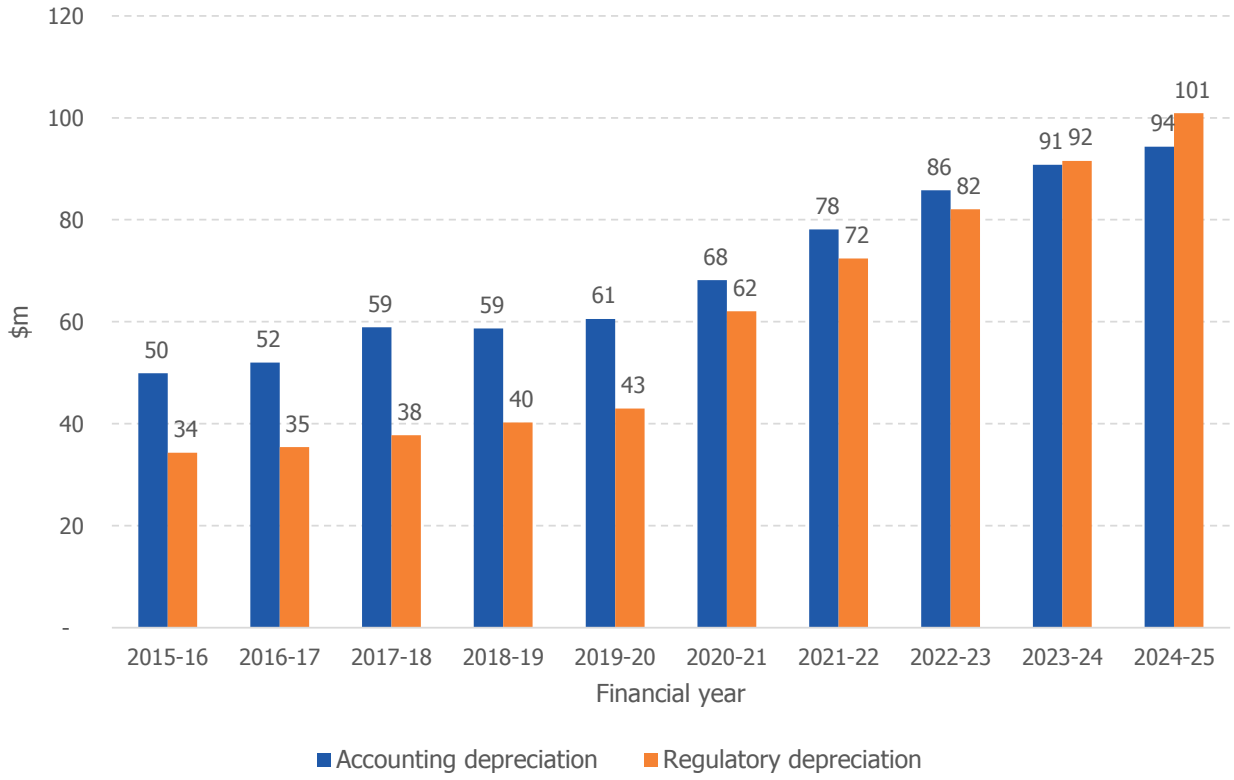
Hunter Water has recognised that by consistently applying the asset lives of 100 years for new assets and 70 years for existing assets (prior to the 2016 Final Report):

- We have under-recovered revenues related to regulatory depreciation.
- This under-recovery of regulatory depreciation has placed pressure on financial credit metrics.

[9] Hunter Water, 2015, Submission to IPART on prices.
[10] IPART, 2016, Review of prices for Hunter Water, p.78.
[11] IPART, 2019, Review of Central Coast pricing, p.12.

A high-level comparison of regulatory depreciation to accounting depreciation is shown in Figure 5.1. Although not exactly comparable, we expect that these two amounts should be similar. Our policy on accounting for fixed assets states that accounting depreciation is calculated on a straight-line basis on the remaining useful life of the fixed asset. The useful life of an asset is the period of time over which the fixed asset is expected to provide service or economic benefit to Hunter Water. Similarly, regulatory depreciation is calculated on a straight-line basis over an asset's useful life. The difference between our accounting and regulatory depreciation of $74 million between 2016 to 2020 provides a good indication of the shortfall in this cost building block over the current regulatory period.

**Figure 5.1 Accounting depreciation versus regulatory depreciation ($millions, $nominal)**




Source: Hunter Water analysis.

Hunter Water considers that the straight-line approach to regulatory depreciation is the best approach to take in terms of simplicity, consistency and transparency. We propose to change the asset lives, however, so that they better reflect the expected time that assets in the RAB will provide economic benefit. We consider the decision to shorten asset lives in IPART's 2016 Final Report a step in the right direction.

In line with our response to IPART's 2016 Draft Report, we have now calculated and used asset lives by class in our proposed regulatory depreciation cost allowance. This not only allows us to recover our investment in assets in a more timely way, it will allow us to make more efficient investment decisions in relation to individual assets.

The impact of the proposed changes to our asset lives is reflected in the narrowing gap between depreciation methods from 2020-21 onwards (Figure 5.1).

## 5.1 Disaggregating the asset base by class

In the lead up to this price submission, Hunter Water undertook a thorough review of asset valuations and asset lives by class. Our policy on accounting for fixed assets requires us to revalue all classes of property, plant and equipment at least every five years. Valuations of land and buildings are completed at least every three years. We engage qualified and independent external asset consultants to undertake these valuations and each asset class is revalued separately in a systematic manner. These valuations are carried out in accordance with the latest MEERA (Modern Engineering Equivalent Replacement Asset) Guidelines, the NSW Treasury Accounting Policy TPP14-01 Valuation of Physical Non-current Assets at Fair Value, The Australian Accounting Standards AASB13 – Fair Value Measurement and the Australian Accounting Standards AASB116 - Property Plant and Equipment.

We have relied on these asset valuations to disaggregate our RAB and provide the appropriate useful lives of our assets. We have largely followed a similar methodology as used by Sydney Water when completing this exercise.

Hunter Water has prepared a separate internal report detailing each of the steps involved in calculating new and existing asset lives by product and class. This can be made available to IPART and IPART's expenditure consultants on request.

### Asset classes

We selected five asset classes that group assets of a similar type: civil, electrical/mechanical, equipment, intangibles and non-depreciating (see Table 5.1). We grouped assets by:

- Combining the electrical and mechanical classes because they have similar weighted asset lives
- Separately identifying equipment and intangibles to better reflect different asset lives and impacts on regulatory depreciation, and
- Calculating the non-depreciating assets - sewer cavities, land and easements. The sewer cavity (the 'hole' component of gravity sewers) is calculated as the total cost of the pipe (digging a trench and installing the pipe), less the cost of relining the pipe.

We excluded all assets that are not relevant to the RAB including contributed assets, certain recycled water assets, environmental credits and assets coded as 'disposed' or 'fully transferred out'.

**Table 5.1 RAB classification**

| Asset class | Water | Wastewater | Stormwater | Corporate |
|---|---|---|---|---|
| Civil | Dams<br>Water Pipelines / Watermains<br>Weirs<br>WTW - Civil<br>Reservoir<br>Reservoir Roof<br>Dam Spillway<br>Canal<br>Tunnel<br>Water Tank Structure<br>Waterway Structure<br>WPS (pipe work, pavements, thrust blocks, roadworks, civil works)<br>Sandbed<br>Borehole<br>Roads<br>Civil upgrades<br>Concrete structures<br>Discharge Channels | Sewermains – Gravity, Rising, overflow<br>Tunnel/Outfall<br>UV disinfection sys Civil<br>WWTW Inlet works upgrade, overflow chamber<br>Pumping Station (civil)<br>Wet Well conversion<br>Treatment Works<br>Manholes<br>Roads<br>Fencing<br>Buildings<br>Landscaping<br>Aeration tanks | Trapezoidal Channel<br>Culvert Drain<br>Bridge Section<br>Pipe Drain<br>Rectangular Channel<br>Detention Basin<br>Canal/Channel<br>Access Roads<br>Fencing | Depots/Stores/Workshops<br>Road/Parking Areas<br>Amenities<br>Fencing<br>Residences/Cottages<br>Storage Shed<br>Security Fencing<br>Offices |
| Electrical / mechanical | HV Network – cable upgrade<br>WPS Screens, elect, transformers, high voltage, switchrooms, PAC dosing, pump<br>Power Distribution<br>Water Treatment Works<br>Flow Meters<br>Water Chlorinators<br>Transformers<br>Cabling<br>Fluoride System | WWTW – Membrane Filter System<br>Sludge Digesters<br>Electrical Supply<br>Switchroom<br>UV disinfection System<br>Sewer Pumping Station<br>Power Distribution<br>Sewer Vent Stack<br>Odour control sys<br>HV Sys & Transformers<br>Inlet works mechanical<br>Bioreactor<br>ABF Tower media | Flood warning alarm | Electrical Switchboards<br>Security Sys & upgrades<br>CCTV Network<br>Fire Systems |
| Equipment | Water Meters (pre2009)<br>Condition Assessments<br>Minor Capital<br>Telemetry<br>SCADA | Telemetry<br>Control Instrumentation<br>SCADA Network<br>General Equipment<br>Condition assessments | Condition Assessments<br>Trash Boom | Water Meters (post 2009)<br>Metered Standpipes<br>Radio/Phone/Telemetry<br>ICT Hardware, Server<br>Desktop infrastructure<br>Radio Base<br>Plant Equipment<br>Office Equipment<br>Trailer/Misc. Plant |
| Intangibles | N/A | N/A | N/A | Info Resources / IQMS<br>ICT Software<br>Intellectual Property |
| Non-depreciating | Land<br>Easements (pre 2009) | Sewer Cavity<br>Land<br>Easements (pre 2009) | Land<br>Easements (pre 2009) | Easements (post 2009)<br>Land |

Source: Hunter Water.

### 5.1.1 Apportioning the opening Regulatory Asset Base

The following steps were undertaken to apportion the opening RAB.

**Box 1 – Steps in apportioning the opening RAB**

#### Determine the 2020 opening RAB

We first calculated our opening RAB by product as at 1 July 2020: water, wastewater, stormwater and corporate (Table 4.3).

#### Group assets into class and apportion the opening RAB

Asset classifications from our Fixed Asset Register were used to group assets in our valuation reports by class: civil, electrical/mechanical, equipment, intangibles and non-depreciating (see Table 5.1).

Once grouped, products were apportioned using either Depreciated Replacement Cost (DRC) or Gross Replacement Cost (GRC) values:

- Water, wastewater and stormwater RABs were apportioned using DRC values as at 30 June 2018. DRC reflects the current replacement cost of an asset less, where applicable, accumulated depreciation calculated to reflect the already consumed or expired future economic benefits of the asset. DRC values were derived from our valuation reports using GRC and asset lives contained in these.
- The corporate RAB was apportioned using GRC values as at 30 June 2018. GRC best reflects the current replacement cost of corporate assets. GRC values are obtained directly from our valuation reports. Where assets have not been revalued (e.g. intangibles, minor equipment) they have been included at cost.

#### Valuation method

Hunter Water considers that the DRC and GRC valuations are superior to other valuation methods (e.g. fair value used in the financial statements) for the purpose of disaggregating the RAB. Neither the DRC nor GRC are impacted by impairment, nor are they valued as a single cash generating unit. Consequently, DRC and GRC asset values more closely reflect asset values in the RAB.

The DRC value was used to apportion the asset classes within the water, wastewater and stormwater RABs. The majority of assets within these classes have longer asset lives - more in line with the asset lives used in past price reviews. It is expected that the current asset values in the RAB will more closely reflect DRC rather than GRC (which does not include depreciation).

The majority of assets within our corporate RAB have shorter asset lives (i.e. equipment and intangibles). Applying DRC apportionments to our corporate RAB would significantly understate the value of intangibles and overstate the value of equipment and non-depreciating assets (e.g. easements). This is due to the significant difference in intangible asset lives between the DRC (less than 4 years) and what has been depreciated in the RAB (66 to 100 years). Most of the intangible assets currently contained in our RAB would not be in the DRC valuation (as they are fully depreciated). To overcome this potential issue, we have apportioned our corporate RAB into classes based on the GRC valuation. This approach excludes the impacts of depreciation and closely reflects the existing asset values within our corporate RAB.

Table 5.2 shows the apportionment of our opening RAB by product and class.

**Table 5.2 Apportionment of opening Regulatory Asset Base (2020-21)**

| Asset class | Water (43%) | Wastewater (50%) | Stormwater (2%) | Corporate (5%) |
|---|---|---|---|---|
| Civil | 88% | 52% | 98% | 9% |
| Electrical / Mechanical | 8% | 9% | <1% | 2% |
| Equipment | 1% | 1% | <1% | 38% |
| Intangibles | - | - | - | 47% |
| Non-depreciating | 3% | 38% | 2% | 3% |

Source: Hunter Water analysis.

### 5.1.2 Forward capital program

We have categorised our forward capital program by asset class so that regulatory depreciation on new assets can be included in the appropriate RAB.

Table 5.3 shows the value of our opening and closing RABs by product and class for each year of the next regulatory period.

We discuss the corporate 'transition' RAB in detail in section 5.3.

**Table 5.3 Opening and closing RAB ($millions, $2019-20)**

| RAB value | 2020-21 Opening | 2020-21 Closing | 2021-22 Closing | 2022-23 Closing | 2023-24 Closing | 2024-25 Closing |
|---|---|---|---|---|---|---|
| **Water** | **1,241.1** | **1,248.9** | **1,271.6** | **1,298.9** | **1,320.9** | **1,343.2** |
| Civil | 1,095.0 | 1,099.0 | 1,112.4 | 1,128.8 | 1,142.0 | 1,156.3 |
| Electrical / mechanical | 100.7 | 102.8 | 109.3 | 116.2 | 120.7 | 126.6 |
| Equipment | 9.1 | 10.7 | 13.6 | 17.5 | 21.8 | 23.9 |
| Intangibles | - | - | - | - | - | - |
| Non-depreciating | 36.3 | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 |
| **Wastewater** | **1,435.7** | **1,531.3** | **1,589.4** | **1,647.4** | **1,691.7** | **1,721.6** |
| Civil | 741.3 | 796.0 | 829.8 | 863.7 | 892.1 | 911.8 |
| Electrical / mechanical | 133.8 | 170.3 | 187.0 | 203.2 | 214.4 | 222.2 |
| Equipment | 7.6 | 10.1 | 11.2 | 16.4 | 18.9 | 20.1 |
| Intangibles | - | - | - | - | - | - |
| Non-depreciating | 552.9 | 554.9 | 561.3 | 564.1 | 566.2 | 567.5 |
| **Stormwater** | **50.0** | **52.5** | **54.2** | **57.7** | **62.3** | **67.1** |
| Civil | 49.0 | 51.4 | 52.9 | 56.1 | 60.5 | 65.0 |
| Electrical / mechanical | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Equipment | 0.1 | 0.3 | 0.4 | 0.6 | 0.9 | 1.3 |
| Intangibles | - | - | - | - | - | - |
| Non-depreciating | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
| **Corporate** | **150.5** | **183.2** | **215.6** | **224.3** | **232.4** | **231.5** |
| Civil | 14.1 | 20.1 | 27.8 | 32.3 | 36.6 | 39.1 |
| Electrical / mechanical | 3.0 | 6.7 | 16.7 | 16.6 | 16.5 | 16.3 |
| Transition | 128.7 | 126.1 | 123.5 | 120.9 | 118.4 | 115.8 |
| Equipment | - | 7.1 | 13.1 | 18.0 | 23.5 | 25.2 |
| Intangibles | - | 18.4 | 29.4 | 31.3 | 32.2 | 29.6 |
| Non-depreciating | 4.7 | 4.8 | 5.0 | 5.1 | 5.2 | 5.3 |
| **Total RAB** | **2,877.3** | **3,015.9** | **3,130.8** | **3,228.2** | **3,307.3** | **3,363.3** |

Source: Hunter Water analysis.

## 5.2 New and existing asset lives

We have calculated specific asset lives for each of the asset classes by product. Our asset lives are based on those detailed in our asset valuation reports. New asset lives are comparable to the asset lives listed in the NSW Office of Water's Reference Rates Manual.[12]

We have a mix of assets with similar lives within each of the five classes. To calculate a weighted average asset life for each class, weightings have been based on the depreciation value of each asset.

We calculated weighted asset lives for new assets to apply to forward capital expenditure, and existing assets to apply to the opening RAB.

The different asset lives across the products reflects the assets included within each RAB. For example, stormwater civil has a new asset life of 117 years, which includes longer life assets such as concrete channels and drains. Corporate civil has a life of 42 years, which includes buildings, roads and fences - lower asset lives than typical civil works.

An overall weighted average life has been calculated for electrical/mechanical (new: 25 years; existing: 16 years) and equipment (new: 11 years; existing: five years) across all products. There is less variability within these classes.

Intangibles have a four-year new asset life based on our modelling. We propose a five-year life to keep depreciation uniform across the proposed regulatory period. We also propose a five-year life for existing intangibles on the same basis.

Table 5.4 and Table 5.5 show our proposed asset lives for new assets and existing assets.

**Table 5.4 Proposed new asset lives**

| New Asset Lives | Water | Wastewater | Stormwater | Corporate |
|---|---|---|---|---|
| Civil | 90 | 90 | 117 | 42 |
| Electrical / Mechanical | 25 | 25 | 25 | 25 |
| Equipment | 11 | 11 | 11 | 11 |
| Intangibles | 5 | 5 | 5 | 5 |
| Non-Depreciating | 0 | 0 | 0 | 0 |

Source: Hunter Water AIR/SIR, Asset lives by RAB, rows 99 to 130.

**Table 5.5 Proposed existing asset lives**

| Existing Asset Lives | Water | Wastewater | Stormwater | Corporate [1] |
|---|---|---|---|---|
| Civil | 48 | 62 | 47 | 22 |
| Electrical / Mechanical | 16 | 16 | 16 | 16 |
| Equipment | 5 | 5 | 5 | 5 |
| Intangibles | 5 | 5 | 5 | 5 |
| Transition | n/a | n/a | n/a | 50 |
| Non-Depreciating | 0 | 0 | 0 | 0 |

Note 1: A 50 year asset life is proposed to transition the opening RAB balances for corporate equipment and corporate intangibles as detailed in Section 5.3.
Source: Hunter Water AIR/SIR, Asset lives by RAB, rows 15 to 46.

[12] Department of Primary Industries – Office of Water, 2014, NSW Reference Rates Manual Valuation of water supply, sewerage and stormwater assets.

## 5.3 Transition arrangement

If we implemented our proposed asset lives in full, the real price increases for our customers would be around 5.1 per cent per year. We consider this real increase too significant and as such we have introduced a corporate transition RAB to manage customer bill impacts.

This transition arrangement is different to that taken in the 2016 price review, where IPART transitioned all new and existing asset lives over two determination periods.[13]

### 5.3.1 Corporate transition RAB

Hunter Water proposes the opening RAB balance of corporate equipment and corporate intangibles (collectively valued at $128.7 million) be set aside as a corporate transition RAB. As shown in Table 5.3 this transition RAB declines over time. All new equipment and intangibles capital expenditure is added to the equipment and intangibles RABs.

We propose a 50-year life for the transition RAB as opposed to the five-year life shown in Table 5.5 for equipment and intangibles. This approach reduces the value of the regulatory depreciation allowance and moderates the pricing impact for customers across all products.

We chose the opening balance of the corporate RAB for the transition because it includes the majority of our shorter-life assets, which still remain in the RAB. IPART first established Hunter Water's corporate RAB in 2009. Corporate assets include ICT software, hardware, information resources, water meters and office equipment. Assets in the corporate RAB have been depreciated during this time using asset lives ranging from 68 to 100 years.

Hunter Water considers that the proposed transition of the opening balance (existing assets) is a sensible approach. Confining the transition to the corporate RAB ensures the correct calculation of regulatory depreciation for water, wastewater and stormwater assets. This approach allows Hunter Water to look at the financial and bill impacts of potentially much shorter asset lives for the corporate transition RAB in future price reviews.

Hunter Water has correctly measured regulatory depreciation associated with new corporate assets in the proposed capital program for the next regulatory period.

### 5.3.2 Impact on regulatory depreciation

Hunter Water's proposed changes to asset lives increases the revenue requirement by $151 million over five-years, compared with the previous approach (see Table 5.6).

Table 5.7 shows the corresponding change in our building blocks and revenue requirement, driven higher by the regulatory deprecation allowance and tax allowance.

**Table 5.6 Impact of changes to asset lives on revenue ($millions, $2019-20)**

| Unsmoothed revenue | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | Total |
|---|---|---|---|---|---|---|
| Current asset lives | 323.1 | 330.1 | 339.7 | 347.2 | 354.0 | 1,694.1 |
| Proposed asset lives | 343.9 | 357.0 | 370.9 | 381.3 | 392.2 | 1,845.3 |
| Increase in unsmoothed revenue | 20.8 | 26.9 | 31.2 | 34.2 | 38.2 | 151.2 |

Source: Hunter Water analysis.

[13] IPART, 2016, Review of prices for Hunter Water – Final Report, p.78.

**Table 5.7 Impact of changes to asset lives on building blocks ($millions, $2019-20)**

| Revenue building blocks | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | Total |
|---|---|---|---|---|---|---|
| Depreciation | 15.9 | 21.1 | 25.1 | 28.2 | 32.2 | 122.6 |
| Return on assets | 0.0 | (0.7) | (1.5) | (2.6) | (3.7) | (8.4) |
| Working capital | 0.1 | 0.2 | 0.2 | 0.3 | 0.3 | 1.1 |
| Tax | 4.7 | 6.2 | 7.4 | 8.2 | 9.4 | 36.0 |
| **Increase in unsmoothed revenue** | **20.8** | **26.9** | **31.2** | **34.2** | **38.2** | **151.2** |

Source: Hunter Water analysis.

# 6. Tax allowance

Hunter Water has calculated the nominal tax liability using the 30 per cent tax rate inherent in the WACC, multiplied by taxable income and adjusted for the value of hypothetical franking credits (see Table 6.1). Our approach uses both regulatory and non-regulatory components to ensure it closely reflects the tax liability.

Hunter Water's tax allowance is adjusted for:

- An estimate of tax depreciation (adjusted to exclude a component relating to non-regulated assets) (see Table 6.2)
- Our forecast of contributed assets received free of charge (treated as non-regulated income) (Table 6.3), and
- An estimate of interest expense, based on the notional calculation rather than our actual gearing ratio and capital structure.

The tax allowance is calculated in nominal terms. As per IPART's inflation policy for tax allowance, figures have been inflated using the WACC point estimate of inflation.

**Table 6.1 Regulatory tax allowance ($millions, $nominal)**

| Tax allowance calculation | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|
| **Income** | | | | | |
| Regulated notional revenue, excluding tax | 346.5 | 368.2 | 391.1 | 410.3 | 430.4 |
| Free assets and developer contributions | 28.9 | 27.9 | 27.5 | 28.2 | 28.9 |
| **Expenditure** | | | | | |
| Operating expenditure | 161.0 | 163.8 | 169.0 | 171.3 | 175.2 |
| **Profit before interest and depreciation** | **214.4** | **232.3** | **249.6** | **267.2** | **284.1** |
| Estimated interest expense | 101.9 | 108.9 | 115.5 | 121.6 | 127.1 |
| Tax depreciation | 70.4 | 78.8 | 85.0 | 88.4 | 90.2 |
| **Accumulated tax losses** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Taxable income** | **42.1** | **44.7** | **49.2** | **57.2** | **66.7** |
| Adjusted for gamma | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| **Tax allowance (nominal)** | **12.2** | **13.0** | **14.3** | **16.6** | **19.4** |
| **Tax allowance ($2019-20)** | **11.9** | **12.4** | **13.3** | **15.1** | **17.2** |

Source: Hunter Water analysis.

Hunter Water's tax depreciation forecasts are projected from a 2017-18 actual base (see Table 6.2). The expense increases over the next regulatory period based on the value of our asset additions and the expected average life of assets added. Asset additions include: our capital expenditure profile, assets contributed free of charge (Table 6.3) and adjustments made for the movement in work-in-progress (WIP) and retired assets.

We have excluded depreciation related to operating leases from our tax depreciation forecasts. We have continued to treat lease costs as an operating expense for regulatory purposes rather than adopting the updated accounting treatment (see Technical Paper 5). This ensures we can recover cash out-flows from these leases through the operating cost building block.

**Table 6.2 Tax depreciation ($millions, $nominal)**

| Product | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|
| Water | 24.2 | 27.3 | 29.7 | 31.1 | 32.2 |
| Wastewater | 45.3 | 50.5 | 54.2 | 56.0 | 56.6 |
| Stormwater | 0.8 | 1.0 | 1.1 | 1.3 | 1.4 |
| **Total** | **70.4** | **78.8** | **85.0** | **88.4** | **90.2** |

Source: Hunter Water AIR/SIR, SIR Fin Data, rows 90 to 107.

**Table 6.3 Asset contributions ($millions, $2019-20)**

| Product | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|
| Water | 9.9 | 9.3 | 9.0 | 9.0 | 9.0 |
| Wastewater | 18.3 | 17.3 | 16.7 | 16.7 | 16.7 |
| Stormwater | - | - | - | - | - |
| **Total** | **28.2** | **26.7** | **25.6** | **25.6** | **25.6** |

Source: Hunter Water AIR/SIR, SIR Capex 4, rows 15 to 33.

# 7. Working capital allowance

During 2018, IPART conducted a review of the method for calculating the working capital allowance that it includes in the notional revenue requirement. The allowance ensures Hunter Water can recover the costs incurred due to delays between delivering regulated services and receiving payments for those services.

Hunter Water has adopted IPART's 2018 method for calculating net working capital for a water business in estimating the working capital allowance.

Hunter Water is planning to change the frequency of how often it sends a bill to customers; from the current tri-annual billing cycle to quarterly billing, effective 1 July 2020. The move from four-monthly to three-monthly billing is reflected in the 91.25 (365/4) billing cycle, as detailed in Table 7.1.

Hunter Water's 'allowed days of delay' (23 days) is based on two days between reading the meter and sending the bill, followed by 21 days to pay the bill.

Hunter Water's fixed charges are billed in advance and in arrears, depending on when each customer is issued a bill. For example, a customer billed on the first day of a cycle will be invoiced for all fixed charges in advance, whereas a customer billed on the last day of the cycle will be invoiced for all fixed charges in arrears.

On average, the number of customers billed in advance is offset by the number of customers billed in arrears, resulting in nil 'number of days fixed charges are billed in advance', as shown in Table 7.1.

The overall 'share of fixed charges' is 57.43 per cent. We have applied this figure across all products (water, wastewater and stormwater) to ensure that the working capital building block is positive for each product.

**Table 7.1 Working capital inputs, from 1 July 2020**

| Working capital inputs | Units | |
|---|---|---|
| Billing cycle | days | 91.25 |
| Allowed days of delay | days | 23.00 |
| Number of days fixed charges billed in advance | days | 0 |
| Share of fixed charges | % | 57.43 |

Source: Hunter Water analysis.

Our inventory and prepayments are based on the amounts disclosed in our 2017-18 Statutory Accounts. Prepayments include: land tax, various ICT contracts and our head office lease. There is little change in the value of both our inventory and prepayments between financial years. Our proposed working capital allowance is shown in Table 7.2.

**Table 7.2 Working capital allowance ($millions, $2019-20)**

| Working capital | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|
| Receivables | 39.7 | 41.6 | 43.1 | 44.3 | 45.5 |
| Inventory | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 |
| Prepayments | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |
| Accounts payable | -29.4 | -28.1 | -27.3 | -26.3 | -24.8 |
| **Total working capital** | **15.1** | **18.3** | **20.6** | **22.8** | **25.4** |

Source: Hunter Water analysis.

# 8. Revenue adjustments

Forecasts of other regulated and non-regulated revenue have been deducted from the building block costs to determine target revenue to be recovered through water, wastewater and stormwater service and usage charges. Revenue adjustments (see Table 8.1) include:

- Forecast other regulated revenue is recovered through our miscellaneous and trade waste charges (Technical Paper 9).
- Forecast non-regulated revenue is deducted at 50 per cent of its value. This is in line with the methodology used in IPART's 2016 Final Report whereby Hunter Water 'shares' this income with customers, thereby providing a financial incentive to pursue this type of revenue where appropriate. Revenues primarily include rental income related to regulatory assets.
- Forecast non-regulated revenue – recycled water is deducted at 50 per cent of its value. This revenue relates to service and usage charges recovered from our 'general' recycled water schemes. Recycled Water sold to these customers is a by-product of wastewater processes. This revenue is deducted as building block costs include expenditure on wastewater assets that relate to these schemes. Similar to non-regulated revenue, 50 per cent of this revenue is shared between Hunter Water and our customers.

**Table 8.1 Revenue adjustments to building block costs ($millions, $2019-20,)**

| Revenue adjustments [1] | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|
| Other regulated revenue [2] | 5.1 | 5.2 | 5.3 | 5.6 | 5.9 |
| Non-regulated revenue [3] | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 |
| Non-regulated revenue – recycled water [4] | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| **Total revenue adjustments** | 6.5 | 6.6 | 6.6 | 7.0 | 7.3 |

Notes:
1. Total revenue adjustments align with those presented in Table 3.1
2. Other regulated income includes trade waste and aligns with AIR/SIR, Revenue, rows 51 and 116
3. Non-regulated income is 50 per cent of the value in the AIR/SIR, Revenue, row 153
4. Non-regulated income – recycled water is 50 per cent of the value in the AIR/SIR, RW Voluntary Others, row 137

Source: Hunter Water analysis

# 9. Biodiversity Offset Scheme

IPART's Submission Information Package (December 2018) references IPART's guidance, provided in May 2018, on the likely regulatory treatment of Hunter Water's participation in the NSW government's Biodiversity Offset Scheme.

IPART's guidance noted that it may classify revenue generated from the sale of credits under the Biodiversity Offset Scheme as non-regulated income, and require Hunter Water to share a proportion of this income with customers. IPART's preliminary view is that the business should retain 90 per cent of the revenue from credit sales given the risks associated with the scheme. IPART has asked Hunter Water to identify all parcels of land, both operational and surplus, retired for BioBanking.

Hunter Water has entered into a BioBanking Agreement [14] with the former NSW Office of Environment and Heritage covering operational land at the Hunter Region Botanic Gardens. This agreement was executed in May 2018, creating 854 ecosystem BioBanking credits and 687 koala BioBanking credits. Hunter Water expects to sell some or all of these credits in 2019-20. This excludes the total fund deposit amount, set at $450,000.

Hunter Water has not carried out any maintenance activities at the Botanic Gardens site in recent years. As such, we are not able to separately quantify site-specific avoided maintenance costs for future years and have no basis to calculate a relevant corporate overhead cost. The Botanic Gardens site is exempt from land tax – categorised as a 'public garden'.

Hunter Water's revenue modelling did not make any adjustment for the sale of the Botanic Gardens credits, given that the transaction occurs in the current price period.

Hunter Water previously submitted applications to register a further five biobank agreement sites. We did not progress with these applications given changes to the Biodiversity Offset Scheme. These sites include:

- Windale and West Wallsend: pre-2000 non-operational land, and
- Cessnock WWTW, Tomago Borefields and Irrawang-Grahamstown: pre-2000 operational land.

At this point in time, Hunter Water will not seek to register any further sites. We will continue to evaluate the market for credits associated with the biodiversity offset scheme and monitor opportunities to enter into Biodiversity Stewardship Agreements at individual sites.

[14] The Biodiversity Banking and Offset Scheme BioBanking Scheme (BioBanking) has been replaced by the Biodiversity Offsets Scheme (BOS) under the *Biodiversity Conservation Act 2016.* This commenced on 25 August 2017.

# 10. Financial metrics

NSW government policy requires that state-owned corporations maintain a target investment-grade credit rating of Baa2 (or BBB). The *State Owned Corporations Act 1989* requires Hunter Water to: operate as efficiently as any comparable businesses, maximise the net worth of the State's investment in the business and to exhibit a sense of social responsibility by having regard to the interests of the community in which it operates.

To ensure financial sustainability, Hunter Water needs to generate sufficient cash flows to cover the costs of operating the business, service debts, and invest in assets for future urban growth in the Lower Hunter. An adequate rate of return ensures that Hunter Water is also able to provide a return on shareholder's funds that is at least equal to the return that could be received from an alternate investment.

Theoretically, IPART's building block approach allows a utility to generate enough cash-flows to cover the above requirements. The operating cost allowance, regulatory depreciation (provided asset lives are set at an appropriate level), tax allowance and working capital allowance allow Hunter Water to generate cash-flows to cover the costs of operating and investing in assets.

The return on capital allowance provides cash-flows for Hunter Water to service its debts and provide a reasonable return to shareholders. Cost of debt parameters that underpin IPART's WACC methodology use data on BBB-rated bonds (which includes bonds issued with BBB+, BBB, and BBB- credit ratings). As such, the building block outcomes should provide a utility with sufficient funds to cover interest costs, thereby maintaining an investment-grade rating.

## 10.1 Credit rating reviews

Under NSW Treasury policy Hunter Water is subject to annual credit rating reviews. Moody's Investors Service (Moody's) has conducted these reviews since 2009. Under Moody's methodology both qualitative and financial metrics determine an overall rating outcome. The 'Stability and Predictability of Regulatory Environment' features as a qualitative rating metric (see Figure 10.1).

In its recent review of Hunter Water's credit rating[15], Moody's awarded Hunter Water a baseline credit assessment of Baa2 (BBB). The BBB assessment was underpinned by the following positive qualitative factors:

- We have a high likelihood of extraordinary State support
- We operate in a transparent regulatory framework that provides visibility of regulated revenue
- Our dominant market position supports our operating margin, and
- Our strong liquidity reflects access to NSW Treasury Corporation's (TCorp's) facilities.

Moody's 2019 rating for the stability and predictability of regulatory environment increased from Aa to Aaa - the highest possible rating. A regulatory environment that is awarded the Aaa rating is independent (and expected to remain so), transparent and well established (with over 15 years of being predictable and stable). Regulatory principles clearly define risk allocation between customers and companies and are well established, published and consistently applied.[16] The 2019 report comments that regulated revenues: [17]

> *… provide Hunter Water with good visibility into its future operating cash flows, and provide management with a window to implement any required countermeasures to protect its credit profile.*

[15] Moody's Investors Service, 2019.
[16] Moody's Investors Service, 2015.
[17] Moody's Investors Service, 2019, p.5.

Moody's also mentions IPART's demand volatility mechanism: [18]

> *The regulatory regime protects Hunter Water from declining revenue resulting from sustained declines in water demand, by allowing the corporation to reset volume projections at tariff reset dates. If the difference between actual and forecast water sale volumes exceeds 5% over a price period, such over- or under-recovery of revenue may be disgorged or recovered in the following regulatory period.*

Moody's did note, however, that Hunter Water's rating is constrained by its high leverage when measured on a Funds From Operations (FFO)/net debt basis. In ratings undertaken in the past three years, this metric has been within the 6 – 7.5 per cent range, compared to a minimum Baa2 rating tolerance of 5.5 per cent. Moody's considers that the metric's proximity to the minimum tolerance level limits our headroom to manage unexpected operational challenges, such as revenue reduction due to drought. Under such operational challenges Moody's considers that the State would have to commit to timely counter-measures if our standalone credit rating of Baa2 were to be maintained.

Moody's 2019 credit rating grid (Figure 10.1) shows how Hunter Water performed in different qualitative and financial metrics in the latest review. The BBB-rating is underpinned by strong qualitative metrics. We are below investment grade on three of the four financial metrics at 30 June 2018.

**Figure 10.1 2019 credit rating outcome**

| Regulated Water Utilities Industry Grid [1][2] | Current FY 6/30/2018 | | Moody's 12-18 Month Forward View As of Jan 2019 [3] | |
|---|---|---|---|---|
| **Factor 1 : Business Profile(50%)** | **Measure** | **Score** | **Measure** | **Score** |
| a) Stability and Predictability of Regulatory Environment | Aaa | Aaa | Aaa | Aaa |
| b) Asset Ownership Model | Aa | Aa | Aa | Aa |
| c) Cost and Investment Recovery (Sufficiency & Timeliness) | A | A | A | A |
| d) Revenue Risk | A | A | A | A |
| e) Scale and Complexity of Capital Programme & Asset Condition Risk | Aa | Aa | Aa | Aa |
| **Factor 2 : Financial Policy (10%)** | | | | |
| a) Financial Policy | Baa | Baa | Baa | Baa |
| **Factor 3 : Leverage and Coverage (40%)** | | | | |
| a) FFO Interest Coverage (3 Year Avg) | 2.3x | Ba | 2.4x - 2.6x | Baa |
| b) Net Debt / Regulated Asset Base (3 Year Avg) | 52.1% | A | 50% - 60% | Baa |
| c) FFO / Net Debt (3 Year Avg) | 7.2% | Ba | 7.2% - 7.8% | Ba |
| d) RCF / Net Debt (3 Year Avg) | 4.6% | Ba | -2.0% - 4.6% | Caa |
| **Rating:** | | | | |
| a) Indicated Rating from Grid | | Baa1 | Baa2 | |
| b) Actual Baseline Credit Assessment Assigned | | | baa2 | |
| | | | | |
| **Government-Related Issuer** | | | | |
| a) Baseline Credit Assessment | | baa2 | baa2 | |
| b) Government Local Currency Rating | | Aaa | Aaa | |
| c) Default Dependence | | High | High | |
| d) Support | | High | High | |
| e) Final Rating Outcome | | A1 | A1 | |

[1] All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.
[2] At 30 June 2018.
[3] This represents Moody's forward view; not the view of the issuer; and unless noted in the text, does not incorporate significant acquisitions and divestitures.

Source: Moody's Investors Service, 2019.

## 10.2 IPART's financeability test

IPART's financeability test assesses the impacts that pricing decisions have on the financial sustainability of a regulated utility and examines its ability to raise funds within a regulatory period. The test outlines a process for identifying potential financeability concerns and identifies ways to address these that support efficient and prudent decision-making by regulated businesses. [19]

[18] Moody's Investors Service, 2019, p.5.
[19] IPART,2018, Review of financeability test – Final Report.

IPART undertook a review of the financeability test in 2018, making improvements on the previous 2013 test. The updated test involves analysis of both benchmark metrics (to determine whether building block outcomes allow an efficient, investment grade utility to remain financially viable) and actual metrics to ensure that the utility is actually financeable over the regulatory period. IPART continues to assess financeability against a target BBB credit rating outcome and has determined target ratios that a BBB rated business would meet under the building block approach (Table 10.1).

**Table 10.1 Target ratios for the benchmark and actual test**

| Ratio | Benchmark test | Actual test |
|---|---|---|
| Interest cover | >2.2x | >1.8x |
| Funds From Operations (FFO) over debt | >7.0% | >6.0% |
| Gearing | <70% | <70% |

Source: IPART 2018, Financeability report. For the benchmark test the ratios are known as Real interest cover and Real FFO over debt to recognise that a real cost of debt assumption is used.

We have replicated IPART's financeability methodology to test the implications of this price submission (Table 10.2).

**Table 10.2 Financeability metrics against targets, 4.1% WACC**

| Financial metric | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|
| **Benchmark Test** | | | | | |
| Real interest cover | 3.2 | 3.3 | 3.3 | 3.5 | 3.6 |
| Target >2.2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| Real FFO over debt | 6.7% | 7.0% | 7.2% | 7.6% | 8.0% |
| Target >7.0% | ✗ | ✗ | ✓ | ✓ | ✓ |
| Gearing | 60% | 60% | 60% | 60% | 60% |
| Target <70% | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Actual Test** | | | | | |
| Interest cover | 2.2 | 2.2 | 2.2 | 2.2 | 2.3 |
| Target >1.8 | ✓ | ✓ | ✓ | ✓ | ✓ |
| FFO over debt | 5.9% | 6.1% | 6.3% | 6.6% | 6.9% |
| Target > 6.0% | ✗ | ✓ | ✓ | ✓ | ✓ |
| Gearing | 54% | 54% | 54% | 54% | 54% |
| Target <70% | ✓ | ✓ | ✓ | ✓ | ✓ |

Source: Hunter Water Analysis.

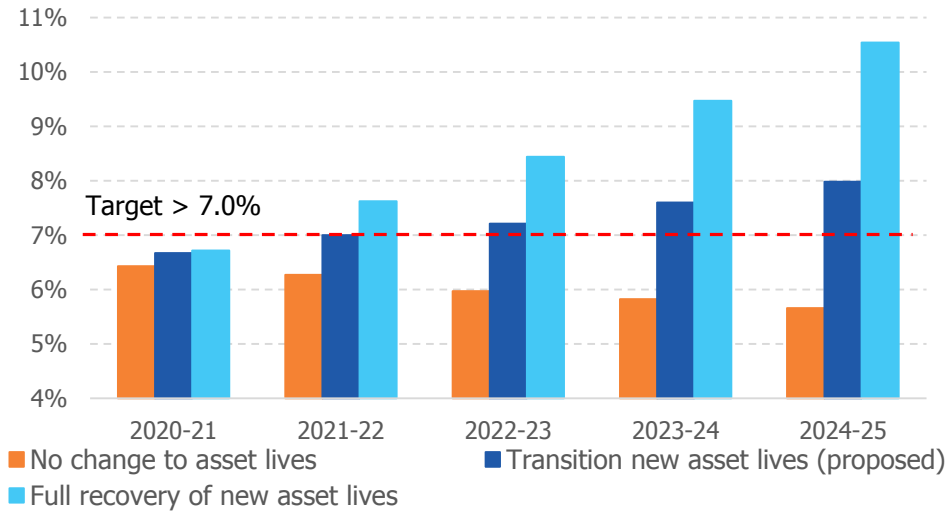
The financeability test highlights our weakest financial metric: Funds from Operations (FFO) over debt. This is consistent with Moody's showing that this metric is close to minimum tolerance levels. Whilst this ratio indicates a potential financeability concern in the first two years of analysis, it is encouraging to see results improve over the price period.

We believe this improvement is likely a reflection of our proposed regulatory asset lives that more appropriately reflect the economic life of our assets than in the past. This improves cash flows available to the business as investment in these assets is recovered in line with remaining useful lives.

We have undertaken scenario analysis on financeability outcomes with different regulatory asset lives. FFO over debt outcomes are quite different depending on whether we maintain the current regulatory asset lives (as per the IPART 2016 Final Report), transition in new regulatory asset lives (as proposed) or implement new regulatory asset lives in full (see Figure 10.2 and Figure 10.3).

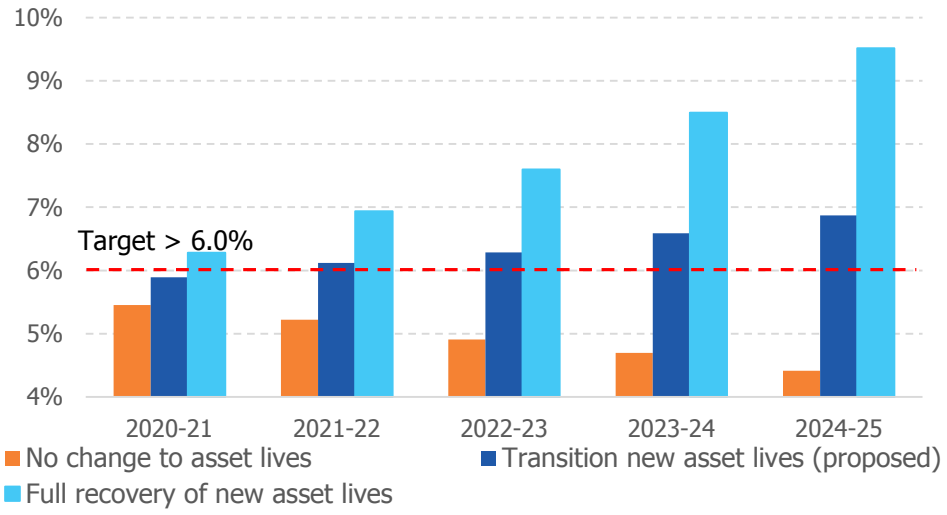
Performance against the FFO over debt and Real FFO over debt metrics are considerably below target and deteriorate over time under current regulatory asset lives. Performance against the FFO over debt and Real FFO over debt metrics are above target and improve over time if we were to implement new regulatory lives in full (see Figure 10.2 and Figure 10.3).

**Figure 10.2 Benchmark test - Real FFO over debt scenarios**




Source: Hunter Water analysis.

**Figure 10.3 Actual test - FFO over debt scenarios**




Source: Hunter Water analysis.

We have also tested financeability outcomes based on a 3.5 per cent WACC. To do this, we made an assumption that the current dividend payout ratio will continue and debt is calculated as a residual. We have also adjusted our forecast actual cost of debt to recognise that a lower WACC is likely to be the result of lower borrowing costs. Table 10.3 shows that whilst in the benchmark test we still pass the Real Interest Cover and Gearing tests, our Real FFO over debt metrics consistently fall just below that required by the financeability test. This signals a potential financeability concern.

**Table 10.3 Financeability metrics against targets, 3.5% WACC**

| Financial metric | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|
| **Benchmark Test** | | | | | |
| Real interest cover | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 |
| Target >2.2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| Real FFO over debt | 7.0% | 7.0% | 6.9% | 6.9% | 6.9% |
| Target >7.0% | ✓ | ✗ | ✗ | ✗ | ✗ |
| Gearing | 60% | 60% | 60% | 60% | 60% |
| Target <70% | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Actual Test** | | | | | |
| Interest cover | 2.3 | 2.3 | 2.3 | 2.3 | 2.2 |
| Target >1.8 | ✓ | ✓ | ✓ | ✓ | ✓ |
| FFO over debt | 6.1% | 6.1% | 6.1% | 6.2% | 6.3% |
| Target > 6.0% | ✓ | ✓ | ✓ | ✓ | ✓ |
| Gearing | 53% | 53% | 53% | 53% | 52% |
| Target <70% | ✓ | ✓ | ✓ | ✓ | ✓ |

Source: Hunter Water analysis.

In the 2018 Final Report on the review of the Financeability test, IPART identifies a process that will be followed when a financeability concern exists. Under this process if a financeability concern exists in the benchmark test, IPART would reassess pricing decisions and adjust regulatory settings.[20]

If a financeability concern exists for the actual business, IPART would conduct further analysis to identify the source of the financeability concern. Potential sources of concern will be analysed in relation to whether the regulatory allowance is set too low, whether the business is taking imprudent or inefficient decisions or whether the financeability concern is due to the timing of cash flows. Hunter Water anticipates IPART will use sound judgment in the case of any investigation of a financeability concern.

[20] IPART, 2018, Review of financeability test – Final Report, p. 58.

# 11. Abbreviations

| Acronym | Term |
|---|---|
| AIR | Annual information return |
| CGT | Capital gains tax |
| CPI | Consumer price index |
| DRC | Depreciated replacement cost |
| EIC | Environmental Improvement Charge |
| FFO | Funds from operations |
| GRC | Gross replacement cost |
| ICT | Information and communications technology |
| IPART | Independent Pricing and Regulatory Tribunal (NSW) |
| NPR | National Performance Report |
| NPV | Net present value |
| NSW | New South Wales |
| RAB | Regulatory asset base |
| SIR | Special information return |
| WACC | Weighted average cost of capital |

# 12. References

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Hunter Water, 2015, **Submission to IPART on prices to apply from 1 July 2016**, Hunter Water Corporation, June, Newcastle.

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