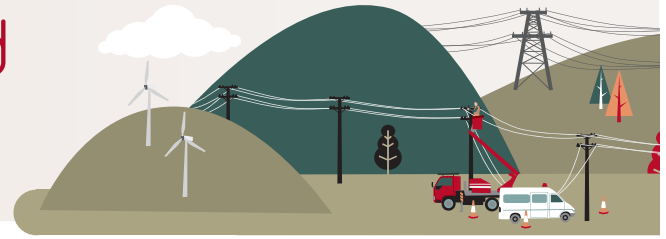


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# Revenue cap for electricity distribution businesses and COVID-19 related impacts



## Purpose and introduction

This is a guide to the revenue cap that applies to Electricity Distribution Businesses (EDBs) who are subject to default price-quality regulation under Part 4 of the Commerce Act 1986. The revenue cap is a relatively new form of regulation for most EDBs whose prices were previously constrained by a weighted average price cap.

This guidance is intended to help EDBs navigate and understand the rules that set out what the revenue cap is and how it works. Some of the information, while of a general nature, responds to queries that stakeholders have raised relating to the impact of the COVID-19 pandemic on EDBs.

### Part One: Overview of the revenue cap

Provides an overview of how the revenue cap applies to EDBs.

### Part Two: Questions and answers about the revenue cap in light of COVID-19

Explains how the revenue cap interacts with decisions that EDBs may make and with external influences on EDBs that might be outside their control. In particular, it responds to a number of queries we have received from stakeholders in light of the COVID-19 pandemic and contains information on how the revenue cap treats:

- actions taken by EDBs to provide financial relief to consumers in response to the pandemic, such as reducing prices (via reduced lines charges and via increased or new discounts), providing early payments of discounts, or providing deferred payments of line charges;
- unexpected reductions in electricity demand<sup>1</sup> and increases in costs that are largely outside an EDB's control, such as possible increases in bad debts due to retailers defaulting on their payments; and
- government-initiated contributions that help an EDB and its staff, such as the wage subsidy scheme or infrastructure investment.

### Part Three: Revenue cap scenarios

Provides numerical examples illustrating how the revenue cap works under different scenarios.

We may amend and add to this guidance from time to time. We welcome EDBs or other interested parties to contact us if they think further clarity on something discussed in this guidance is needed, or if they have additional questions they would like to see addressed in this guidance. Please contact us at [regulation.branch@comcom.govt.nz](mailto:regulation.branch@comcom.govt.nz).

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1. In this document, "demand" is a reference to the demand for all quantities that correspond to prices, so "demand" includes not just kWh demand but other billed quantities such as the number of ICs that attract a fixed daily charge.

## Background and scope of this guidance

This guidance is primarily targeted at EDBs who are subject to the current *Electricity Distribution Services Default Price-Quality Path Determination 2020* [2019] NZCC 21 (DPP3), that took effect on 1 April 2020 for a period of five years. It may also be of use to other stakeholders with an interest in the regulation of the electricity lines industry.

EDBs distribute electricity via powerlines and underground cables, each in different parts of the country. Most EDBs interface directly with the electricity retailers who sell electricity to households and businesses on their network. While all consumers choose their electricity retailer, nearly all consumers have no choice but to connect to their local EDB's network.<sup>2</sup> Due to their monopoly status, we are required to regulate EDBs under Part 4 of the Commerce Act 1986.

Most EDBs are subject to a "revenue cap" which limits the total revenue that an EDB can recover from its consumers.<sup>3</sup> We also set standards relating to the reliability of service that EDBs must deliver. This includes placing limits on the number and duration of power outages on an EDB's network.

While this guidance is focused on the revenue cap that applies to EDBs subject to DPP3,<sup>4</sup> most of the information included will also be helpful for explaining how the revenue cap is likely to work under any new customised price-quality path (CPP) that we set.

This guidance does not cover revenue caps or weighted average price caps that currently apply outside of DPP3. This includes:

- the revenue cap that applies to Transpower under its individual price path;
- the revenue caps that apply to Powerco Limited and Wellington Electricity Lines Limited under their current CPPs;
- the revenue cap that applies to First Gas Limited's gas transmission business and the weighted average price caps that apply to regulated gas distribution businesses.

More information about the DPP3 revenue cap and how it works can be found in Attachment H of the Commission's 2020-2025 default price-quality path – Final decision – Reasons paper, available at: <https://comcom.govt.nz/regulated-industries/electricity-lines/projects/2020-2025-default-price-quality-path>.

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2. A small number of consumers connect directly to the national grid, operated by Transpower, while others go off the grid.

3. Consumer-owned electricity distribution businesses that meet certain criteria are exempt from price-quality regulation.

4. There are currently 15 EDBs who are subject to DPP3.

## IMPORTANT NOTICE

Please note that:

- The information provided in this document is intended to help EDBs navigate and understand the rules that set out what the revenue cap is and how it works. It is guidance only and does not modify or replace the requirements set out in DPP3 or the *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26 (consolidated as at 20 May 2020) (EDB IMs). It is also not an exhaustive list of the obligations that apply to EDBs under DPP3. EDBs should continue to refer to the rules set out in the most recent consolidated versions of DPP3 and the EDB IMs.
- This guidance is of a general nature only and is not intended to address specific circumstances of any particular individual, entity or situation.
- This guidance should not be used in place of professional or legal advice. Specific advice should be sought from qualified professionals prior to taking any action or otherwise relying on any content or information from this guidance.

## Part One: Overview of the revenue cap

### What is a revenue cap?

- A revenue cap limits the total revenue that an EDB can recover from its consumers over time. By providing EDBs with a reasonable degree of certainty about the revenue they can recover that is independent of changes in consumer demand for electricity, the revenue cap encourages EDBs to invest in and maintain their networks.
- The revenue cap is a key component of the price-quality paths we set for EDBs. It incentivises EDBs to find solutions that reduce their costs in order to increase their profitability. Another key component is the quality standards we set for the reliability of services that EDBs must meet, along with associated quality incentives. Together, the revenue cap, the quality standards and quality incentives incentivise EDBs to manage costs efficiently and guard against possible incentives to reduce costs and maximise profits simply by lowering service quality.
- The revenue cap is a relatively new mechanism for EDBs. Under previous price-quality paths, EDBs faced a “weighted average price cap” which limited the maximum average prices they could charge.
  - Unlike the revenue cap, the price cap exposed EDBs to changes in demand and subsequent revenue losses when demand dropped.
  - EDBs that charged below their price cap did not get to recover the associated revenue loss in future years.
  - EDBs considered that this resulted in some disincentives to invest in energy efficiency and demand-side management technologies.

### How does the revenue cap under DPP3 work?

#### At the start of the DPP3 regulatory period we set EDBs’ forecast net allowable revenue

- At the start of the current DPP3 regulatory period, which runs from 1 April 2020 to 31 March 2025, we set each EDB’s forecast net allowable revenue for each pricing year (from 1 April to 31 March) of the regulatory period. We set this based on an EDB’s expected profitability. Forecast net allowable revenue is set to recover an EDB’s forecast return on and return of capital, as well as its forecast tax and operating costs.
- The forecast net allowable revenue forms part of the annual revenue cap placed on an EDB. But it is not all of it.
- EDBs must also recover revenue to cover additional costs that may be passed on to consumers, such as transmission charges that are paid to Transpower for connection to the national grid and the EDB’s local authority rates. These costs are known as “pass-through” costs and “recoverable” costs.<sup>5</sup>
- The forecast net allowable revenue set for each pricing year differs to reflect inflation expectations (Consumer Price Index). However, once set, it does not change to reflect changes in electricity demand, such as changes in the number of households or energy transported.

5. The expenditure items captured by pass-through costs and recoverable costs are defined in the *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26 (consolidated 20 May 2020), clause 3.1.2 and 3.1.3.

## Each year EDBs forecast their revenue and costs

- Each pricing year, EDBs forecast their pass-through costs and recoverable costs. These costs may be passed on to consumers.
- An EDB's annual revenue cap or **forecast allowable revenue** is:
  - the forecast net allowable revenue;
  - the EDB's forecast of its pass-through and recoverable costs; and
  - a “wash-up” balance reflecting revenue the EDB has either over- or under- recovered in previous years and has carried forward. The wash-up mechanism is described in more detail below.
    - Each year, EDBs also forecast demand for their services. In practice, this is the quantities expected to be charged to consumers, including connection, energy (kWh), peak demand (kW), and/or capacity charges.
    - To comply with the revenue cap, EDBs must set prices based on their forecast demand which provides them an expectation of recovering revenue that does not exceed the forecast allowable revenue. In other words, each year an EDB's “forecast revenue from prices” must not exceed its “forecast allowable revenue”.

## At the end of each year...

### *An EDB's actual revenue will likely differ to its forecast allowable revenue*

- An EDB's actual revenue is not known until the end of each pricing year.
- Actual electricity demand is known at the end of the year. If electricity demand is higher or lower than forecast, it may result in EDBs recovering revenue that is above or below the forecast allowable revenue.
  - EDBs tend to change prices at the start of each new pricing year and generally do not tend to change prices within a pricing year to account for updated demand forecasts or to update their pricing preferences.
  - EDBs' ability to change prices during the pricing year will be determined by the terms and conditions of the agreements they have with retailers and certain large consumers.
- An EDB's actual allowable revenue will likely differ to its forecast allowable revenue
- An EDB's actual pass-through and recoverable costs and the actual inflation rate is only known at the end of the pricing year and it could be higher or lower than the forecasts included in the EDB's forecast allowable revenue. This information is used to calculate an EDB's actual allowable revenue for the pricing year that has just occurred, which is likely to differ to the forecast allowable revenue set at the start of the pricing year.

### ***An EDB's actual revenue is likely to differ to its actual allowable revenue***

→ Due to differences between forecast demand and actual demand, and differences between forecast and actual pass-through and recoverable costs and inflation, the revenue that an EDB actually recovers is likely to differ to its actual allowable revenue.<sup>6</sup> In other words, an EDB is likely to under- or over- recover revenue.

### ***An EDB can carry forward under- or over- recovered revenue into future years***

- An EDB can carry forward revenue it has under- or over- recovered into future years via a '**wash-up' balance**, which forms part of an EDB's forecast allowable revenue in future years. The wash-up balance may be positive or negative, depending on whether EDBs owe money to consumers, or vice versa.
- Under- or over- recovered revenue is 'washed-up' by the EDB either collecting or returning the revenue to consumers in two pricing years' time through higher or lower prices.
- The wash-up balance is drawn down in two years' rather than one year's time because the information needed to calculate the wash-up balance, including actual demand and pass-through and recoverable costs, only becomes available once the next pricing year has already begun.
- The wash-up balance supports the revenue cap by accounting for differences between forecasts and actuals. This provide EDBs with a reasonable degree of certainty about the revenue they can recover, regardless of changes to demand.

**For a numerical example, see**  
*Part Three Scenario 1: Base case – revenue cap with a wash-up balance*

### **Other mechanisms support the revenue cap and the wash-up balance**

- Other mechanisms work together to support the revenue cap and wash-up mechanism. These are:
  - a cap on the wash-up amount that can be carried forward;
  - a limit on voluntary undercharging; and
  - a limit on the annual percentage increases in forecast revenue.
- The wash-up balance and each of these supporting mechanisms are described below.

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6. Note that the wash-up is expressed by comparing 'actual allowable revenue' to 'actual revenue', where actual revenue = actual revenue from prices + other regulated income. The wash-up is not expressed by comparing 'forecast revenue' to 'actual revenue'.

# Mechanisms supporting the revenue cap

## The wash-up balance

- The wash-up balance allows EDBs to carry forward under- or over- recovered revenue into future years. This helps correct for differences between forecast demand and actual demand and several other differences.
- At the end of each pricing year, the difference between the EDB's actual allowable revenues and the revenue the EDB actually received is recorded as a wash-up amount. The wash-up amount can be positive or negative and could be driven by a range of factors, such as unexpected changes in demand or pass-through costs.
- The EDB can recover the wash-up amount together with a time-value of money adjustment two years later by charging consumers higher or lower prices.<sup>7</sup> This adjustment recognises that the revenue is worth more to the EDB now than in two years' time. If held now, the EDB could start earning (or be charged) interest on it.
- If the wash-up balance has not been drawn down in entirety, any remaining balance can be recovered two years later and then two years later after that and so on.<sup>8</sup>
- Wash-up balances are also carried forward from one regulatory period to the next. For example, a wash-up amount incurred in the fourth or fifth pricing year of a five-year regulatory period will be carried over to the next regulatory period and included in the forecast allowable revenue in the first and second pricing years of the following regulatory period.
- In most circumstances, the ability to “wash-up” and carry forward revenue provides EDBs certainty about the revenue they will receive; they are kept whole in ‘present value’ terms for differences between forecast and actual revenues. However, in circumstances where an EDB's actual revenue is significantly below the revenue cap we set, an EDB cannot ‘wash-up’ all the under-recovered revenue and it will permanently forego some revenue (see *Cap on the wash-up amount* below).

## Cap on the wash-up amount

- There is a cap on the wash-up amount of revenue that EDBs can carry forward and recover in future years. This is so EDBs maintain some exposure to the risk that demand could be significantly lower than forecast and consumers do not bear all of that risk.
- It is expected that the cap on the wash-up amount will be infrequently triggered.
- The cap binds when the ratio of actual revenue from prices to forecast revenue from prices is less than 80 percent in a single year.
- An EDB's actual revenue is based on the actual prices it charged and actual quantities sold.
- If the cap binds, the EDB will permanently forego a percentage of its actual net allowable revenue. The percentage foregone is the number of percentage points the ratio of actual revenue from prices to forecast revenue from prices is below 80 percent.

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7. The time-value of money adjustment is for two years. The discount rate for the time value of money adjustment is the 67th percentile estimate of the post-tax weighted average cost of capital (WACC) as at 1 September 2019. Its value is 4.23% and is set out in clause 4.2 of the DPP Determination available at <https://comcom.govt.nz/regulated-industries/electricity-lines/projects/2020-2025-default-price-quality-path#projecttab>

8. There are effectively two separate wash-up balances that can be drawn down: the first can be drawn down in odd years and the second can be drawn down in even years. The wash-up amount that accrues from an even year (eg, 2022, 2024 etc) will always be drawn down in subsequent even years and the wash-up amount that accrues from an odd year (eg, 2021, 2023, 2025 etc) will always be drawn down in subsequent odd years.

- The cap does not generally constrain an EDB’s ability to recover its actual pass-through and recoverable costs, which do not form part of actual net allowable revenue.<sup>9</sup>
- Any new prices that EDBs may introduce during the year, such as in non-standard contracts to certain large customers, and any external demand shocks or changes to demand as a result of price changes will influence the actual revenue received. In-year<sup>10</sup> price reductions and/or demand reductions may cause the cap on the wash-up amount to bind. This is explained further in Part Two, at page 8.

**For a numerical example, see**  
*Part Three Scenario 2: Cap on the wash-up amount binds*

## Limit on voluntary undercharging

- An EDB may set prices below the prices consistent with the revenue cap (ie, it may voluntarily undercharge and under-recover revenue). The wash-up mechanism means they can usually recover this revenue in later years.
- While an EDB may undercharge as it sees fit, there is a limit on the cumulative amount of revenue, associated with undercharging, that an EDB may carry forward and recover in later years. In other words, the EDB will start to permanently forego revenues if it sets prices below this limit.
- Currently, the limit on voluntary undercharging is usually 90 percent of forecast allowable revenue (undercharging floor).<sup>11</sup>
  - This means that an EDB who sets its prices such that its forecast revenue from prices is below this limit is unable to accrue the revenue associated with this undercharging in its wash-up balance and recover it in later years. Instead, the EDB will permanently forego this associated under-recovered revenue.
  - To avoid permanently foregoing revenue in circumstances where an EDB is looking to set prices below its revenue cap, the EDB must set its prices such that they are no more than 10 percent below the prices that are consistent with that EDB’s forecast allowable revenue. The EDB will then be able to recover all the associated under-recovered revenue from its undercharging.
- The limit on voluntary undercharging may influence prices an EDB chooses to set in a given pricing year, but it also prevents EDBs accumulating large wash-up balances that could cause price shocks when the balance is recovered in later years.
- An EDB’s wash-up balance may accumulate up to 10 percent of forecast allowable revenue in year one and up to 10 percent of forecast allowable revenue in year two (or 20 percent in total) without it permanently foregoing any revenue. This arises because the wash-up balance is recovered two years later. It cannot be recovered one year later due to the relevant information not being available sufficiently early.

9. The exception to this is when an EDB has offered a non-qualifying discount. The revenue loss from a non-qualifying discount will not reduce the calculated value of actual revenue, so the loss cannot be recovered. Non-qualifying discounts are discussed in Part Two below.

10. The use of “in-year” in this document refers to events that occur during a pricing year (for example, in terms of the first assessment period, this would refer to sometime between 1 April 2020 and 31 March 2021), in particular the introduction of new prices during a pricing year.

11. In most cases, the limit on voluntary undercharging that will apply to an EDB is 90 percent of its forecast allowable revenue. However, this may not always be the case. The voluntary undercharging revenue floor is the lesser of 90% of forecast allowable revenue; or 110% of the previous pricing year’s forecast revenue from prices. See Clause 4.2 of the *Electricity Distribution Services Default Price-Quality Path Determination 2020* [2019] NZCC 21 (consolidated 20 May 2020).



**For a numerical example, see**

*Part Three Scenario 3: Limit on voluntary undercharging – first limb binds*

- The cap on the wash-up balance works independently of the limit on voluntary undercharging to prevent EDBs accumulating large wash-up balances. It is possible to permanently forego revenue from both mechanisms; the total foregone revenue will be any foregone revenue arising from the cap on the wash-up amount plus any arising from the limit on voluntary undercharging.

**The independence between the cap on the wash-up balance and the limit on voluntary undercharging is illustrated in**

*Part Three Scenario 2: Cap on the wash-up amount binds*

## **Limit on annual increases in forecast revenue from prices**

- We do not want consumers to face large price shocks year-on-year, which the revenue cap and the wash-up mechanism alone do not insure against. To mitigate the risk of large price shocks from one year to the next, there is a limit on the annual percentage increase in forecast revenue from prices.
- EDBs may increase or decrease prices at the start of each pricing year, subject to the revenue cap. However, any price increases made at the start of the pricing year must not result in an EDB's forecast revenue increasing more than 10 percent above the previous pricing year's forecast revenue. If applying this rule would require an EDB to set prices that are below 90 percent of forecast allowable revenue, the floor will adjust such that the EDB is able to set prices without permanently foregoing revenue.<sup>12</sup>
- If EDBs change prices or discounts within a pricing year, this will not affect its forecast revenue, which has already been calculated at the start of the year, so is not relevant to calculating this annual limit on forecast revenue from prices.

**For a numerical example, see**

*Part Three Scenario 4: Limit on annual percentage increase in forecast revenue from prices binds*

**For a numerical example of how the two mechanisms interact, see**

*Part Three Scenario 5: Limits on both voluntary undercharging and on increase in forecast revenue bind*

12. See Clause 4.2 of the *Electricity Distribution Services Default Price-Quality Path Determination 2020* [2019] NZCC 21 (consolidated 20 May 2020).

## Demonstrating compliance with the revenue cap

- In advance of each pricing year, EDBs must provide us with an *annual price-setting compliance statement*. This contains the EDB's calculation of forecast revenue from prices and forecast allowable revenue. It shows whether the EDB plans to voluntarily undercharge and whether it is setting prices in a way that takes account of any under- or over- recovered revenue it has carried forward from previous years via the wash-up mechanism.
- After the pricing year has ended, EDBs must provide us with an annual compliance statement. This contains details of the EDB's wash-up calculation, including the prices and quantities used to calculate the 'actual revenue from prices'. It also presents the EDB's performance against quality standards and quality incentives and shows any transactions made, such as sale or purchase of networks.
- Together, these compliance statements allow us to observe the EDB's compliance with the revenue cap and the other associated mechanisms, namely: the wash-up balance, the cap on the wash-up amount, the limit on voluntary undercharging, and the limit on annual increases in forecast revenue from prices.
- EDBs are required to make these compliance statements publicly available on their website.

## Part Two: Questions and answers about the revenue cap in light of COVID-19

The questions and answers below respond to queries we have received from stakeholders about how the revenue cap treats:

- actions taken by EDBs in response to the COVID-19 pandemic to reduce prices to their customers<sup>13</sup> (via reduced lines charges and via increased discounts), to provide early payment of discounts, or to provide for deferred payments of network charges;
- unexpected reductions in demand and increases in costs that might be largely outside an EDB's control, such as possible increases in bad debts due to retailers defaulting on their payments; and
- government initiated contributions that help an EDB and its staff, such as the wage subsidy scheme or infrastructure investment.

*The questions answered in this section are:*

**Question 1** *If an EDB sets lower prices to provide some financial relief to its customers, can it recover this lower revenue in later years?*

**Question 2** *If an EDB expects its demand to fall, can it recover the associated revenue drop under the revenue cap?*

**Question 3** *If an EDB offers its customers deferred payment options, how is this treated under the revenue cap?*

**Question 4** *If an EDB offers its customers a discount to apply in a new pricing year, can it recover the associated lower revenue in later years?*

**Question 5** *If an EDB already has a discount on offer but wants to offer consumers the benefit of this discount earlier, how is its revenue affected?*

**Question 6** *If an EDB introduces a new discount during the pricing year, can it recover the associated lower revenue in later years?*

**Question 7** *If an EDB increases the value of a pre-existing discount during the pricing year, can it recover the associated lower revenue in later years?*

**Question 8** *Can increased bad debts (and increases to other costs) be recovered under the revenue cap?*

**Question 9** *If an EDB receives the government wage subsidy or other forms of government contributions such as regional development funding, how are these treated?*

13. We refer to "customers" in this section when discussing how an EDB's decisions may affect electricity consumers on its own network. In this context, customers should be read as analogous to consumers, which was generally used in section one when discussing electricity customers not specific to any one EDB.

## Question 1

### ***If an EDB sets lower prices to provide some financial relief to its customers, can it recover this lower revenue in later years?***

- If an EDB sets prices lower than it is allowed to charge under the revenue cap before the start of a new year:
- Generally, the differences between actual revenues and allowable revenues (the revenue cap) is 'washed up' and recovered in later years. An exception to this is if the cap on the wash-up amount binds.
    - The cap binds when the ratio of actual revenue from prices to forecast revenue from prices is less than 80 percent.
    - The EDB will permanently forego a percentage of its actual net allowable revenue. The percentage foregone is the number of percentage points the ratio is below 80%.
  - However, if the EDB sets prices that are more than 10 percent below the prices consistent with the forecast allowable revenue (or revenue cap), it has exceeded the undercharging limit and cannot recover all the associated reduced revenue.
- If the EDB reduces prices within a pricing year (ie, it provides in-year price reductions):
- The voluntary undercharging limit will not be applied to these reduced prices.
  - Generally, the EDB can recover this lower revenue in future years via the wash-up mechanism (see *The wash-up balance* description above).
  - However, if the in-year price reductions are sufficiently large or if they are coupled with dampened demand, the cap on the wash-up amount may bind.
  - The cap binds when the ratio of actual revenue from prices to forecast revenue from prices is less than 80 percent. The EDB will permanently forego a percentage of its actual net allowable revenue. The percentage foregone is the number of percentage points the ratio is below 80%.

**For a numerical example of an in-year price reduction, see**  
*Part Three Scenario 6: In-year price reductions.*

**Scenario 6a illustrates how the resulting lower revenue can be recovered in future years via the wash-up mechanism.**

**Scenario 6b is similar, but with a price reduction sufficiently large to result in the cap on the wash-up amount binding, which results in forgone revenue**

## Question 2

### ***If an EDB expects its demand to fall, can it recover the associated revenue drop under the revenue cap?***

- If an EDB is forecasting lower demand in the coming pricing year:
  - It can set higher prices for that year to maintain its forecast revenue, in accordance with the revenue cap.
  - It must be able to demonstrate that its forecasts are demonstrably reasonable.
- If an EDB experiences lower demand during the year, after it has already set prices and forecast its demand for that year:
  - This will impact its *actual revenue from prices*, which will likely be lower than its forecast revenue from prices.
  - Generally, the EDB can recover this lower revenue in future years via the wash-up mechanism (see *The Wash-up balance* description above).
  - However, if the reduction in demand is sufficiently large and/or if it is coupled with an in-year price reduction initiated by the EDB, the cap on the wash-up account may bind.
    - The cap binds when the ratio of actual revenue from prices to forecast revenue from prices is less than 80 percent.
    - The EDB will permanently forego a percentage of its actual net allowable revenue. The percentage foregone is the number of percentage points the ratio is below 80%.

## Question 3

### ***If an EDB offers its customers deferred payment options, how is this treated under the revenue cap?***

- We are aware of deferred payment schemes – introduced and proposed by some EDBs – to enable electricity retailers facing liquidity constraints to defer line charge payments to EDBs. This includes the scheme for deferred payments introduced by the Electricity Authority in May 2020, which requires the six largest distributors to offer deferred debt payment terms to qualifying retailers.<sup>14</sup>
- Generally, and all else equal, an EDB's compliance with its price-quality path will not be affected by retailers deferring payments. While the EDB can expect to receive the payment at a later date, this does not change the timing of when the revenue is recognised, nor will it affect the actual prices charged or actual quantities supplied. Assuming actual revenue is not affected, deferred payments have no impact on any revenue that is washed up and recovered in later years via the wash-up mechanism.

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14. This deferred payment scheme was introduced via an amendment to the Electricity Industry Participation Code 2010. The relevant Code provisions expire on 20 February 2021.

# Discounts

## Background

- Many EDBs offer their consumers discounts and these may take various forms. EDBs may refer to discounts, rebates, or line charge holidays.
- We distinguish between:
  - discretionary discounts, which have the characteristics of dividends or other distributions to consumer shareholders, and
  - non-discretionary discounts, which have the characteristics of prices, and as such are treated as reductions in revenues under the DPP3.
- **Non-discretionary discounts** will qualify under DPP3 as reductions in revenue under the revenue cap in the same way that reducing prices are, if the following criteria are met:
  - the discounts are included in a 'price', where a price is individual tariffs, fees or charges, or individual components, for the supply of electricity distribution services (although in practice the discount is a negative rather than a positive price component); and
  - the discounts are offered by the EDB in advance, at a certain point of time. A discount is considered 'offered' if it has been either 'publicly disclosed' or 'notified'.<sup>15</sup> This allows consumers to respond to the discounts, in the same way that they could respond to a positive component of price rather than a negative price component.
- In addition, the discounts must have been included in a 'price' used to calculate the EDB's forecast revenue from prices, which must be done prior to the start of the pricing year.
- When a non-discretionary discount meets all of these requirements, we refer to it as a 'qualifying discount'.

### Question 4

#### ***If an EDB offers its customers a discount to apply in a new pricing year, can it recover the associated lower revenue in later years?***

- Subject to some limits, yes. An EDB that offers its consumers discounts on prices that will apply in the new year can 'wash-up' and recover any difference between actual revenues (after applying the discounts) and allowable revenues in later years if it is a qualifying discount. In accordance with the above, this means:
  - the discount is offered in advance at a certain point of time, by either 'publicly disclosing' or 'notifying' consumers of the discount<sup>16</sup> prior to consumers purchasing the discounted electricity services in the new year; and
  - the impact of the discount is included in a 'price' used to calculate the EDB's forecast revenue from 'prices', which must be done prior to the start of the pricing year.
- However, if the EDB sets prices, net of qualifying discounts, that are *more than 10 percent below* the prices consistent with the forecast allowable revenue (or revenue cap), it has exceeded the undercharging limit and cannot recover all the associated revenue.
- These impacts mirror the situation where an EDB sets prices below the revenue cap before the start of a new pricing year.

15. In accordance with clauses 2.4.18-2.4.20 of the *Electricity Distribution Information Disclosure Determination 2012* (ID Determination).

16. In accordance with clauses 2.4.18-2.4.20 of the *Electricity Distribution Information Disclosure Determination 2012* (ID Determination).

## Question 5

### ***If an EDB already has a discount on offer but wants to offer consumers the benefit of this discount earlier, how is its revenue affected?***

- After offering a qualifying discount an EDB may later decide to provide consumers the benefit of this discount at an earlier point in time than it was due to.
- In general terms, if consumers receive advanced benefit of a discount, this does not affect the value of the pre-existing discount (ie, no effect on the timing or quantity of services supplied or the prices charged), it will not change the size or timing of when the EDB's revenue is recognised. Rather, it will only change the timing of cashflows.
- However, offering consumers the benefit of a discount before consumers have consumed the EDB's services may mean consumers are no longer responding to the discount, because any consumption occurring after the discount is applied would not affect the amount of the discount. This would mean the discount is no longer a qualifying discount and the EDB will not be able to carry forward and recover any revenue loss associated with the discount. To address this, the EDB may need to introduce other changes in combination with its decision to bring the discount forward to ensure the criteria remain met (eg, such as additional payments at the end of the year to make up for any difference between an already pre-applied discount based on forecast quantities, and the total amount of the discount based on actual quantities).

## Question 6

### ***If an EDB introduces a new discount during the pricing year, can it recover the associated lower revenue in later years?***

- No, a new discount that is offered to consumers during a pricing year is not a qualifying discount.
  - These reduced charges will not be recognised as discounts (reduced prices) for the purposes of calculating the EDB's actual revenue at the end of the year.
  - The EDB *will not* be able to recover any reduced revenue associated with the introduction of a new discount in later years via the wash-up balance.
  - This outcome arises because qualifying discounts must be offered in advance of a new pricing year, or more specifically, when the forecast revenue from prices was calculated, which must occur before 1 April each year.<sup>17</sup> This outcome does not fully reflect the policy intent relating to the treatment of discounts in non-standard contracts, set out in our recent paper amending the IM definition of discounts.<sup>18</sup> We intend to review this requirement at the next IM review, although any changes may not take effect until DPP4.

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17. The relevant requirement in the EDB IM is limb (c) of the definition of 'discount' in clause 3.1.1(11).

18. The policy intent is discussed in paragraphs 3.19 – 3.27 of Amendment to Electricity Distribution Services Input Methodologies Determination and Electricity Distribution Services Default Price-Quality Path Determination 2020 – Correction to definition of discount – companion paper (30 March 2020).

## Question 7

### ***If an EDB increases the value of a pre-existing discount during the pricing year, can it recover the associated lower revenue in later years?***

- No, changing the value of a pre-existing discount during a pricing year is not a qualifying discount.
  - These reduced charges will not be recognised as discounts (reduced prices) for the purposes of calculating the EDB’s actual revenue at the end of the year.
  - The EDB *will not* be able to recover any reduced revenue associated with the change in the discount in later years via the wash-up balance. But it is able to recover any differences in revenue arising from the original discount (ie, prior to the increase).
  - This outcome arises because “discounts” must be offered in advance of a new pricing year, or more specifically, when the forecast revenue from prices was calculated, which must occur before 1 April each year.<sup>19</sup>
- We understand that some EDBs are proposing to offer (or have already offered) further discounts to their electricity prices in the first assessment period of DPP3 in order to mitigate some of the impacts of COVID-19 for their consumers. These further discounts are in the form of either an increase to a pre-existing discount, or a new discount altogether. The discounts are being offered ‘in-year’, meaning they are being offered at a point in time after the start of the first assessment period of the DPP3, which began on 1 April 2020.
- To recognise the relief businesses have provided to consumers during the time most impacted by COVID-19, we have granted a discretion to EDBs that will allow certain discounts offered during a specified period of time in the first assessment period to be recovered by these EDBs via the wash-up mechanism in later years, even if they do not strictly meet the definition of a qualifying discount. We have issued a letter to EDBs explaining this. A copy of this letter is accessible via the [Commission’s website](#).

## Bad debts

### Question 8

### ***Can increased bad debts (and increases to other costs) be recovered under the revenue cap?***

- No, as a result of COVID-19, there is a risk that EDBs face greater than expected levels of bad debt, mainly due to the risk that retailers default on their payments to EDBs.
- EDBs must recognise doubtful debts as operating expenditure (opex). This is required under our information disclosure requirements. It is also consistent with generally accepted accounting practice (GAAP).
- Under the current DPP3, the revenue cap provides for EDBs to recover their operating expenditure forecast, which includes an implicit provision for doubtful debts, based on past levels of doubtful debts.

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19. The relevant requirement in the EDB IM is limb (c) of the definition of ‘discount’ in clause 3.1.1(11).



- Actual bad debts may differ to the provisions implicitly provided for in the DPP3 operating expenditure forecast.<sup>20</sup>
- Higher (or lower) bad debts do not represent revenue that is over- or under- recovered, because bad debt does not reflect a change in prices or quantities billed. This means they cannot be ‘washed up’ and recovered later in future years. Instead, an increase (or decrease) in bad debt from the provision included in an EDB’s operating expenditure forecast is treated the same as any other change in operating expenditure.
  - Net under- or over- recoveries of operating expenditure, including bad debt, are subject to the incremental rolling incentive scheme (IRIS).
  - Under IRIS, the costs of any temporary increases in bad debts or any other operating expenditure is shared between the EDB and consumers over time. Likewise, the gains of any temporary reductions in operating costs will be shared between the EDB and consumers.
- If stakeholders have feedback for us on how any changes in costs due to COVID-19 (including changes in bad debts) should affect current or future regulatory settings, we would expect any requests for those changes in costs to be supported by appropriate evidence.

## Government contributions

### Question 9

#### ***If an EDB receives the government wage subsidy or other forms of government contributions such as regional development funding, how are these treated?***

- The Government’s response to COVID-19 might involve financial stimulus contributions to EDBs. This may include the wage subsidy scheme, which contributes towards workers’ wages, or infrastructure investment.
- If the contributions are for:
  - unregulated activities, the contributions sit outside the scope of regulation under Part 4 of the Commerce Act and will not be recognised under the revenue cap. For example, this could include contributions, including wage subsidy scheme payments, that go towards tree trimming not associated with power line clearances.
  - regulated operating expenditure activities, the contributions should be treated as ‘other regulated income’. An increase in other regulated income will increase actual revenue. This reduces any revenue that could otherwise be carried forward and recovered from consumers in future years (ie, the wash-up balance).
  - regulated asset construction, acquisition or enhancement, the contributions should be treated as capital contributions and deducted from the regulated asset base.

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20. As the DPP includes an opex incremental rolling incentive scheme mechanism, EDBs will only bear 23% of this increase in opex on a present value basis.

## Part Three: Revenue cap scenarios

### Introduction

Each of the revenue cap scenarios in this attachment provides a numerical example to demonstrate a different mechanism of the revenue cap with wash-up.

**Scenario 1** demonstrates the core mechanism of the revenue cap with wash-up. It does not provide a discussion of mechanisms that are only sometimes triggered, so the demonstration of the core mechanism is kept simpler.

**Scenario 2** demonstrates the risk sharing provision of the cap on the wash-up amount, which can cause an amount of revenue to be permanently foregone.

**Scenario 3** demonstrates how voluntary undercharging to a greater extent than a specified threshold can also cause an amount of revenue to be permanently foregone.

**Scenario 4** demonstrates a limit on the percentage increase from one year to the next in the 'forecast revenue from prices'.

**Scenario 5** demonstrates how the limit discussed in Scenario 4 can interact with the voluntary undercharging of Scenario 3, and the DPP3 rule to prevent an otherwise inappropriate outcome.

**Scenario 6** discusses possible outcomes of in-year price reductions.

### Scenario 1

## Base case – Revenue cap with a wash-up balance

### Introduction

- This Scenario 1 reflects a simplification of the actual set of DPP3 rules. It does not include discussion of the following:
  - The potential for the cap of the wash-up amount to result in an amount of 'revenue foregone'.
  - The potential for voluntary undercharging to result in an amount of 'voluntary undercharging amount foregone'.
  - The potential for the 'limit on annual percentage increase in forecast revenue from prices' limiting prices, ie, limiting forecast revenue from price
  - In-year price reductions, as none are assumed for this scenario.
- None of the triggers for the potential outcomes in the first three of these bullet points arise for the data inputs assumed for this scenario.
- In other words, it reflects the core mechanism for the revenue cap. The calculation methods for these potential outcomes are discussed in the other scenario sections in this document. An example of in-year price reductions is explored in Scenario 6.

## Price setting process

→ Consider for example an EDB for which the following data applies in the third pricing year of DPP3, from 1 April 2022 to 31 March 2023:

• Forecast net allowable revenue	\$60m
• Forecast pass-through and recoverable costs	\$32m
• Opening wash-up account balance <sup>21</sup>	\$10m
• Voluntary undercharging amount	\$2m

→ The third pricing year has been chosen for the purposes of all scenarios in this illustrative example, because in the first two pricing years of DPP3, the opening wash-up account balance will be zero. There are no wash-up amounts from prior years because the prior years were within DPP2, for which there was no wash-up account to be maintained. The opening wash-up balance for the first two pricing years are therefore set to nil by the DPP3 determination.

→ Adding the first three values together gives the ‘forecast allowable revenue’ of \$102m.

→ The EDB must set its prices such that its ‘forecast revenue from prices’ is no more than the forecast allowable revenue of \$102m. Forecast revenue from prices are calculated by each EDB prior to the start of each pricing year, and notified to the Commission in the EDB’s annual price-setting compliance statement. For this example, the EDB voluntarily undercharges by a small amount, having a forecast revenue from prices of \$100m.

## Wash-up process

→ The following data applies in the wash-up:

• Actual net allowable revenue	\$60m
• Actual pass-through and recoverable costs	\$30m
• Opening wash-up account balance (as for price setting)	\$10m
• Actual revenue from prices <sup>22</sup>	\$90m
• Actual revenue <sup>23</sup>	\$92m
• 67th percentile estimate of post-tax WACC	5%

→ Adding the first three values together gives the ‘actual allowable revenue’ of \$100m.

→ The ‘wash-up amount’ in this example is the difference between the actual allowable revenue and the actual revenue (\$100m – \$92m), ie, \$8m.<sup>24</sup>

→ This \$8m wash-up amount has two years of time value of money added to it at a 5% WACC to become the opening wash-up account balance two years later at the beginning of the fifth pricing year (1 April 2024 to 31 March 2025), ie  $\$8m \times (1+5\%)^2 = \$8.82m$ . This amount can be recovered in the fifth pricing year through that year’s ‘actual allowable revenue’.

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21. A positive wash-up account balance indicates that consumers “owe” money to the EDB, meaning the EDB may increase its future prices. Vice versa for a negative balance.

22. Actual revenue from prices (\$90m) has been assumed to be 90% of forecast revenue from prices (\$100m). This 90% ratio also applies for all other scenarios, except for Scenario 2 and Scenario 6a and 6b. Actual revenue from prices will be less than its forecast value when demand has been less than forecast. Vice versa for a higher actual revenue from prices.

23. Actual revenue = actual revenue from prices + other regulated income, which is assumed to be \$2m in this scenario.

24. Wash-up amount is defined as actual allowable revenue – actual revenue – revenue foregone. In this example, revenue foregone calculates to nil, so it has not been included in the calculation of actual allowable revenue. Revenue foregone is discussed in relation to the cap on the wash-up amount for Scenario 2.

## Scenario 2

# Cap on the wash-up amount binds

## Introduction

- The cap on the wash-up amount shares the risk of an EDB receiving significantly less revenue from prices than it had forecast. This can arise if the quantities of services demanded are on average significantly less than the EDB's forecast of quantities. The risk is shared between an EDB and its consumers.
- Input data for this scenario is the same as for the base case (Scenario 1), except that we have assumed the actual revenue from prices is only 77% of the forecast revenue from prices, while the ratio is 90% for all other scenarios. It is the risk of a low revenue recovery such as this that the cap is intended to share between EDBs and consumers.

## Price setting process

- We start this scenario with the following assumptions the same as for Scenario 1 for the third pricing year of DPP3:
  - Forecast net allowable revenue \$60m
  - Forecast pass-through and recoverable costs \$32m
  - Opening wash-up account balance \$10m
  - Voluntary undercharging amount \$2m
- Adding the first three values together gives the 'forecast allowable revenue' of \$102m. The EDB sets its prices such that its 'forecast revenue from prices' is \$100m, which meets the requirement of not exceeding the forecast allowable revenue of \$102m.

## Wash-up process

- The following data assumptions apply in the wash-up:
  - Actual net allowable revenue \$60m
  - Actual pass-through and recoverable costs \$30m
  - Opening wash-up account balance (as for price setting) \$10m
  - Actual revenue from prices \$77m
  - Actual revenue<sup>25</sup> \$79m
  - 67th percentile estimate of post-tax WACC 5%
- In this scenario, the ratio of the actual revenue from prices to forecast revenue from prices is 77 to 100, ie, 77%. The cap on the wash-up amount binds if this ratio is less than 80%. The amount by which this ratio is less than 80% is 3%, ie, 80% less 77%.
- This 3% value is applied to net allowable revenue to ensure that the cap does not affect the EDB's ability to cover its pass-through costs and recoverable costs. The 3% is multiplied by the actual net allowable revenue of \$60m (ie, 3% \* \$60m = \$1.8m) to calculate the 'revenue foregone' value of \$1.8m.

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25. Actual revenue = actual revenue from prices + other regulated income, which is assumed to be \$2m in this scenario.

- This value of 'revenue foregone' is used in calculating the wash-up amount, which is: actual allowable revenue – actual revenue – revenue foregone.
- The actual allowable revenue is the same as for Scenario 1, being the sum of the first three bullet points in the list of wash-up assumptions above, ie,  $60+30+10 = \$100\text{m}$ .
- Wash-up amount is therefore  $100 - 79 - 1.8 = \$19.2\text{m}$ .
- This \$19.2m wash-up amount has two years of time value of money added to it at a 5% WACC to become the opening wash-up account balance two years later at the beginning of the fifth pricing year, ie  $\$19.2\text{m} \times (1+5\%)^2 = \$21.12\text{m}$ .

## **Does voluntary undercharging have an impact on the cap on the wash-up amount?**

- Voluntary undercharging will not have an impact on the cap on the wash-up amount, ie, it will not change the amount of 'revenue foregone' from what would apply from pricing up to the maximum allowable extent.
- In this Scenario 2, the forecast revenue from prices is \$100m while the forecast allowable revenue is \$102m. That means that on average, the individual prices that have been set are  $1-100/102 = 1.96\%$  lower than the EDB would have set them if it had fully priced, ie, no voluntary undercharging.
- If there are no in-year price reductions, or new prices introduced, then the set of prices used to calculate the actual revenue from prices will be the same set of prices as used to calculate forecast revenue from prices. That means the prices used to calculate the forecast and the actual revenue from prices will both have been reduced on average by 1.96% as a result of voluntary undercharging. Because both the actual and forecast values will have been equally impacted, the ratio of the actual to the forecast revenue from prices will not be impacted by the 1.96% reduction.
- The ratio of 'actual revenue from prices' to 'forecast revenue from prices' is the essential factor in calculating the 'revenue foregone'. Revenue foregone is determined solely by the ratio and the 'actual net allowable revenue'. Actual net allowable revenue is not impacted by voluntary undercharging.
- It follows that voluntary undercharging does not have an impact on the cap on the wash-up amount provided there are no in-year price reductions, or new prices introduced.

## Scenario 3

# Limits on voluntary undercharging – first limb binds

## Introduction

- For this scenario, we demonstrate how voluntary undercharging can lead to permanently foregoing an amount of revenue.
- There is a ‘voluntary undercharging revenue floor’ (floor) to the forecast revenue from prices, such that if the forecast revenue from prices is lower than the floor, then the EDB will forego the amount of revenue by which the forecast revenue from prices is lower than the floor.
- The floor is set at the lesser of the following two limbs of the definition of the floor:
  - 90% of forecast allowable revenue (this limb applies to this scenario) and
  - 110% of the previous pricing year’s forecast revenue from prices (this limb applies to Scenario 5).

## Price setting process

- Consider for example an EDB for which the following data applies in the third pricing year of DPP3:
  - Forecast net allowable revenue \$60m
  - Forecast pass-through and recoverable costs \$32m
  - Opening wash-up account balance \$10m
  - Voluntary undercharging amount \$14m
- Adding the first three values together gives the ‘forecast allowable revenue’ of \$102m.
- The EDB must set its prices such that its ‘forecast revenue from prices’ is no more than the forecast allowable revenue of \$102m.
- The following are further data for the price setting process:
  - Forecast revenue from prices \$88m
  - Previous year’s forecast revenue from prices \$98m
  - Limit on annual increases in forecast allowable revenue<sup>26</sup> 10%
- Note that the EDB is undercharging by only seeking a forecast revenue from prices of 87.25% (ie,  $88/102 = 87.25\%$ ) of what it is allowed to charge.

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26. This value is set in the DPP3 determination.

- As indicated in the introduction to this scenario, the floor for voluntary undercharging is the lesser of two amounts. These two amounts are 90% of forecast allowable revenue (ie, 90% of \$102m = \$91.8m) and 110% of the previous year’s forecast allowable revenue (110% of \$98m = \$107.8m).
- The lesser of these two amounts is \$91.8m, so that is the floor.
- If an EDB sets its prices such that the forecast revenue from prices is less than the voluntary undercharging revenue floor, it will permanently forego revenue (“voluntary undercharging amount foregone”) to the extent the forecast revenue from prices is below the floor.
- The EDB has set its prices such that the ‘forecast revenue from prices’ is \$88m, which is \$3.8m less than the floor of \$91.8m. It will therefore incur a “voluntary undercharging amount foregone” of \$3.8m. The wash-up amount balance will be reduced by this \$3.8m, which will in turn mean that the EDB will not be able to recover the \$3.8m.<sup>27</sup>

## Wash-up process

- The following data applies in the wash-up:

• Actual net allowable revenue	\$60m
• Actual pass-through and recoverable costs	\$30m
• Opening wash-up account balance (as for price setting)	\$10m
• Actual revenue from prices	\$79.2m
• Actual revenue <sup>28</sup>	\$81.2m
• 67th percentile estimate of post-tax WACC	5%

- Adding the first three values together gives the ‘actual allowable revenue’ of \$100m.
- The ‘wash-up amount’ in this example is the difference between the actual allowable revenue and the actual revenue (ie, 100 – 81.2), which is \$18.8m.<sup>29</sup>
- The opening wash-up account balance two years later at the beginning of the fifth pricing year (1 April 2024 to 31 March 2025), is set to this \$18.8m wash-up amount less the ‘voluntary undercharging amount foregone’ of \$3.8m, all plus two years of time value of money at 5% WACC. This is  $(\$18.8m - \$3.8m) \times (1+5\%)^2 = \$16.54m$ .

27. The voluntary undercharging amount foregone is not accounted for via the wash-up balance. Instead the opening wash-up account balance two years later accounts for the amount foregone as indicated in the last arrow for this scenario.

28. Actual revenue = actual revenue from prices + other regulated income, which is assumed to be \$2m in this scenario.

29. Wash-up amount is defined as actual allowable revenue – actual revenue – revenue foregone. In this example, revenue foregone calculates to nil, so it has not been included in the calculation of actual allowable revenue. Revenue foregone is discussed in relation to the cap on the wash-up amount for Scenario 2.

## Scenario 4

# Limit on annual percentage increase in forecast revenue from prices binds

## Introduction

- The purpose of the limit on the percentage increase from one year to the next in the 'forecast revenue from prices' (the limit) is to reduce large price increases (on average) from one year to the next that might otherwise occur.
- In most circumstances, the maximum prices an EDB can set will be limited by the requirement that forecast revenue from prices must be no more than forecast allowable revenue. In some circumstances, the limit on percentage increases will be more restrictive, and will be the effective binding constraint.
- The input data for this scenario is the same as for the base case except for:
  - The previous year's forecast revenue from prices has been assumed as \$90m.
  - Forecast revenue from prices is 10% more than this at \$99m.
  - Actual revenue from prices is 10% less than this at \$89.1m.

## Price setting process

- Consider for example an EDB for which the following data applies in the third pricing year of DPP3:

• Forecast net allowable revenue	\$60m
• Forecast pass-through and recoverable costs	\$32m
• Opening wash-up account balance	\$10m
• Forecast revenue from prices in the previous pricing year	\$90m
• Limit on annual increases in forecast allowable revenue <sup>30</sup>	10%
- Adding the first three values above together gives the 'forecast allowable revenue' of \$102m.
- The EDB must set its prices such that its 'forecast revenue from prices' is no more than the forecast allowable revenue of \$102m. This is not the only maximum limit on 'forecast revenue from prices'. The 'limit on the annual percentage increase in forecast revenue from prices' requires that 'forecast revenue from prices' must also be no more than 110% of the previous pricing year's 'forecast revenue from prices'.
- In other words, forecast revenue from prices must not increase by more than 10% from one year to the next.
- 110% of the previous pricing year's forecast revenue from prices is 110% of \$90m, which is \$99m. This \$99m limit will apply as it is less than the \$102m limit. The EDB fully prices up to this limit, so its forecast revenue from prices is \$99m.

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30. This value is set in the DPP3 determination.



## Wash-up process

→ The following data applies in the wash-up:

• Actual net allowable revenue	\$60m
• Actual pass-through and recoverable costs	\$30m
• Opening wash-up account balance (as for price setting)	\$10m
• Actual revenue from prices	\$89.1m
• Actual revenue <sup>31</sup>	\$91.1m
• 67th percentile estimate of post-tax WACC	5%

→ Adding the first three values together gives the 'actual allowable revenue' of \$100m.

→ The 'wash-up amount' in this example is the difference between the actual allowable revenue and the actual revenue (\$100m – \$91.1m), ie, \$8.9m.<sup>32</sup>

→ This \$8.9m wash-up amount has two years of time value of money added to it at a 5% WACC to become the opening wash-up account balance two years later at the beginning of the fifth pricing year (1 April 2024 to 31 March 2025), ie  $\$8.9m \times (1+5\%)^2 = \$9.81m$ .

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31. Actual revenue = actual revenue from prices + other regulated income, which is assumed to be \$2m in this scenario.

32. Wash-up amount is defined as actual allowable revenue – actual revenue – revenue foregone. In this example, revenue foregone calculates to nil, so it has not been included in the calculation of actual allowable revenue. Revenue foregone is discussed in relation to the cap on the wash-up amount for Scenario 2.

## Scenario 5

# Limits on both voluntary undercharging and on increase in forecast revenue bind

## Introduction

- This scenario is similar to Scenario 3, which is also about voluntary undercharging.
- The voluntary undercharging revenue floor<sup>33</sup> is set at the lesser of:
  - 90% of forecast allowable revenue (first limb of the definition of the floor) and
  - 110% of the previous pricing year's forecast revenue from prices (second limb of the definition of the floor).
- In Scenario 3, it was the first of these two limbs of the definition of the floor that applied, ie, limb 1 was the lesser amount. In this scenario, it is the second limb that is less, because we have assumed a lower value for the previous year's forecast revenue from prices.
- The lower value of the previous year's forecast revenue from prices has two effects: it causes the second limb of the floor definition to apply and it reduces the maximum amount that the forecast revenue from prices may be.<sup>34</sup> We set the forecast revenue from prices equal to the floor at \$90.2m.

## Price setting process

- Consider for example an EDB for which the following data applies in the third pricing year of DPP3:

• Forecast net allowable revenue	\$60m
• Forecast pass-through and recoverable costs	\$32m
• Opening wash-up account balance	\$10m
• Voluntary undercharging amount	\$11.8m
- Adding the first three values together gives the 'forecast allowable revenue' of \$102m.
- The following are further data for the price setting process:

• Forecast revenue from prices	\$90.2m
• Previous year's forecast revenue from prices	\$82m
• Limit on annual increases in forecast allowable revenue <sup>35</sup>	10%
- The EDB must set its prices such that its 'forecast revenue from prices' is no more than the forecast allowable revenue of \$102m.
- The EDB must also set its prices such that its 'forecast revenue from prices' is no more than 110% of the previous pricing year's forecast allowable revenue, which for this scenario is 110% of \$82m, ie,  $110\% * 82 = \$90.2m$ .

33. There is a floor to the forecast revenue from prices, such that if the forecast revenue from prices is lower than the floor, then the EDB will forego the amount of revenue by which the forecast revenue from prices is lower than the floor.

34. Clause 8.4(b) of the DPP3 determination.

35. This value is set in the DPP3 determination.

- \$90.2m is less than \$102m, so it is this second constraint on forecast allowable revenue that applies. We assume the EDB fully prices up to this limit, ie, forecast revenue from prices is \$90.2m.
- The revenue floor is the lesser of:
  - 90% of forecast allowable revenue, ie,  $90\% * \$102m = \$91.8m$  and
  - $110\% \times$  the previous year's forecast revenue from prices, ie,  $110\% * \$82m = \$90.2m$ .
- \$90.2m is the lesser of these two amounts, so that is the floor. We assume that the EDB sets prices such that its forecast revenue from prices is this amount of \$90.2m.
- The EDB will forego the amount of revenue by which the floor is higher than the forecast revenue from prices. This amount is the floor of \$90.2 less the forecast revenue from prices of \$90.2m, ie, nil.

## Inappropriate outcome if floor could be higher than the ceiling

- As noted above, the “voluntary undercharging revenue floor” is defined as the lesser of:
  - 90% of forecast allowable revenue, and
  - 110% of the previous year's forecast revenue from prices.
- If we were not to have the second limb of this definition, and simply set the “voluntary undercharging revenue floor” as 90% of forecast allowable revenue, then the floor would be \$91.8m.
- The EDB would however have a hard ceiling of \$90.2m, being the maximum amount of forecast revenue from prices that would be allowed under the 10% limit on annual increases in forecast allowable revenue.
- We would then have a non-mandatory floor of \$91.8m and a mandatory ceiling of \$88m. This would be an inappropriate situation of the floor being higher than the ceiling. The highest the EDB may have its forecast revenue from prices is \$88m. This will mean that it would (if we were to not have the second limb) *involuntarily* incur a “voluntary undercharging revenue foregone” of  $\$91.8m - \$90.2m$ , or \$1.6m.
- The EDB must set its prices such that its forecast revenue from prices is under the “limit on annual increases in forecast allowable revenue” (being  $110\%$  of  $\$82m = \$90.2m$ ). If the EDB is to both avoid the foregoing of revenue it must set its prices such that its forecast revenue from prices is no lower than the floor, which is also  $110\%$  of  $\$82m$ , or  $\$90.2m$ .
- The general conclusion is that if the second limb of the definition of the floor applies, the EDB must set its prices such that its forecast revenue from prices is  $110\%$  of the previous year's forecast revenue from prices, no more and no less, if it is to avoid the foregoing of revenue.

## Wash-up process

→ The following data applies in the wash-up:

• Actual net allowable revenue	\$60m
• Actual pass-through and recoverable costs	\$30m
• Opening wash-up account balance (as for price setting)	\$10m
• Actual revenue from prices	\$81.18m
• Actual revenue <sup>36</sup>	\$83.18m
• 67th percentile estimate of post-tax WACC	5%

→ Adding the first three values together gives the 'actual allowable revenue' of \$100m.

→ The 'wash-up amount' in this example is the difference between the actual allowable revenue and the actual revenue (ie,  $100 - 83.18$ ), which is \$16.82m.<sup>37</sup>

→ The opening wash-up account balance two years later at the beginning of the fifth pricing year (1 April 2024 to 31 March 2025), is set to this \$16.82m wash-up amount less the 'voluntary undercharging amount foregone', all plus two years of time value of money at 5% WACC. This is  $(\$16.82m - \$0.0m) \times (1+5\%)^2 = \$18.54m$ .

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36. Actual revenue = actual revenue from prices + other regulated income, which is assumed to be \$2m in this scenario.

37. Wash-up amount is defined as actual allowable revenue – actual revenue – revenue foregone. In this example, revenue foregone calculates to nil, so it has not been included in the calculation of actual allowable revenue. Revenue foregone is discussed in relation to the cap on the wash-up amount for Scenario 2.

## Scenario 6

# In-year price reductions

## Introduction

- In-year price reductions (ie, reductions made during the pricing year, rather than prior to the pricing year) will reduce actual revenue from prices. They will not however have any impact on the calculated ‘forecast revenue from prices’, as this value is not recalculated if prices have been reduced during the year to which they apply.
- We will consider two sub-scenarios:
  - Sub-scenario 6a, for which the input data is the same as the base case, except that prices on average will be 5% lower than the prices used to calculate the forecast revenue from prices.
  - Sub-scenario 6b, for which the input data is the same as for sub-scenario 6a except prices on average will be 14% lower than the prices used to calculate the forecast revenue from prices.

## Price setting process, sub-scenarios 6a and 6b

- The data and calculated values for both sub-scenarios are exactly the same as for the base case, ie,:
  - Forecast net allowable revenue \$60m
  - Forecast pass-through and recoverable costs \$32m
  - Opening wash-up account balance<sup>38</sup> \$10m
  - Voluntary undercharging amount \$2m
- Adding the first three values together gives the ‘forecast allowable revenue’ of \$102m.
- The EDB must set its prices such that its ‘forecast revenue from prices’ is no more than the forecast allowable revenue of \$102m. For this example, the EDB voluntarily undercharges by a small amount, having a forecast revenue from prices of \$100m.

## Wash-up process, sub-scenario 6a

- The following data applies in the wash-up:
  - Actual net allowable revenue \$60m
  - Actual pass-through and recoverable costs \$30m
  - Opening wash-up account balance (as for price setting) \$10m
  - Actual revenue from prices \$85.5m
  - Actual revenue<sup>39</sup> \$87.5m
  - 67th percentile estimate of post-tax WACC 5%
- The actual revenue from prices is indicated above as \$85.5m, which is in part driven by quantities of services supplied being on average 10% lower than forecast, with a further reduction in actual revenue from prices being driven by in-year average price reductions of 5%. The combined effect of these two effects are that actual revenue from prices will be  $(1-10%)*(1-5%) = 85.5%$  of forecast revenue from prices. This is \$85.5m, as the forecast revenue from prices is \$100m.

38. A positive wash-up account balance indicates that consumers “owe” money to the EDB, meaning the EDB may increase its future prices. Vice versa for a negative balance.

39. Actual revenue = actual revenue from prices + other regulated income, which is assumed to be \$2m in this scenario.

- The ratio of actual revenue from prices to forecast revenue from prices is 85.5%. This ratio is sufficiently large to avoid the cap on the wash-up amount binding. If it were less than 80%, an amount of revenue foregone would be incurred.
- Adding the first three values together gives the ‘actual allowable revenue’ of \$100m.
- The ‘wash-up amount’ in this example is the difference between the actual allowable revenue and the actual revenue (\$100m – \$87.5m), ie, \$12.5m.<sup>40</sup>
- This \$12.5m wash-up amount has two years of time value of money added to it at a 5% WACC to become the opening wash-up account balance two years later at the beginning of the fifth pricing year (1 April 2024 to 31 March 2025), ie  $\$12.5m \times (1+5\%)^2 = \$13.78m$ .

## Wash-up process, sub-scenario 6b

- The following data applies in the wash-up:

• Actual net allowable revenue	\$60m
• Actual pass-through and recoverable costs	\$30m
• Opening wash-up account balance (as for price setting)	\$10m
• Actual revenue from prices	\$77.4m
• Actual revenue <sup>41</sup>	\$79.4m
• 67th percentile estimate of post-tax WACC	5%

- The actual revenue from prices is indicated above as \$79.4m, which is in part driven by quantities of services supplied being on average 10% lower than forecast, with a further reduction in actual revenue from prices being driven by in-year average price reductions of 14%. The combined effect of these two effects are that actual revenue from prices will be  $(1-10\%)*(1-14\%) = 77.4\%$  of forecast revenue from prices. This is \$77.4m, as the forecast revenue from prices is \$100m.
- The cap on the wash-up amount binds if this ratio is less than 80%. In this case, the ratio of the actual revenue from prices to forecast revenue from prices is 77.4 to 100, ie, 77.4%. The amount by which this ratio is less than 80% is 2.6%, ie, 80% less 77.4%. This 2.6% value is multiplied by the actual net allowable revenue of \$60m (ie,  $2.6\% * \$60m = \$1.56m$ ) to calculate the ‘revenue foregone’ value of \$1.56m.
- As discussed for Scenario 2, this value of ‘revenue foregone’ is used in calculating the wash-up amount, which is: *actual allowable revenue – actual revenue – revenue foregone*
- The actual allowable revenue is the same as for Scenario 1, being the sum of the first three bullet points above, ie,  $\$60m + \$30m + \$10m = \$100m$ .
- Wash-up amount is therefore  $\$100m - \$79.4m - \$1.56m = \$19.04m$
- This \$19.04m wash-up amount has two years of time value of money added to it at a 5% WACC to become the opening wash-up account balance two years later at the beginning of the fifth pricing year, ie  $\$19.04m \times (1+5\%)^2 = \$20.99m$ .
- A comparison of Scenarios 6a and 6b indicates that in-year price reductions beyond a certain level could result in an amount of revenue foregone being incurred.

40. Wash-up amount is defined as actual allowable revenue – actual revenue – revenue foregone. In this example, revenue foregone calculates to nil, so it has not been included in the calculation of actual allowable revenue. Revenue foregone is discussed in relation to the cap on the wash-up amount for Scenario 2.

41. Actual revenue = actual revenue from prices + other regulated income, which is assumed to be \$2m in this scenario.