

# Draft Decision

**Australian Gas Networks (Victoria  
and Albury)**

**Access Arrangement 2023 to 2028**

(1 July 2023 to 30 June 2028)

## **Attachment 4 Regulatory depreciation**

**December 2022**

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## Note

This attachment forms part of the AER’s draft decision on the access arrangement that will apply to Australian Gas Networks (Victoria and Albury) (AGN) for the 2023–28 access arrangement period. It should be read with all other parts of the draft decision.

The draft decision includes the following documents:

Overview

Attachment 1 – Services covered by the access arrangement

Attachment 2 – Capital base

Attachment 3 – Rate of return

Attachment 4 – Regulatory depreciation

Attachment 5 – Capital expenditure

Attachment 6 – Operating expenditure

Attachment 7 – Corporate income tax

Attachment 8 – Efficiency carryover mechanism

Attachment 9 – Reference tariff setting

Attachment 10 – Reference tariff variation mechanism

Attachment 11 – Non-tariff components

Attachment 12 – Demand

Attachment 13 – Capital expenditure sharing scheme

Contents

**Note** .....iii

**4 Regulatory depreciation**.....1

4.1 Draft decision..... 1

4.2 AGN’s proposal ..... 2

4.3 Assessment approach ..... 3

4.4 Reasons for draft decision ..... 9

4.5 Revisions .....17

**Glossary**.....18

## 4 Regulatory depreciation

Depreciation is a method used in our determination to allocate the cost of an asset over its useful life. It is the amount provided so capital investors recover their investment over the economic life of the asset (otherwise referred to as ‘return of capital’). When determining the total revenue for AGN, we include an amount for the depreciation of the projected capital base.<sup>1</sup> Under the building block framework, regulatory depreciation consists of the net total of the straight-line depreciation less the indexation of the capital base.

This attachment outlines our draft decision on AGN’s annual regulatory depreciation amount for the 2023–28 access arrangement period (2023–28 period). Our consideration of specific matters that affect the estimate of regulatory depreciation is also outlined in this attachment. These include:

- the standard asset lives for depreciating new assets associated with forecast capital expenditure (capex)
- year-by-year tracking approach to depreciating assets in the capital base
- proposed accelerated depreciation relating to uncertainty around the future of gas networks.

### 4.1 Draft decision

We determine a regulatory depreciation amount of \$239.5 million (\$ nominal) for AGN for the 2023–28 period. This represents a reduction of \$31.4 million (11.6%) from AGN’s proposed regulatory depreciation amount of \$270.9 million (\$nominal). The key reason for the decrease compared to AGN’s proposal is our higher expected inflation rate for the 2023–28 period, which increases the adjustment for indexation of the capital base that is offset against straight-line depreciation in determining regulatory depreciation.

Table 4.1 sets out our draft decision on AGN’s regulatory depreciation amount over the 2023–28 period.

**Table 4.1 AER’s draft decision on AGN’s forecast depreciation for the 2023–28 period (\$ million, nominal)**

	2023	2024	2025	2026	2027	Total
Straight-line depreciation	101.1	109.5	118.3	127.6	137.1	593.5
<i>Less: Indexation on opening capital base</i>	66.6	69.3	71.4	72.9	73.8	354.0
<b>Regulatory depreciation</b>	<b>34.5</b>	<b>40.2</b>	<b>46.9</b>	<b>54.7</b>	<b>63.2</b>	<b>239.5</b>

Source: AER analysis.

The forecast regulatory depreciation amount in AGN’s proposal is a 0.2% increase from the 2018–22 period (\$2022–23). There are a number of drivers of this outcome. They include AGN’s proposed accelerated depreciation of \$175 million and the offsetting impact of a higher expected inflation relative to the 2018–22 period.

<sup>1</sup> NGR, r. 76(b).

The regulatory depreciation amount is the net total of the straight-line depreciation less the inflation indexation of the capital base.

AGN's straight-line depreciation is impacted by our decisions on accelerated depreciation, its opening capital base as at 1 July 2023 (Attachment 2), forecast capex (Attachment 5) and standard asset lives (section 4.4.4). Our draft decision straight-line depreciation for AGN is \$4.7 million (\$nominal) higher than that proposed by AGN.

The indexation on the capital base is impacted by our decision on AGN's accelerated depreciation, its opening capital base (Attachment 2), forecast capex (Attachment 5) and the expected inflation rate (Attachment 3).<sup>2</sup> Our draft decision indexation on AGN's projected capital base is \$36.2 million higher than proposed by AGN. This is largely because of our decision to reduce AGN's accelerated depreciation and the higher expected inflation rate of 3.37% per annum for the 2023–28 period compared to 3.05% per annum as proposed by AGN.<sup>3</sup>

In coming to this decision on AGN's straight-line depreciation:

- We accept AGN's proposed straight-line depreciation method used to calculate the regulatory depreciation amount.
- We accept AGN's proposal to use the year-by-year tracking method to calculate real straight-line depreciation for its existing assets. This is a continuation of the approach we approved for AGN in the 2018–22 access arrangement. However, we have amended some inputs in AGN's application of the year-by-year tracking method in its proposed depreciation model (section 4.4.1).
- We accept AGN's proposal for accelerated depreciation regarding uncertainty for the future of gas and we have adopted its proposed amount of \$175 million. This is discussed in section 4.4.2.

## 4.2 AGN's proposal

AGN proposed a total forecast regulatory depreciation amount of \$270.9 million (\$ nominal) for the 2023–28 period, as set out in Table 4.2.

**Table 4.2 AGN's proposed forecast depreciation amount for the 2023–28 period (\$ million, nominal)**

	2023	2024	2025	2026	2027	Total
Straight-line depreciation	101.1	109.0	117.4	126.2	135.0	588.8
<i>Less: Indexation on opening capital base</i>	60.2	62.4	64.1	65.2	65.9	317.9
<b>Regulatory depreciation</b>	<b>40.9</b>	<b>46.6</b>	<b>53.3</b>	<b>61.0</b>	<b>69.2</b>	<b>270.9</b>

Source: AGN, 2023–28 Access Arrangement – Post-tax revenue model, September 2022.

<sup>2</sup> Capex enters the capital base net of forecast disposals (and capital contributions where relevant). It includes equity raising costs (where relevant) and the half-year WACC to account for the timing assumptions in the AER's PTRM. Our draft decision on the capital base (Attachment 2) also reflects our updates to the WACC for the 2023–28 period.

<sup>3</sup> Our estimate of inflation will be updated for our final decision.

To calculate the depreciation amount, AGN proposed to use:

- the straight-line depreciation method employed in the AER’s post-tax revenue model (PTRM)
- the closing capital base value as at 30 June 2023 derived from the AER’s amended 5.5 year roll forward model (RFM)
- its forecast capex for the 2023–28 period
- an expected inflation rate of 3.05% per annum for the 2023–28 period
- the AER’s amended year-by-year tracking depreciation model, which implements the straight-line method to calculate the forecast depreciation (over the 2023–28 period) of the opening capital base at 1 July 2023
- a new asset ‘Future of gas’ asset class to which some assets were reallocated from the existing ‘Mains & services’ asset class reflecting its proposed \$175 million accelerated depreciation

The other asset classes and standard asset lives associated with forecast capex for the 2023–28 period were consistent with those approved in the 2018–22 access arrangement.

## 4.3 Assessment approach

In the AGN 2023–28 access arrangement proposal, AGN must provide a forecast depreciation schedule for the 2023–28 period. The depreciation schedule sets out the basis on which the pipeline assets constituting the capital base are to be depreciated for the purpose of determining a reference tariff.<sup>4</sup> It may consist of a number of separate schedules, each relating to a particular asset or class of asset.<sup>5</sup>

In making a decision on the proposed depreciation schedule, we assess the compliance of the proposed depreciation schedule with the depreciation criteria set out in the National Gas Rules (NGR). The depreciation criteria<sup>6</sup> state that the depreciation schedule should be designed:

- so that reference tariffs will vary, over time, in a way that promotes efficient growth in the market for reference services<sup>7</sup>
- so that each asset or group of assets is depreciated over the economic life of that asset or group of assets<sup>8</sup>
- so as to allow, as far as reasonably practicable, for adjustment reflecting changes in the expected economic life of a particular asset, or a particular group of assets<sup>9</sup>

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<sup>4</sup> NGR, r. 88(1).

<sup>5</sup> NGR, r. 88(2).

<sup>6</sup> NGR, r. 89.

<sup>7</sup> NGR, r. 89(1)(a).

<sup>8</sup> NGR, r. 89(1)(b).

<sup>9</sup> NGR, r. 89(1)(c).

- so that (subject to the rules about capital redundancy), an asset is depreciated only once,<sup>10</sup> and
- so as to allow for the service provider's reasonable needs for cash flow to meet financing, non-capital and other costs.<sup>11</sup>

The NGR also provide that compliance with the depreciation criteria may involve the deferral of a substantial amount of depreciation in circumstances where investment is made on the expectation of future demand growth.<sup>12</sup>

The NGR require that any forecast must be arrived at on a reasonable basis and must represent the best forecast or estimate possible in the circumstances.<sup>13</sup>

Our assessment takes into account revenue and pricing principles (RPP) and seeks to promote the National Gas Objective (NGO).<sup>14</sup> The NGO is to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.<sup>15</sup> We are required, when carrying out our economic regulatory functions under the NGL and NGR, to make a decision that will contribute, or will be likely to contribute, to the achievement of the NGO.<sup>16</sup> In addition, when exercising our decision-making powers on those parts of an access arrangement relating to a reference tariff, we are required to take into account the RPP.<sup>17</sup> This includes the principle that a service provider should be provided with effective incentives in order to promote efficient investment in, provision of and use of pipeline services, and the principle that we should have regard to the economic costs and risks of the potential for under-and over-investment in a pipeline, and utilisation of a pipeline when making such decisions.<sup>18</sup>

In April 2020, we published our first version of the RFM and PTRM for gas pipeline service providers under new provisions in the NGR relating to financial models.<sup>19</sup> Gas distribution businesses are required to use these models for the purposes of their access arrangement proposals. The PTRM sets out the method for calculating the forecast depreciation schedule and the approach for indexing the capital base. We have also published a separate depreciation module to the RFM that applies the year-by-year tracking depreciation approach. This module is used for calculating the depreciation of existing assets under that approach, and the output from this module will feed into the PTRM. For the Victorian distribution 2023–28 access arrangements, pursuant to the Orders in Council made on 30 September 2021, we developed an amended version of this depreciation module that we

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<sup>10</sup> NGR, r. 89(1)(d).

<sup>11</sup> NGR, r. 89(1)(e).

<sup>12</sup> NGR, r. 89(2).

<sup>13</sup> NGR, r. 74(2).

<sup>14</sup> NGL, s. 28; NGR r. 100(1).

<sup>15</sup> NGL, s. 23.

<sup>16</sup> NGL, s. 28(1)(a).

<sup>17</sup> NGL, s. 28(2).

<sup>18</sup> NGL, s. 24.

<sup>19</sup> NGR, rr. 75A–75B.



required the distributors use in their proposals.<sup>20</sup> Our amended module allows for the additional half year 2023 extension period in calculating depreciation of the existing assets at 1 July 2023 and AGN has used this amended module in its proposal.

The regulatory depreciation approach in the PTRM involves two components:

1. A straight-line depreciation component calculated by dividing the asset value by its standard asset life (for new assets) or remaining asset life (for existing assets under the weighted average approach). We consider that the straight-line method satisfies the NGR's depreciation criteria.<sup>21</sup> This is because the straight-line method smooths changes in the reference tariffs, promotes efficient growth of the market, allows assets to be depreciated only once and over its economic life, and allows for a service provider's reasonable needs for cash flow.
2. An offsetting adjustment for indexation of the value of assets in the capital base. This component is necessary to prevent double counting of inflation when a nominal rate of return is applied to the inflation indexed capital base. Therefore, we remove the revaluation (indexation) gain on the capital base from the depreciation building block when setting total revenue.

The regulatory depreciation amount is an output of our PTRM. We therefore assessed AGN's proposed regulatory depreciation amount by analysing the proposed inputs to the PTRM for calculating that amount. Key inputs include the:

- opening capital base at 1 July 2023
- forecast net capex in the 2023–28 period<sup>22</sup>
- indexation adjustment—based on the forecast capital base and expected inflation rate for the 2023–28 period
- standard asset life for each asset class—used for calculating the depreciation of new assets associated with forecast net capex in the 2023–28 period
- the depreciation of existing assets in the opening capital base as at 1 July 2023—calculated in a separate year-by-year depreciation tracking module.

Our draft decision on AGN's regulatory depreciation amount reflects our determinations on its opening capital base, expected inflation and forecast net capex (the first three inputs in the above list).<sup>23</sup> Our determinations on these components of AGN's proposal are discussed in Attachments 2, 3 and 5, respectively. In this Attachment 4, we discuss our assessment on the proposed standard asset life for each asset class and the year-by-year tracking

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<sup>20</sup> Minister for Energy, Environment and Climate Change, *Order Setting Requirements for Modifications and Variations to Instruments – Section 64 National Gas (Victoria) Act 2008*, *Victoria Government Gazette*, No. G39, 30 September 2021, pp. 2078–80.

<sup>21</sup> NGR, r. 89.

<sup>22</sup> Capex enters the capital base, net of forecast disposals and capital contributions. It includes equity raising costs (where relevant) and the half-year WACC to account for the timing assumptions in the PTRM. Our draft decision on the capital base (Attachment 2) also reflects our updates to the WACC for the 2023–28 period.

<sup>23</sup> Our final decision will update the opening capital base as at 1 January 2023 for revised estimates of actual capex and inflation.

depreciation approach to calculate depreciation of the opening capital base at 1 July 2023 (the last two inputs in the above list).

In general, we consider that consistency in the standard asset life for each asset class across access arrangement periods will allow reference tariffs to vary over time in a manner which would promote efficient growth in the market for reference services. Our assessment on standard asset life of an asset class also takes into account the technical life (or the engineering designed life) of the assets associated with the asset class. We also benchmark AGN's standard asset lives with those used by other gas service providers for similar asset classes.

Our PTRM provides for two approaches for calculating the straight-line depreciation for the existing assets:

- the 'weighted average remaining lives' (WARL) approach: This approach calculates the remaining asset life for an asset class by weighting together its remaining asset life at the beginning of the access arrangement period with the new capex added to the asset class during that period. The residual asset values are used as weights to calculate the remaining asset life at the end of that period. The WARL for the asset classes are calculated in our RFM and are inputs to the PTRM. We consider this approach meets the depreciation criteria of the NGR.
- the 'year-by-year tracking' approach: Under this approach, the capex (in addition to grouping assets by type via asset classes) for each year of an access arrangement period is depreciated separately and tracked on a year-by-year basis over the assigned standard life for the asset class. This approach does not require assessment of a remaining asset life at each access arrangement review. We consider that this approach would also meet the depreciation criteria of the NGR. Our depreciation tracking module conducts the detailed calculations required under this approach. The output of this module is then recorded in the PTRM.

AGN has proposed to continue applying the year-by-year tracking depreciation approach and its proposal includes the depreciation tracking module. Therefore, we must assess whether AGN has appropriately implemented the year-by-year tracking depreciation approach, including checking the proposed inputs to this module. Our assessment on this aspect of AGN's proposal is discussed in section 4.4.1.

AGN's proposal included accelerated depreciation of assets which relates to uncertainty of future gas demand for its network. Our assessment approach for this (section 4.4.2) has regard to our Information paper on *Regulating gas pipelines under uncertainty*, which includes consideration of the impact on price stability in the 2023–28 period as well as longer term price stability.<sup>24</sup>

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<sup>24</sup> AER, *Information paper on regulating gas pipelines under uncertainty*, 15 Nov 2021.

### 4.3.1 Interrelationships

The regulatory depreciation amount is a building block component of the total revenue requirement.<sup>25</sup> Higher (or quicker) depreciation leads to higher revenues over the access arrangement period. It also causes the capital base to reduce more quickly (excluding the impact of new capex being added to the capital base). This reduces the return on capital amount, although this impact is usually smaller than the increased depreciation amount in the short to medium term.<sup>26</sup> Over the life of the assets, the total revenues being recovered are in net present value (NPV) neutral terms—that is, returning the initial cost of the capital base.

Ultimately, however, a service provider can only recover the capex that it incurred on assets once.<sup>27</sup> The depreciation amount reflects how quickly the capital base is being recovered and is based on the remaining and/or standard asset lives used in the depreciation calculation. It also depends on the level of the opening capital base and the forecast capex. Any increase in these factors also increases the depreciation amount.

Our standard approach is to maintain the capital base in real terms, meaning the capital base is indexed for expected inflation. The return on capital building block has to be calculated using a nominal rate of return or weighted average cost of capital (WACC) applied to the opening capital base.<sup>28</sup> The total revenue requirement is calculated by adding the return on capital, depreciation, operating expenditure (opex), tax and revenue adjustments building blocks.<sup>29</sup> Because inflation on the capital base is accounted for in both the return on capital (based on a nominal rate of return) and the depreciation calculations (based on an indexed capital base), an adjustment must be made to the revenue requirement to prevent compensating twice for inflation.

To avoid this double compensation, we make an adjustment by subtracting the annual indexation gain on the capital base from the calculation of total revenue. Our standard approach is to subtract the indexation of the opening capital base—the opening capital base multiplied by the expected inflation for the year—from the capital base depreciation. The net result of this calculation is referred to as regulatory depreciation (or return of capital).<sup>30</sup> Regulatory depreciation is the amount used in the building block calculation of total revenue to ensure that the revenue equation is consistent with the use of a capital base, which is indexed for inflation annually. Figure 4.1 shows where the inflation components are included in the building block costs.

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<sup>25</sup> The PTRM distinguishes between straight-line depreciation and regulatory depreciation, the difference being that regulatory depreciation is the straight-line depreciation minus the indexation amount on the projected capital base.

<sup>26</sup> This is generally the case because the reduction in the capital base amount feeds into the higher depreciation building block, whereas the reduced return on capital building block is proportionate to the lower capital base multiplied by the WACC.

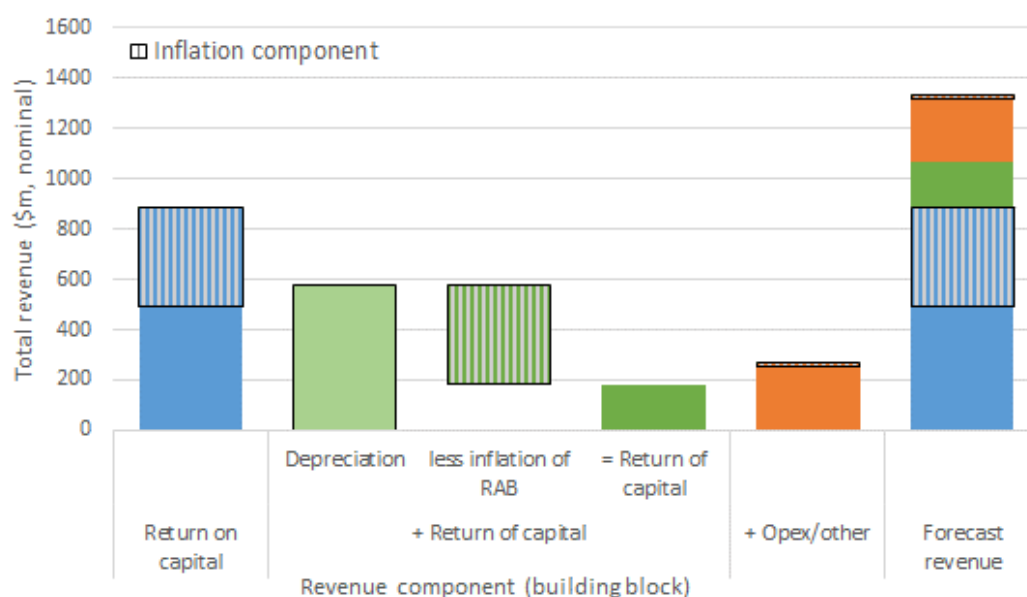
<sup>27</sup> NGR, r. 89(1)(d).

<sup>28</sup> NGR, r. 87.

<sup>29</sup> NGR, r. 76.

<sup>30</sup> If the asset lives are extremely long, such that the capital base depreciation rate is lower than the inflation rate, then negative regulatory depreciation can emerge. The indexation adjustment is greater than the capital base depreciation in such circumstances.

**Figure 4.1 Inflation components in revenue building blocks – example**



Source: AER analysis.

This approach produces the same total revenue requirement and capital base as if a real rate of return had been used in combination with an indexed capital base. Under an alternative approach where a nominal rate of return was used in combination with an un-indexed (historical cost) capital base, no adjustment to the depreciation calculation of total revenue would be required. This alternative approach produces a different time path of total revenue compared to our standard approach. In particular, overall revenues (and therefore prices) would be higher early in the asset's life (as a result of more depreciation being returned to the service provider) and lower in the future—producing a steeper downward sloping profile of total revenue.<sup>31</sup> Under both approaches, the total revenues being recovered are in NPV neutral terms.

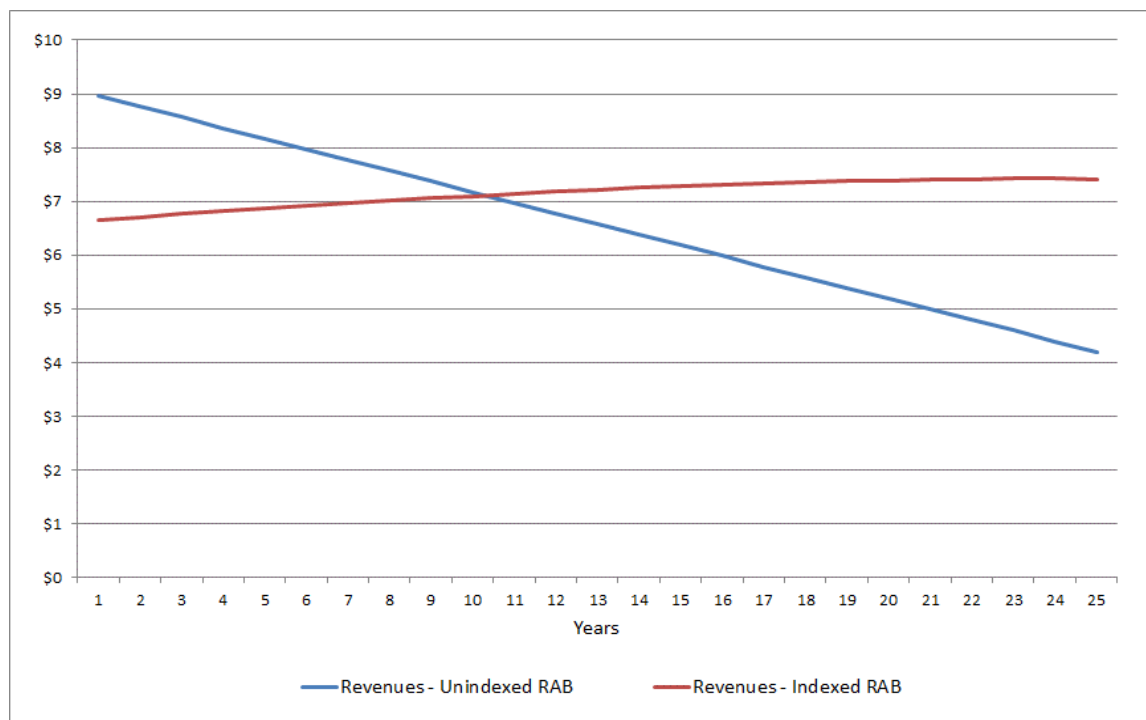
Figure 4.2 shows the recovery of revenue under both approaches using a simplified example.<sup>32</sup> Indexation of the capital base and the offsetting adjustment made to depreciation results in a smoother revenue recovery profile over the life of an asset than if the capital base was un-indexed. The indexation of the capital base also reduces price shocks when the asset is replaced at the end of its life.<sup>33</sup>

<sup>31</sup> A change of approach from an indexed capital base to an un-indexed capital base would result in an initial step change increase in revenues to preserve NPV neutrality.

<sup>32</sup> The example is based on the initial cost of an asset of \$100, a standard economic life of 25 years, a real WACC of 2.5%, expected inflation of 2.4% and nominal WACC of 4.96%. Other building block components such as opex, tax and capex are ignored for simplicity as they would affect both approaches equally.

<sup>33</sup> In year 26 the revenues in the example for the un-indexed approach would jump from about \$4 to \$9, assuming the asset is replaced by an asset of roughly similar replacement cost as the initial asset. In contrast, in the same circumstances, the indexed approach would see revenues stay at roughly \$7.

**Figure 4.2 Revenue path example – indexed vs un-indexed capital base (\$ nominal)**



Source: AER analysis.

Figure 2.1 (in Attachment 2) shows the relative size of the inflation indexation and straight-line depreciation, and their impact on the capital base using AGN's proposal. A 10% increase in the straight-line depreciation causes revenues to increase by about 5.1%.

## 4.4 Reasons for draft decision

We accept AGN's proposed straight-line depreciation method for calculating the regulatory depreciation amount as set out in the PTRM and the year-by-year tracking approach to implement this method, subject to updating some inputs in the depreciation module. However, we have reduced AGN's proposed forecast regulatory depreciation by \$31.4 million (11.6%) to \$239.5 million (\$nominal) for the 2023–28 period. This reduction is mainly due to the higher expected inflation rate we applied in this draft decision compared to AGN's proposal (Attachment 3).

Our assessment of AGN's continuation of the year-by-year tracking depreciation approach, accelerated depreciation, and its proposed standard asset lives are discussed in turn in the following subsections.

### 4.4.1 Year-by-year tracking approach

AGN proposed to continue with the year-by-year tracking approach for calculating the depreciation schedule for its existing assets consistent with that approved for the 2018–22 access arrangement. We accept AGN's proposed year-by-year tracking approach meets the requirements of the NGR in that it will result in depreciation schedules that allow:

- the reference tariffs to vary over time in a manner that would promote efficient growth in the market for reference services<sup>34</sup>
- assets to be depreciated only once<sup>35</sup> and over its economic lives<sup>36</sup>
- for a service provider's reasonable needs for cash flow.<sup>37</sup>

AGN has used our amended template depreciation tracking module to implement year-by-year tracking. We have reviewed AGN's application of this module, and in adopting AGN's proposed accelerated depreciation amount of \$175 million for our draft decision for the reasons discussed in section 4.4.2, we have amended the following inputs for the final year asset adjustments:

- we have changed the remaining asset life of the negative adjustment to the 'Mains and services' asset class. AGN proposed a remaining asset life of 57.6 years and we have reduced this to 44.2 years, consistent with our amended calculation in the 'Capital base remaining lives' worksheet of the RFM<sup>38</sup>
- we have made a corresponding increase to the amount reallocated from the 'Mains and services' asset class to the new 'Future of gas' asset class to maintain the proposed overall \$175 million increase to straight-line depreciation for the 2023–28 period. We have therefore increased AGN's proposed reallocation of \$191.5 million to \$197.1 million.

We have also updated some inputs including:

- the half year 2023 extension period inputs for nominal WACC and inflation as discussed in Attachment 2
- the 2022 nominal and real WACC inputs to be consistent with the RFM
- the 2017 capex and capital contributions inputs for the 'Meters' and 'Mains & services' asset classes as discussed in Attachment 2.

#### **4.4.2 Accelerated depreciation for future of gas and risk of network stranding**

For our draft decision, we adopt AGN's proposed accelerated depreciation of \$175 million (\$2022–23). Our reasons for this decision are discussed below.

In its September 2022 addendum, AGN proposed revised accelerated depreciation in relation to the future uncertainty of gas demand and the associated risk of its network stranding.

The proposed accelerated depreciation adds about \$175 million (\$2022–23) to straight-line depreciation over the 2023–28 period, and we calculate the proposed accelerated

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<sup>34</sup> NGR, r. 89(1)(a).

<sup>35</sup> NGR, r. 89(1)(d).

<sup>36</sup> NGR, r. 89(1)(b).

<sup>37</sup> NGR, r. 89(1)(e).

<sup>38</sup> AGN's proposed final adjustment was made in its depreciation tracking model but not in its RFM. We consider that the adjustment should also be shown in the RFM as it allows for the asset values at 1 July 2023 to be calculated in the 'PTRM input' sheet of the RFM.

depreciation is 15.2 % of the proposed total revenue.<sup>39</sup> This amount is an increase from the \$144 million in AGN's July 2022 proposal.

#### 4.4.2.1 Case for accelerated depreciation

In accepting the proposed accelerated depreciation for AGN, we recognise that the publication of the Gas Substitution Roadmap (the Roadmap) indicates that the Victorian Government is committed to the net zero emissions target by 2050.<sup>40</sup> This will likely mean a limited role for gas beyond this date. The Roadmap included several initiatives that will reduce the role for gas in Victoria, such as incentives for residential customers to switch to electric appliances, the removal of planning provisions requiring new housing developments to connect to gas and higher energy efficiency requirements for housing. Residential customers currently make up the largest proportion of demand, and under the high-electrification scenarios submitted by AGN as part of its future of gas modelling, both residential and commercial demand is forecast to decline going forward. The demand from industrial customers is relatively low and uncertain while the future role for hydrogen is uncertain at this time.

While these changes are likely to eventuate, the pace of change remains uncertain. We consider that approving some amount of accelerated depreciation in the 2023–28 period is consistent with our Information paper on *Regulating gas pipelines under uncertainty* which stated “the opportunity and flexibility for adjustment is greatest when we act as soon as we can to minimise the adverse impact of a decline in gas demand”.<sup>41</sup>

AGN's proposed accelerated depreciation is supported by the reduced forecast connections/growth capex for 2023–28 capex in its addendum proposal reflecting the increased rate of decline in demand. This is also supported by our draft decision to exclude AGN's proposed hydrogen readiness capex.<sup>42</sup>

We consider that accepting accelerated depreciation leaves open the option to change course at future reviews, where more accelerated depreciation or reversals at a future date may be required to promote efficient growth (including negative growth) of the market as required under the NGR.<sup>43</sup>

##### 4.4.2.1.1 Stakeholder submissions

While some stakeholders still hold concerns on accelerated depreciation, we consider aspects of the distributors' process are consistent with the expectations listed in our information paper including to “actively and meaningfully engage with their customers on the range of available options” and “that good consultation will involve a range of scenarios being put to consumers with respect to demand forecasts, expenditure and any stranding mitigation measures, together with the price impacts of those scenarios”.<sup>44</sup>

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<sup>39</sup> Based on proposed total revenue in real (\$2022–23) terms and excluding ancillary reference services.

<sup>40</sup> Victorian State Government, *Gas Substitution Roadmap*, July 2022.

<sup>41</sup> AER, *Information paper on regulating gas pipelines under uncertainty*, 15 November 2021, p. 44.

<sup>42</sup> The reasons for excluding hydrogen readiness capex are discussed in section 5.5.7 of Attachment 5.

<sup>43</sup> NGR, r. 89.

<sup>44</sup> AER, *Information paper on regulating gas pipelines under uncertainty*, 15 November 2021, p. 47.



On the issue of accelerated depreciation, we received seven submissions from the CCP28, Origin, Evoenergy, Energy Users' Association of Australia (EUAA), Friends of the Earth (FoE) Melbourne, Darebin Climate Action Now (DCAN) and Brotherhood of St. Laurence (BSL).

There was a mixed range of views expressed by stakeholders on this issue. Consistent with our information paper, we consider that approving any form of accelerated depreciation is a balancing act between preserving the right incentives for network investments and maintaining price affordability of gas network services, avoiding price shocks and further gas substitution where possible.<sup>45</sup>

Origin, Evoenergy and EUAA agreed that asset stranding risk has materially increased under the Roadmap and were therefore largely supportive of the accelerated depreciation proposals. There is consensus that the Roadmap indicates that demand will fall, however, there is uncertainty around how much and how quickly this will occur.

Given this uncertainty, stakeholder submissions in support of the proposed accelerated depreciation are of the view that some form of accelerated depreciation is appropriate to ensure that the networks can recover their efficient costs and a reasonable return of and return on capital.

CCP28, FoE, DCAN and BSL do not support the distributors' proposals for accelerated depreciation as it simply transfers asset stranding risk to consumers. They submitted that consumers should not be the ones bearing this risk.

Concerns were also raised that accelerated depreciation will increase costs for consumers at a time when there are cost of living pressures as well as significant equity impacts given lower income consumers (including renters) will be disproportionately burdened due to difficulty in changing energy source or adopting efficiency measures.

We consider our draft decision to accept accelerated depreciation is guarding against risk of an earlier wind down of the network and the price spike that may result if demand falls faster than expected. We note that the gas legislation did not contemplate the possible end of life of networks, and therefore it is an open question in such circumstance as to how much stranding risk consumers should bear. Given the limited scope of this access arrangement review, we have not attempted to resolve the issue of how much stranding risk consumers and AGN should share for the 2023–28 period. However, while we see the minimisation of stranding risk as an important incentive to investment, we consider there are limits to this proposition. Based on AGN's future of gas modelling scenarios in which the gas network was to strand in the medium term, it would not recover the full amount of its remaining capital base.

#### **4.4.2.1.2 Future of gas modelling**

As part of the July 2022 proposal, AGN submitted long term modelling which included reference to prices, demand and revenue. AGN updated this modelling in its September 2022 addendum to reflect changes arising from the Roadmap.

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<sup>45</sup> AER, *Information paper on regulating gas pipelines under uncertainty*, 15 November 2021, p. 28.



The Australian Gas Infrastructure Group (AGIG, comprising AGN and MGN) co-designed with AusNet an expert panel which developed the narratives of 4 long-term future scenarios with varying degrees of electrification and take-up of hydrogen. We consider the scenario setting is consistent with one of the expectations listed in our Information paper for “regulated businesses to provide plausible future energy scenarios that cover a spectrum of outlooks from the most pessimistic to the most optimistic for their networks”.<sup>46</sup>

However, the distributors’ approach deviates from that outlined in the information paper in that it did not estimate the likelihood/probability for each of these 4 core scenarios. We note that in the addendum material provided in September 2022, AGN did provide a qualitative assessment of how some of the likelihoods had changed as a result of the Roadmap.

AGIG commissioned Incenta Economic Consulting (Incenta) to provide opinion on whether the approach to accelerated depreciation in the initial proposal “is consistent with the requirements (in terms of its economics intent) of NGR 89(1).” Incenta’s assessment was that relative to the case without accelerated depreciation, the proposed accelerated depreciation approaches (for MGN and AGN) “better meet the requirements” of the regulatory framework.<sup>47</sup>

Incenta noted that its views largely aligned with those described in the AER’s information paper on *Regulating gas pipelines under uncertainty Information paper*.<sup>48</sup>

AGN’s future of gas model tests the suitability of a proposed accelerated depreciation amount rather than solves for an optimised accelerated depreciation amount. It applies a ‘tilt’ which front-loads accelerated depreciation to the 2023–28 period but also applies accelerated depreciation to subsequent access arrangement periods.<sup>49</sup>

As noted in our information paper, bringing forward the cost recovery of the efficient investments that regulated businesses have already made would increase the certainty that incurred costs would be recovered, thereby reducing stranded asset risk and the potential need for material upwards price adjustments in the future.<sup>50</sup>

AGN’s future of gas modelling from its addendum proposal shows that where stranding occurs, accelerated depreciation both in the 2023–28 period and subsequent periods extends the life of the network because the associated higher revenue and tariffs in the shorter term are not enough to strand the asset and this is followed by lower tariffs due to the reduction to the capital base.

Overall, we consider the future of gas modelling submitted by AGIG and AusNet was a useful tool to consider relative long-term impacts of accelerated depreciation on price and demand under a range of scenarios. Further, the various inputs and assumptions for the modelling

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<sup>46</sup> AER, *Information paper on regulating gas pipelines under uncertainty*, 15 November 2021, p. 45.

<sup>47</sup> AGN, *Attachment 6.4 Incenta Expert Report – Assessment of compliance with the requirements for regulatory depreciation, Final Plan 2023/24 – 2027/28*, July 2022, p. 2.

<sup>48</sup> AGN, *Attachment 6.4 Incenta Expert Report – Assessment of compliance with the requirements for regulatory depreciation, Final Plan 2023/24 – 2027/28*, July 2022, p. 13.

<sup>49</sup> In the future of gas model, the assumed accelerated depreciation trends down over time until at a certain point in the future, it goes to zero then negative. The point of this cross-over depends on the tilt factor.

<sup>50</sup> AER, *Information paper on regulating gas pipelines under uncertainty*, 15 November 2021, p. 29.

were largely well-documented. While we consider the overall approach to be reasonable, our draft decision on AGN's accelerated depreciation is limited to the 2023–28 period and so does not extend to any accelerated depreciation in subsequent periods implied by the tilt in the future of gas model.

#### **4.4.2.1.3 Consultation by the distributors**

AGIG has undertaken extensive consumer engagement including on the topic of accelerated depreciation for the future of gas uncertainty. This has included customer workshops, stakeholder roundtables, retailer reference groups and deep dives. We consider that this level of early engagement from AGIG and AusNet is an important and appropriate step in trying to inform stakeholders on a difficult concept.

We also note that the distributors discussed their future of gas modelling with us prior to the lodgement of the July 2022 proposals and provided us with early versions of the future of gas models for feedback. We found this early engagement useful and allowed us to familiarise ourselves with these models. We provided feedback to the distributors on some model inputs which they considered and made adjustments where relevant, for example, the S-curve assumptions which represented the rate of switching between electric and gas appliances.

CCP28 raised that the distributors did not directly engage with consumers since 31 March 2022.<sup>51</sup> We consider that this concern is valid, and we think there is a need for customers to be further consulted. This need is emphasised by the increase to AGN's proposed accelerated depreciation of \$144 million in the July 2022 proposal to \$175 million for the September 2022 addendum proposal. AGN's addendum proposal detailed the further stakeholder engagement it undertook subsequent to the Roadmap with the Victorian Gas Networks Stakeholder Roundtable and Retailer Reference Group.<sup>52</sup> While we note the relatively short time available for consultation, we consider AGN now has the opportunity to further consult directly with its customers on the topic of accelerated depreciation, including the price impact of its proposed amount as adopted in this draft decision.

AGN's engagement on this topic would be helped by considering WACC and inflation inputs that reflect the updated economic conditions, and the resulting impact to the revenue and prices in the 2023–28 period. AGN's addendum proposal used the latest expected inflation rate of 3.05% per annum, consistent with the July 2022 proposal. , it did not update the forecast WACC which was an average of 5.18% over the 2023–28 period. In comparison, for this draft decision the latest WACC is an average of 5.87% over the period.<sup>53</sup> All else being equal, a higher WACC increases the overall revenue while higher expected inflation will reduce revenue. For this draft decision, the impact of the increased WACC is only partially offset by the impact of higher inflation.

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<sup>51</sup> CCP28, *Advice to the AER Victorian Gas Distribution Network Access Arrangement 2023–28 Proposals*, 30 September 2022, p. 7.

<sup>52</sup> AGN, *Revisions to our five year plan for our Victorian distribution network, Response to Victorian Gas Substitution Roadmap*, September 2022, p. 11-12.

<sup>53</sup> Based on a simple average of the nominal vanilla WACC for the 5 years of the 2023–28 period.

We note that with the other draft decision updates, including for WACC and expected inflation, we calculate that AGN's proposed accelerated depreciation of \$175 million results in:<sup>54</sup>

- real price path reductions of 1.1% per annum on average or 5.2% in total over the 2023–28 period.
- nominal price path increases of 2.3% per annum on average or 11.8% in total over the 2023–28 period.

AGN has submitted that price stability is important to avoid a disconnection 'death spiral'. We consider that while long term price stability should be considered, the price stability for the 2023–28 period should be the focus noting the current cost of living pressures and the concerns submitted by stakeholders.

#### **4.4.2.1.4 Targeting a real price path of 0% per annum**

Based on the material before us, our draft decision has considered the balance between accepting some accelerated depreciation and price stability. This is consistent with our information paper on *Regulating gas pipelines under uncertainty* which stated that:<sup>55</sup>

“... regulated depreciation or risk compensation cannot be adjusted without constraint to guarantee cost recovery for the regulated businesses. [The AER] must have regard to consumers' interest in having affordable and stable or reasonably predictable gas access prices to encourage their use of the gas infrastructure. Having said that, it is fair to note that regulated businesses also have an interest to maintain price affordability to avoid further decline in gas customer numbers.”

This is also consistent with stakeholder submissions which raised concerns about escalating distribution prices in the face of rising cost of living stresses. They pointed out that accelerated depreciation and the resulting higher prices would potentially lead to customers increasingly disconnecting from the network sooner than necessary. AGN's future of gas modelling also considered price path stability as a central condition to avoid such disconnection spirals.

In assessing accelerated depreciation for the draft decision, we consider a target of 0% per annum real price change is appropriate for the draft decision. We have therefore adopted AGN's proposed amount of accelerated depreciation of \$175 million (\$2022–23) for the draft decision because the overall price path is a real decrease and so meets the 0% per annum real price change target.<sup>56</sup>

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<sup>54</sup> The price path calculations are based on our draft decision smoothing profile of  $P_0 = 1.36\%$  and X factors of 1.00%. The nominal path reflects our draft decision expected inflation.

<sup>55</sup> AER, *Information paper on regulating gas pipelines under uncertainty*, 15 November 2021, p. 29.

<sup>56</sup> Our actual draft decision revenue smoothing and resulting price path (section 2.2 of the overview) sets  $P_0 = 1.36\%$  and X factors equal to 1.00%.

We note with the expected inflation value of 3.37% per annum, our draft decision price path of average yearly real decreases translates to a total nominal increase of 11.8% over the 2023–28 period.<sup>57</sup>

While we have considered a target of 0% per annum real price path for this draft decision, we note there may be scope to choose a different target price path for consideration in the final decision if there is sufficient supporting evidence and adequate further customer consultation is undertaken. We acknowledge that economic conditions will evolve further before the final decision, and this will impact the values of the WACC and expected inflation.

We consider that where possible, values of WACC and expected inflation based on most recent market information should be used as a basis when the business engages with its customers. AGN's engagement with its consumers on accelerated depreciation would similarly benefit from analysing the revenue and price impacts based on updated WACC and expected inflation parameters, including sensitivity analyses.

#### 4.4.3 Standard asset lives

We accept AGN's proposed standard asset lives for its existing asset classes as they are consistent with those approved for the 2018–22 period.

For our draft decision we do not assign a standard asset life for AGN's proposed new asset class 'Future of gas' as it is not used for allocating capex (i.e. has zero forecast capex for the 2023–28 period).

The standard asset life for the 'Equity raising costs' asset class needs to be reviewed each access arrangement period. We consider the standard asset life for this asset class should reflect the lives of the mix of assets making up the approved forecast net capex, because the equity raising cost benchmark is associated with that forecast.<sup>58</sup> Despite not meeting the requirements to incur benchmark equity raising costs, AGN's proposed PTRM used our standard approach to reflect the weighted average of the standard asset lives of all depreciable asset classes over the 2023–28 period, resulting in a proposed standard life of 56.3 years. Similarly our draft decision PTRM does not trigger equity raising costs and so we do not assign a standard asset life for the 'Equity raising costs' asset class.

Table 4.3 sets out our draft decision on AGN's standard asset lives for the 2023–28 period. We are satisfied the asset lives approved in this draft decision will result in a depreciation schedule that reflects the depreciation criteria of the NGR.<sup>59</sup>

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<sup>57</sup> The price path calculation is based on our draft decision smoothing profile of  $P_0 = 1.36\%$  and X factors of 1.00%. The nominal path reflects our draft decision expected inflation.

<sup>58</sup> For this reason, our standard approach is to use forecast net capex as the weights to establish the weighted average standard asset life for amortising equity raising costs.

<sup>59</sup> NGR, r. 89.

**Table 4.3 AER's draft decision on AGN's standard asset lives for the 2023–28 period**

Asset class	Standard asset life
Mains & services	60
Meters	15
Buildings	50
SCADA	15
Computer equipment	5
Other assets	15
Land	n/a
Mains & services Albury	60
Meters Albury	15
Buildings Albury	50
SCADA Albury	15
Computer equipment Albury	5
Other assets Albury	15
Land Albury	n/a
Future of gas	n/a
Equity raising costs <sup>a</sup>	n/a

Source: AER analysis.

n/a not applicable. We have not assigned a standard asset life to some asset classes because the assets allocated to them are not subject to depreciation or they have no forecast capex.

(a) For this draft decision, the forecast capex determined for AGN does not meet a level to trigger any benchmark equity raising costs.

## 4.5 Revisions

We require the following revisions to make the access arrangement proposal acceptable as set out in Table 4.4.

**Table 4.4 AGN's regulatory depreciation revisions**

Revision	Amendment
Revision 4.1	Make all necessary amendments to reflect this draft decision on the regulatory depreciation amounts for the 2023–28 access arrangement period.

## Glossary

Term	Definition
AER	Australian Energy Regulator
AGIG	Australian Gas Infrastructure Group
AGN	Australian Gas Networks (Victoria and Albury)
AusNet	AusNet Gas Services
Capex	capital Expenditure
MGN	Multinet Gas Networks
NGL	National Gas Law
NGO	National Gas Objective
NGR	National Gas Rules
NPV	net present value
Opex	operating expenditure
PTRM	post-tax revenue model
RFM	roll forward model
RPP	revenue and pricing principles
WACC	weighted average cost of capital
WARL	weighted average remaining lives