Revised GN21 plan

Response to the draft decision

ACT and Queanbeyan-Palerang gas network 2021–26

Submission to the Australian Energy Regulator

January 2021

evoenergy

Summary of our revised GN21 plan

- The Australian Energy Regulator (AER) published its draft decision on our plan for the gas network for 2021–26 (GN21 plan) in November 2020.
- Our revised GN21 plan addresses matters raised by the AER and updates our plan.
- Visit our website for more information about Evoenergy and our GN21 plan: evoenergy.com.au/gas-five-year-plan

Factors shaping our revised GN21 plan

Our revised GN21 plan continues to be shaped by the ACT's climate change policy environment and the feedback we received from consumers.

ACT emissions reduction target

- Following the October 2020 ACT election, the new ACT Government released a Parliamentary and Governing Agreement which builds on policies to phase out of fossil-fuel-gas in the ACT by 2045 and provides more certainty about its intentions.
- We have reflected these new commitments in our revised GN21 plan and this has impacted demand for gas, which in turn has affected forecast capital expenditure and network charges.

Consumer feedback

Our revised GN21 plan continues to reflect what we heard from our customers in the lead up to, and since submitting our GN21 plan in June 2020 – that they:

- Support environmental sustainability
- Want us to plan for a responsible transition to a net zero energy supply
- Value a safe and reliable gas supply and expect us to continue to prioritise reliability and safety
- Are concerned about affordability, especially for vulnerable consumers.

Our revised GN21 plan allows us to work towards net zero emissions by 2045, while keeping gas network prices stable.

The AER's draft decision materially accepted our GN21 plan

The draft decision:

- Recognised significant improvements in our approach to consumer engagement.
- Materially accepted our GN21 plan, except for our demand and connection forecasts.
- Allowed revenue for the five-year period of $290.6 million (in 2020/21 dollars) — one per cent lower than our proposal
- Requested more information from us in support of the impact of climate change policies on connections and demand forecasts.

What's changed in our revised GN21 plan

Our revised GN21 plan accepts, or substantially accepts, major elements of the AER's draft decision.

Our demand forecast has been updated and strengthened to take account of:

- New information on the government's commitment to phase out natural gas.
- The latest available gas connection and consumption data.
- Findings of our market research.

These point to a steeper decline in demand for gas, which means that our costs need to be recovered from fewer customers and units of gas transported.
See chapter 8 for more information.

We have reduced our forecast for capital investment in the network to reflect the government's plans for no new gas connections in the ACT from 2023 (in addition to no connections in new ACT land developments from 2021).
See chapter 3 for more information.

Our revised demand forecast estimates that by 2025/26 customer numbers will be 11% lower and annual gas volumes will be 17% lower than 2020/21.

Relative to the GN21 plan, our revised demand forecast is for 14.5% fewer customers by 2025/26 and total gas volumes 6.9% lower over the period.

Our revised capex forecast is 15% lower than in our GN21 plan and 29% lower than the 2016-21 period capex.

Our revised GN21 plan for customers:

- Safe and reliable gas supply while costs are minimised
- Increases in network charges in line with inflation
- A declining value of assets, which is good news for future bills
- Connections and consumption forecasts aligned with the achievement of net zero greenhouse gas emissions by 2045
- Capital and operating expenditure sharing schemes to further promote efficiency
- Simplified tariffs
- Measures to encourage network access to and increased use of renewable gas
- Accelerated depreciation of new, long lived assets to promote a fairer sharing of costs as network usage declines

Table of contents

Tables

Boxes

Attachments

1 Overview

Key points

- Our revised GN21 plan promotes the long-term interests of consumers by allowing us to work towards a responsible transition to net zero emissions by 2045 while continuing to provide safe and reliable gas services and delivering gas network charges that will increase in line with inflation.
- We are committed to achieving the ACT's net zero greenhouse gas emissions by 2045 target. The ACT Government's plan to achieve this target involves phasing out natural gas and we will continue to explore using our network to transport renewable gases to allow us to continue to deliver value for our customers and shareholders.
- Our revised GN21 plan largely accepts the Australian Energy Regulator's draft decision for our gas network for the 2021–26 access arrangement period but provides a revised demand forecast to reflect updated and new information, as well as developments in the ACT Government's climate change policy environment.
- Our revised demand forecast sees declining customer connections and average gas usage per customer as the government puts in place policies to cease new connections and provide incentives for ACT households and businesses to make the switch from gas to electric appliances. This has flow on effects for our revised capital expenditure forecast, which is 15 per cent lower than that proposed in our GN21 plan and accepted as a placeholder in the AER's draft decision.
- Our revised GN21 plan continues to reflect the themes that emerged from our extensive consumer engagement program – support for environmental sustainability, planning and acting for a responsible transition towards net zero emissions by 2045, maintaining safe and reliable services and ensuring we consider affordability and fairness while we consider the future of the gas network. It also draws on further feedback we received since we submitted our GN21 plan in June 2020.
- Reflecting that the AER largely accepted our GN21 plan and that we, in turn, have largely accepted the draft decision, our forecast revenue requirement of $289.4 million (real $2020/21) for the 2021–26 access arrangement period is similar to (0.4 per cent lower than) the AER's draft decision.

Evoenergy's revised GN21 plan delivers for our customers:

- Safe and reliable gas supply, with costs minimised
- Gas network charges increasing in line with inflation
- A declining value of assets, which is good news for future bills
- Connections and consumption forecasts aligned with the achievement of net zero greenhouse gas emissions by 2045
- Simplified tariffs
- Capital and operating expenditure sharing schemes to further promote efficiency
- Measures to encourage network access to and increased use of renewable gas alternatives
- Accelerated depreciation of new, long lived assets to promote a fairer sharing of costs as network usage declines

1.1 Purpose of our revised access arrangement proposal

The National Gas Law (NGL) and National Gas Rules (Rules) set out a framework where, every five years, the Australian Energy Regulator (AER) must determine the efficient costs of gas network services provided by the network and how these costs are to be recovered from network users. The AER's decision is informed by a detailed plan (or proposal) submitted by us which we develop in consultation with network users, gas consumers and other stakeholders. The objective of this process is to set the arrangements under which we transport gas through our distribution network for energy retailers and other large users – an access arrangement – so as to provide an outcome in the long-term interest of gas consumers with regard to price, reliability and safety.

On 27 November 2020, the AER published its draft decision[1] on our access arrangement proposal and gas network plan for the 2021–26 regulatory period (our GN21 plan), which we submitted to the AER in June 2020.[2] The Rules allow for Evoenergy to submit additions or other amendments to the access arrangement proposal to address matters raised in the draft decision, update information and propose other amendments (for example, as the result of change of circumstances) for AER approval.[3]

Our approach to responding to the draft decision involves:

- accepting components of the draft decision where they either do not require material amendments to our proposal or where we consider that they allow us to efficiently

1 AER, *Draft decision*, Evoenergy Access Arrangement 2021 to 2026, November 2020 (AER draft decision). The draft decision is published on the AER's website.
2 Evoenergy's access arrangement proposal is published on the AER's website.
3 Rules, cl. 60(1)

invest in, and safely and reliably operate the network in the long-term interests of customers;[4]

- providing additional support for other components of our access arrangement proposal to address the AER's draft decision requests for further information;
- updating our access arrangement proposal to take account of new information or circumstances; and
- applying draft decision elements as 'placeholders' where information is not yet available for the final decision, such as for the rate of return and forecast inflation.[5]

Evoenergy's revised access arrangement proposal comprises:

- the Access Arrangement for 2021–26, including the Reference Services Agreement (RSA), revised to address to matters raised in the draft decision; and
- this document, the revised GN21 plan, which sets out our overall response to the draft decision and provides revised access arrangement information, with chapters on the major elements of the access arrangement and the information which underlies them. Where necessary, the revised GN21 plan is supported by detailed attachments.

The information in the revised GN21 plan is in addition to that provided in our GN21 plan submitted on 26 June 2020, which comprises the access arrangement information required by the Rules. This response to the draft decision and its associated attachments supersedes the information provided in our submission dated June 2020 to the extent there is any conflict.

The full structure of our revised access arrangement proposal is set out in the document index at Attachment 1.1 to this overview. Attachment 1.3 to this overview provides a register of sensitive information which Evoenergy seeks to be kept confidential.

Unless otherwise stated, dollar values stated in this document are in June 2020/21 dollars.

1.2 Recent developments in ACT climate change policy

Since the submission of Evoenergy's GN21 plan and shortly before the release of the AER's draft decision, the ACT Government announced the next steps it would take on the implementation of its climate change strategy to achieve its legislated target of net zero greenhouse gas emissions by 2045. On 2 November 2020, following the results of the 17 October 2020 election for the ACT Legislative Assembly, the ACT Labor and ACT Greens parties published their Parliamentary and Governing Agreement (P&G Agreement) for the forthcoming fixed four-year term of the ACT Legislative Assembly.[6] The document sets out the new initiatives expanding and strengthening policies in relation to phasing out gas set out in Box 1.1.

---

4 Should the AER consider changing its position on any of these matters, we anticipate the opportunity to make submissions on them before the final decision, in accordance with the NGL, section 28.

5 For example, on 17 December 2020, the AER released its final position on the treatment of inflation. This will result in a lower estimate of forecast inflation which will increase Evoenergy's revenue requirement and impact customer bills. See section 6.2 for further details.

6 ACT Labor and ACT Greens, *Parliamentary and Governing Agreement for the 10th Australian Capital Territory Legislative Assembly*, 2 November 2020 (P&G Agreement). As published on the website of the ACT Government's Chief Minister, Treasury and Economic Development Directorate.

Box 1.1 ACT Government's next steps on climate change action as announced in the Parliamentary and Governing Agreement

Phase out of fossil-fuel-gas in the ACT by 2045 at the latest, support energy grid stability and support vulnerable households, by doing the following:

i. **Implement a program of zero-interest loans of up to $15,000 for households and not-for-profit community organisations to assist with the upfront costs of investing in: rooftop solar panels; household battery storage; zero emission vehicles and efficient electric appliances. The program will include an education and communications component about energy efficiency and the shift from gas to electric.**

ii. **Progress a project with relevant asset owners and key stakeholders to reduce the emissions intensity of the existing ACT gas network as much as is possible, by injecting zero-emissions gas alternatives.**

iii. Enact minimum energy efficiency standards regulations for rental properties in 2021 with progressive implementation over the coming years.

iv. Implement a five-year, $50 million program to improve building efficiency and sustainability for social and public housing, low income owner-occupiers, and the lowest performing rental properties; this includes upgrades to government housing, and financial incentives to implement minimum energy efficiency standards in rental properties.

v. Deliver at least 250MW of new 'large-scale' battery storage distributed across the ACT.

vi. **Develop the Molonglo Commercial Centre as an all-electric commercial centre (no new connections to gas mains network, but allow transition gas arrangements such as tanks), in partnership with expert stakeholders, and use lessons from this project to assist the phase out of fossil-fuel gas in the ACT, and demonstrate national best practice.**

vii. **Legislate to prevent new gas mains network connections to future stages of greenfield residential development in the ACT in 2021-22. Future stages of Jacka and Whitlam will be all-electric.**

viii. **Commence a transition project, working with industry and other stakeholders, to advance all-electric infill developments, with a goal of no new gas mains network connections to future infill developments from 2023.**

ix. **Ensure all new ACT Government buildings and facilities are fossil-fuel-gas free, including new leases. All retrofitting in Government buildings and facilities will have a goal of net-zero emissions post retrofit.**

x. By 2021, implement the ACT ICRC recommendations to make it simpler for ACT consumers to get better energy deals by requiring electricity retailers to provide customers with a reference bill for a typical consumer, and notify customers if they have a plan that could reduce a customer's bills.

Source: P&G Agreement, Appendix 1. We have highlighted in bold those initiatives directly related to the objective of phasing out gas connections.

1.3 How we are responding to ACT climate change policy

While the ACT Government's strategy to achieve net zero greenhouse gas emissions involves the phasing out of natural gas, we believe there is a continuing role for our gas network.

We believe that our gas network can be part of the solution to achieving net zero emissions and plan to support the introduction of renewable gases as quickly as possible. In the medium term, this will likely be biogas and, in the longer term, hydrogen. Renewable gases are explained in Box 1.2.

Supporting the introduction of renewable gases will require additional investment over the 2021–26 period. For instance, we will need to conduct trials or build infrastructure to bring renewable gases online. While several projects are being considered, none of the projects are yet sufficiently progressed to include in our revised expenditure forecasts.

Box 1.2 What is renewable gas?

Renewable gas is a term used to describe gases that can be used as a clean energy source. Renewable gases are obtained from renewable sources and produce no additional emissions.

Renewable gas is an option for a more sustainable energy future, potentially saving billions of dollars of investment by using existing infrastructure and pipelines. It offers the functionality and familiarity that customers love about natural gas, while allowing them to lower the carbon footprint of their home, community or business.

There are two primary forms of renewable gas:

- Biomethane – produced from organic waste
- Renewable hydrogen – produced through a process of electrolysis using renewable energy sources, like solar and wind, to split hydrogen from purified water.

Biomethane is produced by capturing and removing impurities, including carbon dioxide, from biogas. Biogas is produced when materials such as agricultural waste, manure, municipal waste, plant material, sewage, green waste, or food waste decompose. These waste products release gases that are harmful to the environment, particularly methane which has 20 times the impact of carbon dioxide as a greenhouse gas. By capturing the biomethane, we are preventing it from escaping into the atmosphere. Biomethane has the same chemical make up as natural gas, it can be used in the same applications.

Renewable hydrogen can be used much like natural gas to heat homes, power vehicles and produce electricity. Importantly, when burned it produces only water vapour and energy as heat, with no carbon emissions.

To ensure that we can progress these projects and deliver benefits to consumers without being penalised, once they are ready, our revised GN21 plan proposes to exclude renewable gas projects from the Capital Expenditure Sharing Scheme (CESS) already approved in the AER's draft decision. The CESS exclusion will ensure that we are not penalised 30 per cent of the cost of renewable gas projects which meet the conforming capex criteria in the Rules. Where we expect investment in renewable gas projects to initially be non-conforming capex, we intend to make use of the speculative capex

account provision in our access arrangement[7] and in the future may seek to include these amounts in our capital base.

Our GN21 plan provided us the flexibility to purchase renewable gas to replace unaccounted-for gas, which we intend to do over the 2021–26 access arrangement period.

While we believe that our network has a future in providing safe and efficient delivery of energy to our customers, this is by no means a certainty. Over the next few years, ACT Government policies will result in fewer new gas connections and many disconnections as consumers are encouraged to replace their gas appliances with newer electric technology.

Our latest demand forecast from the Centre for International Economics (CIE) considers these factors. It integrates market research we have undertaken to understand how consumers will respond to the ACT Government's subsidies to shift to electric appliances. We also commissioned Core Energy and Resources to conduct a top-down forecast, which we used as a cross-check of CIE's bottom-up forecast. While the forecasts were made independently, the forecast impacts of policy and incentives on future gas demand estimated by both consultants' approaches were remarkably similar, giving us confidence that the forecast is the best possible in the circumstances.

Even in this uncertain future, we are still required to invest to keep our network safe, comply with regulatory obligations and connect customers to keep our prices competitive. Some stakeholders have suggested that we cease connecting customers including in the New South Wales (NSW) parts of the network. Not only is this not possible (as we are required by the Rules to connect any qualifying customers who request a connection), it will result in higher bills. It takes about seven years for the bill-reducing benefits of an average gas connection to be achieved. This means even in the worst case – an end to the gas network around 2045 – it still makes sense to connect customers who wish to be connected over the 2021–26 period.

Although our investment program will continue to deliver net benefits to customers, there is a real risk that the investment will be stranded if the cost is recovered over its technical asset life (50 to 80 years). If a significant number of customers disconnect, this will leave future customers with a disproportionate share of the remaining asset costs. For this reason, we maintain our proposal to shorten the asset lives of all new investments (including those in NSW) to ensure that the costs are recovered while the benefits continue to accrue. This results in a fairer allocation of the costs and benefits.

1.4 Engagement with our stakeholders

Developing Evoenergy's GN21 plan required a thorough understanding of the needs and preferences of the users of the network and how best to align with gas consumers' long-term interests.

The draft decision set out the range of considerations the AER used to assess whether consumers have been genuinely engaged in the development of Evoenergy's proposals, including the nature of engagement, the breadth and depth of engagement, clearly evidenced impact, and assessment of outcomes. [8]

---

7 As provided for under the Rules cl. 84 and section 5.1 of our proposed 2021–26 access arrangement.

8 AER draft decision, *Overview*, p.17

Regarding the nature of engagement, the AER considered that: [9]

> *… Evoenergy's consumer engagement was genuine, independent and consumer focused. In preparing its plan, Evoenergy engaged with a diverse group of stakeholders using existing community relationships and additional channels across the ACT, Queanbeyan and Bungendore.*

The AER also recognised: [10]

- the tailoring of our consumer engagement approach to suit stakeholders;
- the broad range of engagement activities across six phases of engagement;
- our partnership with the ACT Council of Social Service (ACTCOSS) to encourage contributions from vulnerable consumers; and
- our Citizens' Jury as the centrepiece of our engagement.

In supporting its conclusion of appropriate breadth and depth of engagement in Evoenergy's consumer engagement, the AER's draft decision noted that: [11]

> *In submissions received, stakeholders noted Evoenergy's extensive stakeholder engagement to consider the future of its gas network based on information from a variety of viewpoints. …*
>
> *Evoenergy's second phase of consumer engagement provided an opportunity for stakeholders, including its Citizens' Jury, to provide feedback on elements of its draft plan, allowing participants to provide a position. In addition, a number of deep dives were undertaken to allow further deliberation on aspects of the Evoenergy's proposal – initially to establish the capital expenditure sharing scheme (CESS) and performance measures, and more recently on stranded asset risk.*

We are encouraged that the AER and stakeholders have recognised the effort made and effectiveness of the engagement program, and our GN21 plan set out the lessons learnt from stakeholders and how we took them into account.

Engagement following submission of the GN21 plan

Submission of Evoenergy's GN21 plan in June 2020 marked the beginning of the formal review process required by the Rules. This comprises the AER's stakeholder forum and consideration of external submissions.

In late July and early August 2020, Evoenergy held individual consultations with ACTCOSS, Energy Consumers Australia (ECA) and CCP24 to facilitate these bodies' submissions on our GN21 plan.

Matters raised most in external submissions included:

- high levels of satisfaction with the consumer engagement undertaken;
- potential impacts of COVID-19 on our GN21 plan;
- whether accelerated depreciation of our gas network assets, as proposed, is warranted;

---

9 AER draft decision, *Overview*, p.17
10 AER draft decision, *Overview*, pp.17-18
11 AER draft decision, *Overview*, p.19

- support for tariff simplification with concern for distributional and sustainability impacts;
- the level of market expansion capex considering the ACT Government's climate change targets; and
- issues raised by energy retailers on term and conditions of access.

In line with encouragement from the AER, CCP24 and ACTCOSS to consider receiving stakeholder input on key issues until publication of the draft decision and revised proposal, we held a deep dive consultation on stranded asset risk on 16 September 2020.

The event was attended by members of Evoenergy's Energy Consumer Reference Council and Citizens' Jury, large users, consumer representative groups, CCP24, and officers of the AER, the Queanbeyan–Palerang Regional Council and ACT Government agencies. The session, held online due to COVID-19 restrictions, was professionally facilitated, and anchored by a presentation from Incenta Economic Consulting[12] on options for stranding risk under the regulatory framework, and discussion on risk sharing and intergenerational equity.[13]

This session revealed:

- a strong theme that the government and Evoenergy should negotiate a financial solution to asset stranding that does not see costs directly passed on to customers;
- general support for Evoenergy's accelerated depreciation proposal, except from those who felt the government should pay;
- some support for all new assets being depreciated by 2045, but with most more interested in a commitment that alternative uses be explored and discussions with the ACT Government occur first;
- little or no appetite for immediate accelerated depreciation of all assets at this stage due to affordability concerns, with many worried that we are simply writing off alternative options;
- some feedback that accelerated depreciation was not seen as compatible with continued market expansion; and
- some concern about vulnerable customer affordability, particularly as overall customer numbers decline.

Additionally, we engaged Farrierswier to undertake a review of our existing arrangement for operational balancing gas in response to feedback from network users (energy retailers). This involved engaging directly with users to understand the key areas of concern and suggested areas of change to the arrangements and make recommendations to Evoenergy, taking into account this feedback. See section 11.2 and Attachment 11.1 for further information.

---

[12] Following on from the Incenta Economic Consulting report on responding to stranded asset risk we submitted in June 2020 at Appendix 4.3 to our GN21 plan.

[13] The outcomes report of our Stranded Asset Risk Deep Dive forms Attachment 4.1 to this document.

COVID-19 impacts

Several stakeholders raised in submissions the potential impacts of the COVD-19 pandemic as an issue relevant to our plan for the 2021–26 access arrangement period. We considered this, and note that:

- our revised demand forecast has been updated to include actual consumption data to the end of June 2020. While we have not experienced large variations in total demand during the first half of 2020, the movements in consumption patterns are reflected in the revised demand forecast.
- our revised GN21 plan also reflects current economic conditions impacted by COVID-19, including forecast inflation, debt and equity markets, and wage prices.

1.5 The AER's draft decision

The draft decision materially accepted key elements of our GN21 plan

In a positive demonstration of the value of stakeholder engagement and an open, consultative relationship with the AER, the draft decision accepts or substantially accepts major elements of our GN21 plan, including:[14]

- accepting Evoenergy's proposed **reference services** as per the AER's final decision on our Reference Service Proposal;[15]
- allowing **total smoothed revenue** of $290.6 million – one per cent below that in our proposal;
- allowing our **forecast operating expenditure** (opex) of $171.0 million (as updated by us to incorporate 2019/20 actual opex);
- accepting as placeholders our total net **capital expenditure** (capex) of $77.1 million for the 2016–21 period and $63.3 million for the 2021–26 period, pending further information in our revised proposal on some items;
- allowing as a placeholder a **rate of return** of 4.60 per cent in 2021/22, which differs from our proposal of 4.68 per cent due to market movement to a lower risk-free rate;
- accepting a **capital base** for the network of $405.7 million (nominal) at the end of the 2021–26 period – 0.2 per cent lower than our proposal;
- accepting our proposal to reduce economic lives for **regulatory depreciation** of new high-pressure mains assets from 80 years to 50 years and those for new medium-pressure mains and services from 50 years to 30 years – although applying only to assets in the ACT;
- accepting the continuation of an **efficiency carryover mechanism** (ECM) for opex and the introduction of a **capital expenditure sharing scheme** (CESS);
- accepting our proposed simplified **tariff structure**; and
- approving major elements of our proposed to the **Reference Services Agreement** (RSA).

---

[14] Except where otherwise noted, in real 2020/21 dollars

[15] AER, *Final Decision*, Evoenergy Gas Distribution Determination 2021 to 2026, Reference Service, November 2016

Major elements of the GN21 plan where the AER sought further information

The AER stated in its draft decision that, while approving forecasts for key expenditure items, it:[16]

> *… seeks further information from Evoenergy in its revised proposal on certain aspects of capital expenditure (capex) and the degree to which gas demand is forecast to fall over the 2021–26 period as this flows through to the prices consumers pay for consuming gas.*

It noted that:

> *Overall, subject to receipt of the additional information that we are seeking in Evoenergy's revised proposal, we are satisfied that our draft decision on Evoenergy's 2021–26 proposal is likely to be in the long term interest of consumers and, if implemented in our final decision, consumers will be better off, now and in the future.*

Gas demand and capex forecasts are discussed below.

Gas demand forecasts

Volumes of gas to be delivered by the network depend on the overall number of connections and the uses the gas is put to by consumers. As set out in our GN21 plan, the gas demand forecast is both vitally important and subject to considerable uncertainty given the role of natural gas in greenhouse gas emissions and urgency to reduce its impact.

The *Revenue and pricing principles* in the NGL require that: [17]

> *a service provider should be provided with a reasonable opportunity to recover at least the efficient costs [it] incurs in providing reference services …*

When a business's returns are regulated by caps on prices (as is the case for all regulated Australian gas network businesses), rather than on revenues, it is important to set demand forecasts that are realistically attainable. This is the only way that the business owners can recover their costs which are mostly fixed and not driven by gas throughput.

The AER recognised in its draft decision that:

> *Evoenergy's proposal has been developed against the backdrop of the ACT Government's* Climate Change Strategy 2019–25*, including the legislated 2045 net zero greenhouse gas emissions target. How these policy settings impact on Evoenergy's future network planning and consumers is a key issue for stakeholders in this review.*

The climate change policies introduced by the ACT Government continue to actively limit new gas connections as well as encouraging lower gas use by existing customers. The government's goal, as set out in its Climate Change Strategy, is to phase out natural gas connections in support of its legislated target of net zero greenhouse gas emissions in

---

16 AER draft decision, *Overview*, p.8
17 NGL, s. 24

the territory by 2045. The policies are already and will increasingly be key determinants of connection numbers and demand for gas in the 2021–26 period.

The AER's draft decision is to accept (as a placeholder) the proposed base model for forecasting demand and connection numbers individual volume customers developed for us by the CIE. The AER sought more information on the impact of climate change policy on future demand, as well as assurance that our GN21 plan adjustments are consistent with CIE's model. For our revised GN21 plan we looked to improve our view of the demand impacts of climate change policy commissioning:

- from Sagacity Research, a comprehensive demand survey of intentions for gas usage (see Attachment 8.3);
- from Core Energy and Resources, a review of likely impact of the ACT Government's climate change policies on gas demand (see Attachment 8.4);
- from the CIE, updated demand forecasts including impacts of the latest trends and policy developments such as no new gas connections in ACT infill developments after 2023 and the additional information on appliance behaviour (see Attachment 8.1).

We undertook a detailed review of usage trends by Evoenergy's large demand market customers, including large businesses, government, and educational institutions. The focus of the review was to identify available information on large customers' future energy usage plans. Some such customers have publicly stated their intentions to reduce their reliance on natural gas. The review also examined recent impacts on gas usage due to COVID-19, particularly for large tourism, transport, and accommodation providers. Details of findings are discussed in chapter 8.

Capital expenditure

The AER's draft decision was to approve our GN21 plan capex forecasts, subject to:[18]

> *… additional information from Evoenergy in its revised proposal on its proposed market expansion capex in brownfield developments, and how this interacts more broadly with ACT Government policy.*

Forecast levels of market expansion capex are directly driven by assumptions made of the growth in connections across sectors of the gas market.

The ACT Government's Climate Change Strategy 2019–25 had prompted cessation of mandatory reticulation of gas in new ACT land developments. This caused us to exclude market expansion capex for and associated gas demand from these developments from our GN21 plan capex and demand forecasts.

The climate change strategy did not, however, directly seek to exclude ACT infill (brownfield) developments within the existing network footprint. The situation has, been changed with publication of the P&G Agreement which, as shown in Box 1.1, commits the government (at point viii) to:

> *Commence a transition project, working with industry and other stakeholders, to advance all-electric infill developments, with a goal of no new gas mains network connections to future infill developments from 2023.*

[18] AER draft decision, *Overview*, p.42

Consequently, forecast market expansion capex for ACT infill developments after 2023 approved by the AER as part of the draft decision placeholder has been removed in our revised capex forecast. Capex forecasts are discussed in detail in chapter 3.

1.6 Our revised plan

Chapters 2 to 11 of this document discuss the detail of our revised GN21 plan. Attachment 1.2 provides a summary of our responses to the AER's draft decision components.

1.7 Supporting attachments

Table 1.1 Supporting attachments to the overview

No	Attachment title	Author
1.1	Document index	Evoenergy
1.2	Summary of responses to draft decision components	Evoenergy
1.3	Confidentiality register	Evoenergy

2 Operating expenditure

2.1 The AER's draft decision

The AER's draft decision was to not accept Evoenergy's initial proposal opex forecast. Rather, the AER accepted our amended proposal for a total opex forecast of $171.0 million ($2020–21) for the 2021–26 access arrangement period, submitted on 28 August 2020.

2.2 Evoenergy's response to the draft decision

The AER's assessment approach was based on making its own forecast opex. It used an alternative opex model which was very similar to our amended proposal opex model. The AER concluded that there was only a small difference in the opex calculated between the two models and therefore it accepted our amended proposal.

2.3 Evoenergy's revised proposal

Evoenergy has not revised its opex forecast because the AER has accepted our amended proposal. Our revised proposal includes the opex forecast that was accepted by the AER's draft decision. We have resubmitted the opex model that was sent to the AER on 28 August 2020, which contains the calculations for our amended opex forecast.

The amended opex model submitted to the AER on 28 August 2020 was updated for actual opex cost for the 2019-20 year which were not available at the time of our initial proposal. The draft decision transposed our amended opex forecast into the categories shown in Table 2.1, which we have maintained in the revised proposal.

Table 2.1 Revised proposal opex, including debt raising costs

$million (2020/21)	2021/22	2022/23	2023/24	2024/25	2025/26	Total
Opex, excluding the following category specific items	22.07	22.66	21.84	22.31	23.17	112.05
UNFT	8.54	8.79	9.05	9.32	9.59	45.30
EIL	0.70	0.67	0.64	0.61	0.58	3.20
UAG	1.44	1.98	1.94	2.02	2.08	9.46
Debt raising costs	0.19	0.19	0.19	0.19	0.19	0.96
Total opex	**32.94**	**34.30**	**33.67**	**34.45**	**35.61**	**170.97**

Totals may not sum exactly due to rounding.

2.4 Supporting attachments

Table 2.2 Supporting attachments on opex

No	Attachment title	Author
2.1	Opex model	Evoenergy

3 Capital expenditure

3.1 Overview

Evoenergy has developed its revised capital investment program for the 2021–26 access arrangement period in response to the rapidly changing economic and policy context of the network. Our revised GN21 plan has been impacted by the P&G Agreement negotiated between the ACT Labor and Greens parties following the October 2020 ACT election.[19] This commits the government to ceasing all new gas connections in the ACT by 2023 and is by far the strongest mandate among Australian jurisdictions to reduce natural gas use. It creates a pressing and immediate need for Evoenergy to further review its capital investment intentions for the 2021–26 access arrangement period.

In response, we have made major adjustments to our investment strategies to maintain flexibility and to reduce the risk of asset stranding. Our revised capex forecast is 15 per cent below that in the GN21 plan due to a sharp reduction in our revised connections forecasts (see chapter 8). Consistent with the P&G Agreement, our revised demand forecast will reflect no new ACT gas connections by 2023, including in existing network areas. The demand forecast underpinning our GN21 plan excluded connections in new ACT land developments but included new connections in existing network areas.

Overall, our revised capex forecast is 29 per cent lower than what we incurred over the 2016-21 period. On a per customer basis, we are forecasting capex to fall sharply (by 42 per cent) to $59 per customer by 2026. Given that Evoenergy's current level of capex productivity is already around the level of most other gas businesses, our revised capex forecast is expected to position Evoenergy as among the most efficient in relation to capital benchmarks.[20]

Despite the expected absence of new gas connections in the ACT from 2023, we remain committed to exploring options for and facilitating the use of our existing gas network to transport renewable alternatives to natural gas. We heard throughout our engagement that gas consumers support this objective. We are encouraged that the P&G Agreement includes an action item to:

> *Progress a project with relevant asset owners and key stakeholders to reduce the emissions intensity of the existing ACT gas network as much as is possible, by injecting zero-emissions gas alternatives.*

We continue to investigate options such as renewable hydrogen and biomethane sourced from organic matter. While several projects are under consideration, no project is yet sufficiently progressed to include in our revised expenditure forecasts.

As noted in section 10.2.3 we are seeking that any expenditure of this nature (which does meet the conforming capex criteria) be excluded from the operation of the CESS.

We also may incur expenditure for projects which do not initially meet the conforming capex criteria. In such cases, we propose to make use of the speculative capex account provision in our access arrangement in accordance with rule 84 of the National Gas Rules, to record expenditure on their development (see section 3.9).

---

[19] P&G Agreement. See discussion in the Overview (sections 1.2 and 1.3).

[20] See Evoenergy's GN21 plan, *Attachment 3*, pp.3-6 for an overview of Evoenergy's capex benchmarking as undertaken by Economic Insights.

3.2 The AER's draft decision

The AER's draft decision accepted Evoenergy's capex forecast in full. It also assessed our historical capex for the 2016–21 period as prudent and efficient. Elements of the AER's draft decision were made on a placeholder basis, subject to our providing further clarification on minor aspects of our capex forecast. In particular, the AER sought information on how we have allocated expenditure for minor capital works and past market expansion expenditure.

As well, the timing of the draft decision was such that it was not possible for the AER to fully consider the ramifications of the ACT Government's latest commitments in the P&G Agreement. Our revised GN21 plan capex proposal contains major adjustments to account for these developments.

3.3 Evoenergy's revised proposal

3.3.1 Revised 2016–21 actual capex

Our GN21 plan submitted in June 2020 included net capex for the 2016–21 access arrangement period of $77.1 million ($2020/21). Table 3.1 sets out our revised actual capex by category and compares it to that of the GN21 plan.[21] It shows that it has largely remained unchanged from the GN21 plan, with a small reduction due to the previous estimate for 2019/20 being updated for actual expenditure (with the difference mainly driven by a reduction in the meter replacement program), and an updated forecast for 2020/21 net capex.

Table 3.1 Revised actual capex 2016/17 to 2020/21 by category

Capex category	GN21 plan	Revised GN21 plan
	$ millions (2020/21)	
Market expansion	45.9	46.6
Capacity development	7.2	7.2
Stay in business - network renewal	8.2	8.0
Stay in business - meter renewal	17.4	16.1
Non-system	0.1	0.0
Gross capex	**78.7**	**77.9**
Capital contributions	1.7	1.6
Net capex	**77.1**	**76.2**

Totals may not sum exactly due to rounding.

3.3.2 Revised 2021–26 forecast capex

Table 3.2 sets out our revised GN21 plan capex proposal by category and compares it to that of the GN21 plan.

[21] Our GN21 plan included an estimate for 2019/20 and 2020/21 net capex

Table 3.2 Revised capex forecasts 2021/22 to 2025/26 by category

Capex category	GN21 plan	Revised GN21 plan
	$ millions (2020/21)	
Market expansion	26.3	11.7
Capacity development	0.9	1.1
Stay in business - network renewal	12.9	13.6
Stay in business - meter renewal	23.6	28.0
Non-system	0.0	0.0
Gross capex	**63.8**	**54.4**
Capital contributions	0.5	0.3
Net capex	**63.3**	**54.0**

Totals may not sum exactly due to rounding.

Table 3.2 shows that the proposed total net capex forecast has decreased by 15 per cent from $63.3 million to $54.0 million. The decrease is driven by a 56 per cent reduction in proposed market expansion capex from $26.3 million to $11.7 million, consistent with the intention in the P&G Agreement to cease new gas connections by 2023.

Capex forecasts in the stay-in-business and capacity development categories will increase from the respective forecasts in the GN21 plan due to the increased allocations of indirect costs and overheads to these categories, there being less market expansion capex for these costs to be allocated to. Evoenergy has made no changes to the methodology or scope of stay-in-business or capacity development capex, apart from the reallocation of indirect costs and minor impacts from revised labour escalators (see Attachment 3.4). With respect to the total capitalised overheads and other indirect costs to be allocated to direct capex, there is no change from the GN21 plan capex forecast.

Table 3.3 outlines our revised GN21 plan capex proposal for each year of the 2021–26 period. It shows market expansion capex declining sharply from 2022/23, when new connections cease in existing ACT network areas of the ACT. The decline in the stay-in-business network renewal category over the 2021–26 period is due to lumpiness of project timing, while we expect meter replacement capex to remain relatively stable over time because of the requirement to replace existing meters that are unable to comply with technical requirements.

Table 3.3 Proposed revised annual capex forecasts 2021/22 to 2025/26

Capex category	2021/22	2022/23	2023/24	2024/25	2025/26	Total
	$ million (2020/21)					
Market expansion	4.6	3.5	1.1	1.3	1.2	11.7
Capacity development	0.2	0.2	0.2	0.3	0.3	1.1
Stay in business - network renewal	4.0	4.9	2.1	2.0	0.5	13.6
Stay in business - meter renewal	6.1	5.0	6.2	4.9	5.8	28.0
Non-system	0.0	0.0	0.0	0.0	0.0	0.0
Gross capex	**14.9**	**13.6**	**9.7**	**8.4**	**7.8**	**54.4**
Capital contributions	0.2	0.1	0.0	0.0	0.0	0.3
Net capex	**14.7**	**13.5**	**9.6**	**8.4**	**7.8**	**54.0**

Totals may not sum exactly due to rounding.

3.4 Market expansion capex

Market expansion capex typically includes laying new mains along streets and services to homes and businesses and connecting new meters. While market expansion capex has historically been the largest part of our capital program, it is now a much smaller proportion of total net capex (22 per cent), with the revised capex forecast now predominantly stay-in-business capex.

In its draft decision, the AER accepted our proposed market expansion capex of $26.3 million, including indirect costs and $0.5 million in capital contributions, on a placeholder basis. The AER expected further changes due to revised connection forecasts, but none due to changes in the way we forecast market expansion capex. The market expansion capex forecast is developed using unit rates and connection volumes, so changes in the latter will have a direct proportional impact on capex.

The recent commitments from the ACT Government to phase out natural gas use, discussed in the previous section, have reduced our connection forecast and, in turn, our market expansion capex forecast for the revised GN21 plan to $11.7 million. Our revised market expansion capex forecast is explained in more detail in section 3.4.2.

Aside from the demand forecasts, all other aspects of our methodology for forecasting market expansion capex are retained from the GN21 plan. The AER concluded in the draft decision that these result in efficient and prudent forecasts. In assessing the robustness of the unit rate estimates used to forecast market expansion capex, the AER's consultant, Zincara, undertook its own calculations based on the same information available to Evoenergy. Zincara requested additional historical data to undertake variance analysis of the impact of using five and six-year averages, instead of the four-year average used by Evoenergy, to forecast unit rates. This was driven by Zincara's observation that there was significant volatility in the data used in the four-year averages. The variance analysis suggested immaterial differences between using different years, which showed that Evoenergy's methodology results in consistent capex forecasts.

3.4.1 Current period market expansion capex

With respect to market expansion capex in the current (2016–21) access arrangement period, Evoenergy proposed that capex of $46.6 million ($2020–21) be rolled forward.

The AER draft decision accepted this conforming capex as a placeholder, pending receipt of further information from Evoenergy on $0.2 million of expenditure incurred to lay gas mains in the Ginninderry development.

The Ginninderry development (highlighted in Figure 3.1 below) includes new suburbs either side of the border between the ACT and NSW and is planned to include a total of 11,500 dwellings to be built over several stages. In the initial stage over 2017–2022, 1800 dwellings are planned.

The initial stage of the development (shaded in red in the highlighted area of Figure 3.1 below) was the first instance in the ACT of homes being required to have all electric appliances at least for a trial period of the first three years. This restriction does not apply to dwellings located in the NSW portion of the development. The gas mains installed in stage 1 of the development are a prerequisite for gas reticulation for further stages of the Ginninderry development.

Figure 3.1 Ginninderry Precinct

At the time of making the investment decision, we expected that the revenue would exceed the costs of laying the mains. We note that this decision was made before publication of the ACT Government's 2019-25 Climate Change Strategy and the November 2020 P&G Agreement.

Our investment decision considered:

- the need for mains to supply commercial premises (not subject to the mandatory use of electricity);
- that NSW homes are highly likely to connect to gas;
- that ACT homes are likely to connect to gas. While we recognised that homes in stage 1 were part of an electric-only trial, we expected that once the trial concluded many homes would seek a gas connection. This expectation was based on the sustained long-run trend of high switching rates to gas since the roll-out of the network in the 1980s and continued high connection rates of new homes (in excess

of 85 per cent).[22] Our analysis indicates that a threshold connection rate for revenue to exceed costs could be as low as 20 per cent. Given this low threshold and the long-run and sustained revealed preference for gas we were confident that revenue would exceed costs; and

- the significantly lower costs of laying mains in shared trenches (avoiding future civil works, traffic management and restoration costs). This saving is only available if the mains are installed at the time the development is under construction.

As a result, at the time of the investment decision it was reasonable to expect revenue to exceed the costs of laying the mains.

3.4.2 Proposed market expansion capex

Table 3.4 below outlines Evoenergy's revised GN21 plan market expansion capex by category and compares it to the GN21 plan capex forecast. It shows that the decline in market expansion capex in the revised forecast of 56 per cent is broadly applied to all categories except for electricity-to-gas conversions. This is consistent and proportional with the decline in connection forecasts for the relevant categories compared to the demand forecast submitted for the GN21 plan.

Table 3.4 Market expansion capex by category (including capital contributions and indirect costs)

Capex category	GN21 plan	Revised GN21 plan
	$ million (2020/21)	
Electricity to gas	0.6	0.5
New homes	8.5	5.0
Medium density / high rise	5.8	1.7
Industrial & commercial	11.4	4.5
Total	**26.3**	**11.7**

3.5 Stay in business – network renewal capex

The facilities and pipes category of stay in business network renewal capex covers that related to our high-pressure pipelines and facilities. Evoenergy's proposed spend on network renewal capex is primarily focussed on maintaining the safety of these ageing assets.

Over the course of the current (2016–21) access arrangement period, Evoenergy has been able to constrain expenditure without increasing risks to safety or service reliability. Within this expenditure category, there are two main projects: a pressure limiting station to maintain the safety of high-pressure pipelines; and the relocation and refurbishment of secondary district regulator sets to ensure effective maintenance and to address the impacts of increased development in their vicinity.

The AER and its consultant, Zincara, have analysed and reviewed the proposed projects and supporting documentation submitted in our GN21 plan (Opportunity briefs and project estimation models). They have concluded that this expenditure is efficient and

[22] For example, the CIE found that penetration rates in recent years exceeded 80 per cent based on historical approvals and billing data (see page 43 of Appendix 7.1 of our GN21 plan).

prudent, given that it is driven by safety concerns, technical regulatory requirements, or Rule requirements.

The AER's draft decision on network renewal capex was to approve our proposal subject to Evoenergy providing further information on how we forecast minor capital works. Zincara identified a further need to substantiate Evoenergy's allocation of $1.8 million (including overheads and the construction management fee) for minor capital works, especially with reference to historical expenditure in this category.

Minor capital works for network renewal are typically undertaken for pipes or high-pressure (HP) facilities, as follows:

- **Minor capital works (pipes)** cover reactive work on our pipework, both underground and above ground. Such works are usually triggered by field investigations and defects and are generally undertaken to correct an issue or risk, concerning operability, safety, or supply. Examples include installation of bushfire valves, cathodic protection equipment and high-pressure piping equipment (sleeves and clamps).
- **Minor capital works (high-pressure facilities)** are required to replace failed or at-risk equipment on our high-pressure gas facilities. These high-pressure facilities are among the most critical in the network as they are the main gateways for supply to downstream network customers and operate at high pressure levels where equipment failures can result in catastrophic outcomes. Works are usually triggered by field investigations and defects and are generally undertaken to correct an issue or risk, concerning operability, safety, or supply.

Table 3.5 shows the historical average annual spend (from 2015/16 to 2019/20) for both categories and contrasts them to Evoenergy's annual forecasts. It shows that actual spend is considerably higher than forecasts in both instances.

Table 3.5 Historical expenditure on minor capital works, direct costs excluding overheads and construction management fee

Program	Annual forecast requirement	Average annual spend (2015/16 to 2019/20)
	$ million (2020/21)	
Minor capital works (pipes)	0.10	0.17
Minor capital works (high pressure facilities)	0.10	0.13

Further details on the works undertaken historically are included at Attachment 3.3 (Minor capital works explanatory note).

For the revised GN21 plan capex proposal, we propose the same amount of stay-in-business (network renewal) capex as in the GN21 plan. The scope and timing of relevant projects has not changed, and they include:

- a pressure limiting station at Watson to allow the Canberra Primary Main to be operated at lower pressure to assure ongoing safety;
- relocation of secondary district regulator sets to safer locations as a measure to ensure the safety of technicians;
- rectification of internal gas piping and regulators in shopping centres in accordance with regulatory codes and standards;

- flow measurement associated with the installation of equipment in three pressure reducing stations (PRSs); and
- other smaller/miscellaneous projects, including telemetry and minor capital works.

3.6 Stay in business – meter replacement capex

An essential part of the service we provide is metering each customer's gas and/or hot water consumption. This information is used by energy retailers to accurately charge customers for their usage of our network and for the cost of gas purchased and shipped.

Evoenergy's proposed meter replacement capex is calculated from forecasting meter replacement volumes, and then applying the volumes to unit rates per meter type. To inform its draft decision, the AER and its consultant examined the meter replacement volume model and the unit rates.

The AER's draft decision was to accept our forecast meter replacement capex in its entirety. As with the analysis for market expansion capex above, Zincara reviewed Evoenergy's average annual costs over four, five, and six-year periods to assess impact on projected unit rates on each meter type and found little material difference between them.

Zincara and the AER reviewed the assumptions implicit in our meter replacement volume forecasts. For example, for hot water meters, we adopt an approach that replaces meters after 15 to 25 years, according to the manufacturers' recommendations for each meter type. Zincara analysed the whole range of meter families to validate assumptions and to ensure that model implementation was consistent with the qualitative underlying assumptions and concluded that the volume forecast was reasonable.

Evoenergy's proposed meter replacement capex for its revised GN21 plan remains unchanged from that approved in the AER's draft decision.

3.7 Capacity development capex

Evoenergy proposed $0.9 million in capex for network augmentation in the 2021–26 access arrangement period. This expenditure is aimed at maintaining the capacity of the existing network to meet the demands of existing and future customers. Evoenergy's estimate reflects minimal network expansion given the prevailing industry situation and comprises an estimate for minor capital works only.

The AER draft decision accepted our proposed capacity development capex on a placeholder basis, subject to Evoenergy providing further information on minor capital works in this category.

These typically involve capex required to replace equipment such as mains and district regulators on the medium pressure (210 kilopascal plastic) network or augmenting the network with minor reinforcements. These works are usually triggered by field investigations or analysis of the performance of the network and are generally undertaken to correct an issue or risk concerning operability, safety, or supply.

Table 3.6 shows the historical average annual spend (from 2015/16 to 2019/20) for this category and compares it to Evoenergy's annual forecast. It shows that the historical spend is considerably higher and that our forecast reflects a conservative approach.

Table 3.6 Historical expenditure on minor capital works, direct costs excluding overheads and construction management fee

Program	Annual forecast requirement	Average annual spend (2015/16 to 2019/20)
	$ million (2020/21)	
Minor capital works (networks)	0.10	0.14

Further details on the works undertaken historically are included at Attachment 3.3 (Minor capital works explanatory note).

3.8 Non-system capex

The non-system and other capex category relates to direct capex, typically for information technology and fleet, that does not fall under other capex categories. We proposed nil capex in the GN21 plan as expenditure of this nature is managed by Zinfra Pty Ltd (see Regulatory Information Notice Attachment 13 to our GN21 plan). In its draft decision, the AER noted Evoenergy's proposal of nil capex, but requested further information in relation to past spending on Geographical Information Systems (GIS).

For the current access arrangement period, the AER allowed capex of $0.6 million for GIS, for which we report zero actual expenditure in our GN21 plan. In its draft decision, the AER requested clarity regarding the allocation of GIS to our respective businesses' capital bases; whether the forecast expenditure represented by the $0.6 million allowance for the 2016–21 access arrangement was incurred; and, if so, why nil is reported for the gas business.

We can confirm that we have not incurred GIS capex for our gas business in the current period. Our electricity network is the primary user of our GIS and no incremental costs have been incurred for our gas network. We do not intend to allocate past or future capital expenditure of this nature between the gas and electricity networks.

The AER also identified a proposed stay-in-business network renewal project that it believes may be a non-network project. The project was a 'SCADA remote terminal unit project' that is classified as 'non-network telemetry' under our capex model. We confirm that this project is correctly classified as stay-in-business (network renewal) capex. The purpose of this expenditure is to replace obsolete remote terminal units at several gas facilities and is distinct from funding relating to the central Supervisory, Control and Data Acquisition (SCADA) system.[23]

3.9 Speculative capex

As outlined in chapter 1, a key part of our response to the ACT Government's plan to achieve net zero greenhouse gas emissions is to demonstrate that our gas network can assist in achieving the ACT's net zero emissions target to the benefit of gas consumers.

Evoenergy is currently investigating the feasibility of introducing renewable gas alternatives to its gas network. This provides an opportunity to support renewable alternatives and promote the energy market's drive towards decarbonisation via storage

[23] This project involves replacing one SCADA remote terminal unit pack at Gungahlin Pressure Regulating Station, one at Bungendore Pressure Offtake Trunk Station, and three at the Fyshwick Trunk Receiving Station.

service provisioning, distribution, and delivery of renewable energy. The immediate objective is to trial changes in how Evoenergy's gas network is used. This expenditure does not form part of our revised capex forecast.

So that we are best placed to undertake this transformation and, as this expenditure may not initially meet the conforming capex criteria, we intend to make use of the speculative capex account provision in our access arrangement in accordance with rule 84, to record non-conforming expenditure.

Section 5.1 of our access arrangement (see Attachment 11.1) provides for any new capital expenditure that does not satisfy the criteria for conforming capex in rule 79 and is not recovered from users through a surcharge or capital contribution, to form part of the speculative capex account, which is rolled into the capital base at the commencement of the next access arrangement period if it, or part of it, subsequently satisfies the criteria in rule 79.

3.10 Supporting attachments

Table 3.7 Supporting attachments on capex

No	Attachment title	Author
3.1	Capex model (confidential)	Evoenergy
3.2	Market expansion model (confidential)	Evoenergy
3.3	Minor capital works explanatory note	Evoenergy
3.4	Labour cost escalation forecasts to 2025/26 report	BIS Oxford Economics

4 Regulatory depreciation and asset lives

4.1 Our GN21 plan proposal on regulatory deprecation

Evoenergy's GN21 plan proposed total forecast regulatory depreciation of $44.0 million (nominal) over the 2021–26 period. In calculating forecast depreciation, we proposed to accelerate depreciation on some new assets by reducing standard lives for high pressure mains from 80 to 50 years and for medium pressure mains and services from 50 to 30 years. The accelerated depreciation proposal was supported in an appendix to the GN21 plan by advice commissioned from Incenta Economic Consulting.

We proposed to reduce standard asset lives as an initial step to addressing potential cost recovery uncertainty arising from the ACT Government's climate change policies which would see the phasing out of natural gas in the ACT by 2045 and its replacement by electric alternatives. As customer numbers decline, accelerated depreciation will reduce the risk that customers who find it difficult or infeasible to move away from gas will be left to pay an unfair share of costs and that Evoenergy will face asset stranding.

Stranding risk is being driven by progress towards the ACT Government's legislated target of net zero greenhouse gas emissions by 2045. The government's Climate Change Strategy 2019–25, published in September 2019, outlined actions that the government would take to achieve this target. These included amending planning regulations to remove the mandating of gas reticulation in new suburbs; conducting a campaign to support the transition from gas to electric alternatives; and, by 2024, developing a plan for achieving zero emissions from gas use by 2045, including "setting timelines with appropriate transition periods for phasing out new and existing gas connections."[24]

Following the October 2020 ACT election, the new Labor/Greens Government published a P&G Agreement for the next four-year parliamentary term which provides more certainty and clarity about its intentions and planned initiatives to phase out natural gas in the territory. These include prohibiting new gas connections in newly developed estates and in new infill developments within existing areas from 2023. The agreement also commits to, among other measures, interest-free loans of up to $15,000 for households to help with the cost of replacing gas appliances with electric alternatives.[25] These measures have increased the risk of asset stranding since we submitted our GN21 plan and create a heightened impetus to act.

4.2 Consumer engagement

In its submission to our GN21 plan, the AER's Consumer Challenge Panel (CCP24) supported our proposal to accelerated depreciation, stating in its submission on Evoenergy's AA proposal that:[26]

> *In the absence of ACT Government support for Evoenergy and its customers, and after considering the arguments Evoenergy has advanced and reviewing the Incenta report, we are persuaded to support the*

---

24 ACT Government, *Climate Change Strategy 2019–25*, September 2019. Goal 4B. p. 10

25 See Box 1.1 on p.4

26 CCP24, *Advice to Australian Energy Regulator on Evoenergy Gas Network 21 Plan for Evoenergy (ActewAGL) ACT, Queanbeyan and Palerang Access Arrangement*, July 2021–June 2026. August 2020. p 32

application of accelerated depreciation subject to further understanding of the details eg why the revised asset life does not result in an economic life to 2045 to align with the emissions target? Does it only cover assets in the ACT?

Responding to these and other issues as well as interest expressed in other stakeholder submissions on our GN21 plan, Evoenergy held a consumer engagement deep dive workshop on the issue of stranded asset risk on 16 September 2020. This was attended by members of consumer and business groups, retailers and large users, and members of the Evoenergy Energy Consumer Reference Council (ECRC) and Citizens' Jury. AER officers, CCP24 members and ACT Government officials attended as observers.

There was general acceptance from participants that Evoenergy faces a real risk of asset stranding. There were varying views on timing of action but, apart from a minority advocating for ACT Government funding of stranding costs, participants skewed towards support for the reasonableness of our proposal to reduce asset lives in our GN21 plan. The outcomes report of this engagement form Attachment 4.1 to our revised GN21 plan.

4.3 The AER's draft decision

The AER's draft decision on our proposal for regulatory depreciation for the 2021–26 access arrangement period is in section 4.3 of its draft decision overview, with more detailed information on the annual depreciation amount and specific matters affecting the estimate of regulatory depreciation in Attachment 4.

The AER determined a regulatory depreciation amount of $44.4 million (nominal) for the 2021–26 period. This is $0.3 million (0.8 per cent) higher that than the $44.0 million proposed by Evoenergy. The difference was driven primarily by the AER's lower expected inflation rate for the 2021–26 period.[27]

In coming to its decision on Evoenergy's straight line depreciation, the AER:

- accepted our proposed straight-line method to calculate regulatory depreciation;
- accepted our proposed weighted average method to calculate the remaining asset lives as of 1 July 2021 (with minor updates made by the AER);
- accepted our proposal to reduce standard asset lives of high-pressure mains from 80 to 50 years, and medium pressure mains and services from 50 to 30 years for assets in the ACT only, while applying standard lives for these assets located in NSW.

4.4 Evoenergy's response to the draft decision

In our revised GN21 plan:

- we accept the AER's regulatory depreciation draft decision elements on the straight-line depreciation method and the weighted average method to calculate remaining asset lives.
- we accept and welcome the AER's draft decision to allow the shortening of standard asset lives for new long-lived mains and services assets located in the ACT. However, we believe, for reasons set out below, that the lives of these assets should be shortened across our entire gas network, including those located in NSW.

[27] AER draft decision, *Overview*, p.38

4.4.1 Standard asset lives in the ACT versus NSW parts of the network

We proposed in our GN21 plan that the depreciation of new network assets be accelerated as an initial step in recognising the stranding risk posed by ACT Government climate change policies advocating the phasing out of natural gas and its substitution by electricity from renewable sources. Accelerated depreciation is consistent with advice provided by Incenta Economic Consulting (Appendix 4.3 to our GN21 plan) that the Rules envisage such a mechanism, while our consumer engagement on this matter indicated the degree of acceptance among stakeholders (see section 4.2 above and section 1.4 of the Overview).

As discussed in the Overview (section 1.2), the ACT Government has somewhat clarified and extended the scope of its climate change strategy in the publication of its P&G Agreement which includes an enhanced goal of ceasing all new gas connections in the ACT (including in brownfield areas) by 2023, and increased incentives for consumers to replace their gas appliances with electric alternatives.

The AER's draft decision to accelerate depreciation of the nominated asset classes only for assets located in the ACT and not for those in NSW makes this distinction broadly based on two considerations:

- firstly, that the ACT has explicit policies on reducing the use natural gas and encouraging substitutes while NSW currently does not; and
- secondly, and consequently given the point above, NSW gas consumers are expected to continue to connect to and use the network, requiring us to invest in network expansion in NSW during the 2019–24 regulatory period.

Our departure from the AER's draft decision approach rests on our views that:

- allocating assets to discrete NSW and ACT sections is unworkable, and
- the depreciation schedule should be designed to depreciate costs over an asset's economic life while capex should be evaluated using the conforming capex criteria.

Allocating assets to discrete NSW and ACT sections is unworkable

Our network was built and has always been owned, operated, and regulated as a single network. The cross-jurisdictional nature of the network promotes economies of scale. Moreover, major network assets located in both NSW and the ACT serve end users in both jurisdictions, making geographic distinctions arbitrary.

As a result, it is not possible to divide assets, based on their physical location, into an ACT network (with an uncertain future) and a NSW network (with a less uncertain future). Further it is not possible to divide assets based on their function or who benefits as all of the investments we make benefit all of our customers.

Stranding risk does not differ across sections of our network

There is no difference in stranding risk across ACT and NSW sections of our network. Even if the network could be divided into two different sections (ignoring the difficulties outlined above) the risk is effectively the same as the future viability of a network without ACT customers is at best marginal given that NSW accounts for only about ten per cent of current connections.

Adding to this, the areas of the network located in NSW are strongly tied to Canberra in terms of employment, commercial activity and, importantly, media. We expect ACT-targeted campaigns in favour of electric over gas appliances will equally influence NSW gas customers.

Further, accelerating the deprecation of only ACT assets could disadvantage customers in NSW since they will pay for assets in the ACT at a higher rate. On the other hand, ACT customers, who are being encouraged to leave the network sooner, will receive the full bill reducing benefits from new NSW connections while paying a smaller proportion of the costs over time.

The depreciation schedule should be designed to depreciate costs over an asset's economic life and capex should be evaluated against the conforming capex criteria

We note that the AER considered that asset lives cannot be shortened while the network owner continues to invest in the network is a key element of its differing treatment of assets located in ACT or NSW. The draft decision states that:[28]

> *We consider an important aspect of reducing stranding risk on consumers is by reducing capex. If we apply accelerated depreciation to address asset stranding risk but do not put any constraints on capex, then while investors get certainty that they would get their money back in a shorter period of time, it does not prevent poor investment decisions being borne by consumers once the stranding risk is realised …*

In our view this approach seeks to treat the symptoms of the issue rather than the root cause. Reducing capex in a manner suggested by the AER will result in higher customer bills (perversely increasing stranding risks) and require us to ignore our regulatory obligations.

The root problem is that while continued investment is beneficial (and required) the costs – with current asset lives – will be recovered over a period much longer than the benefits are likely to be realised. This disjoint will result in some customers receiving the benefits of our investments without paying their fair share. This means other customers will bear these costs, even though they receive a smaller (or zero) share of the benefits.

Our proposal is to begin to address the root cause and improve the alignment of the costs and benefits. This will ensure that those who benefit from the investments pay a fair share towards the cost and avoid requiring other customers (in the future and in NSW) paying an unfair share.

We consider that the depreciation schedule should be designed to depreciate costs over an asset's economic life, consistent with Rule 89. While we recognise that factors requiring shorter economic lives can also affect whether capex meets the conforming capex criteria set out in Rule 79, this consideration, as envisaged and required by the Rules, is separate. Conflating these two separate considerations (and requiring that capex reduce for asset lives to reduce) results in either an unrealistic expectation of forecast capex requirements or a reduction in beneficial capex leading to worse customer outcomes.

The root cause: the mismatch between costs and benefits

The underlying problem is that, while continued investment in our network provides customers with net benefits (even in the face of uncertainty), the timing of the costs and benefits is not aligned.

Applying asset lives of 80 or 50 years means that the costs of the investments will be recovered over the period to 2106 or 2076. But there is a high risk that these investments

---

[28] AER draft decision, *Attachment 4 – Regulatory depreciation*, pp.20-21

will not provide benefits for that long given the ACT Government's policies advocating the phase out of natural gas.

This misalignment means that if the gas network is phased out by 2045, customers left connected into the 2030s and 2040s will need to pay an unfair proportion of the costs.

Incurring capex is still in customers' interests, even in the presence of stranding risks

We agree that factors increasing asset stranding risk can influence whether capex is conforming. For instance, in response to the ACT Climate Change Strategy, we have not forecast for the 2019–24 period any significant augmentation and capacity development projects that would normally be required. Our capex forecast is about 30 per cent less than what we incurred in the current period.

But it is not always the case that ceasing or limiting investment is the best response. We may increase our investment to bring online more renewable gas to reduce the risk that our assets will be stranded or reduce the impact of that stranding.

Connections will continue to reduce customer bills by spreading out the fixed costs of the network. Where the average payback period for a connection is assumed to be around seven years, the bill-reducing benefits of a connection exceed the required capex over that period. Over the typical life of a gas appliance (around 15 years), customers would receive a net benefit in lower bills.[29]

Even in the worst-case scenario where the network is decommissioned in 2045, our investments made over the 2021–26 access arrangement period will continue to provide net benefits to customers during the intervening period.

In other cases, the presence of stranding risk is irrelevant to the investment decision. To comply with the Rules, we are *required* to connect customers who apply for connection, and we are generally unable to recover costs from connection applicants.[30] The AER suggests that it may be prudent at some point to cease market expansion and meter replacement capex, but this is not currently within our control. We are required to continue to incur these costs to comply with regulatory obligations.

There is a difference between a stranded asset and a poor investment decision

The quote from the draft decision earlier in this section suggests that applying accelerated depreciation without constraining capex benefits investors while making consumers vulnerable to poor investment decisions once the stranding risk is realised. This view conflates stranding risk with whether an investment is in customers' interests and conforms with the capex criteria set out in Rule 79.

Stranding risk is the risk that the network owner will not be able to recover the cost of its investments. Currently, we recover the costs of our investments over their technical lives. For high and medium pressure mains this is 80 or 50 years.

---

29 Based on an estimate of average revenue per customer over 15 years, less the average cost of new connections.

30 Part 12A of the Rules sets out the arrangements in place for providing a connection between a distribution pipeline and a retail customer's premises. Rules 119S and 119V in Part 12A require us to make connection offers if an applicant seeks a connection service. These connection offers must be consistent with the connection charge criteria set out in Rule 119M. These criteria specify that where the present value of the expected incremental revenue to be generated as a result of the capex for the relevant connection assets exceeds the present value of that capex, no connection charge may be imposed.

The presence of stranding risk does not imply that investments are "poor investment decisions". It means that we may not be able to recover our costs over the economic lives of the assets. Whether net customer benefits are positive is a separate question.

Our solution: align how costs and benefits flow to customers

Our solution is to improve fairness by better aligning customer costs and benefits, making sure that current customers pay a reasonable share of costs. This reduces the risk that future customers will bear an unfair burden. Importantly, our approach an initial step to reduce stranding risk without forgoing the customer benefits that are unlocked by continued investment.

In contrast, constraining investment, without considering customer benefits, results in less beneficial customer outcomes. It will result in higher bills and, perversely, increase stranding risks by reducing the competitiveness of gas as a fuel of choice.

The Rules are designed to reduce asset lives – not capex – in the face of stranding risks

Not only will a blanket requirement to reduce investment result in worse customer outcomes (as discussed above) it is also inconsistent with the intended operation of the Rules. The Rules are designed to reduce asset lives, not capex, when stranding risk arises, and have other mechanisms for avoiding "poor investment decisions".

The Rules recognise that an investment can be in customers' interests even though it may have an economic life less than its technical life. Rule 89(1)(b) requires that the depreciation schedule be designed so that each asset is depreciated over the *economic* life of that asset (which may or may not be the same as the technical life). It also explains why Rule 79 does not exclude capex subject to stranding risks from being conforming capex.

It is not reasonable to estimate the economic life of our investments using the technical life of modern plastics and steel

We note that the economic life of connection assets could be as low as 10 to 15 years given the lives of consumer appliances. An economic life of 50 to 80 years, based on the technical life of modern plastics and steel, is simply not a reasonable estimate. Such an assumption makes sense only for businesses which have a high degree of confidence that they will continue to operate for the next 100 or so years. This is not true for a network in Evoenergy's circumstances.

This is recognised by Ofgem which applies a front loaded (sum of digits) depreciation approach (rather than straight-line) with an asset life of 45 years and only recently acknowledged that a 30-year life is not necessarily unreasonable.[31]

4.5 Evoenergy's revised proposal

Table 4.1 shows our revised proposed regulatory depreciation of $44.1 million (nominal) over the regulatory period, which is a slight reduction from the draft decision of $45.0 million. This is driven by our lower capex forecast, partially offset by applying reduced asset lives to ACT and NSW.

---

[31] Ofgem 2020, *RIIO-2 Final Determinations – Finance Annex, p.*112 Available at: https://www.ofgem.gov.uk/system/files/docs/2020/12/final_determinations_-_finance_annex.pdf

Table 4.1 Evoenergy's projected regulatory depreciation

$ million (nominal)	2021/22	2022/23	2023/24	2024/25	2025/26
Straight-line depreciation	15.8	17.0	18.2	19.3	20.3
Less: Indexation of the capital base	9.0	9.2	9.4	9.4	9.4
Regulatory depreciation	**6.8**	**7.8**	**8.8**	**9.9**	**10.9**

4.6 Supporting attachments

Table 4.2 Supporting attachments on regulatory depreciation

No	Attachment title	Author
4.1	Stranded asset risk deep dive workshop outcomes report	Communication Link

5 Capital base

5.1 The AER's draft decision

5.1.1 Initial capital base

The AER's draft decision did not accept our proposed opening capital base as of 1 July 2021 of $382.3 million (nominal) and instead determined an opening capital base of $381.9 million. The AER made minor adjustments to account for updated inflation values and corrected our 2014/15 actual capex. The draft decision noted that its final decision would include a further update for inflation and actual capex for the 2019/20 year.

5.1.2 Projected capital base

The AER's draft decision accepted our proposal to establish the initial capital base value for the access arrangement period beginning 1 July 2026 based on the projected depreciation schedules approved in this access arrangement, actual capex in the 2021–26 access arrangement period, and an adjustment for actual inflation. The AER's draft decision used our proposed methodology to forecast the capital base value, but adjusted the projected capital base value after adjusting:

- the initial capital base value (see section 5.1.1);
- forecast capex (see chapter 3);
- asset lives for depreciation (see chapter 4); and
- the rate of return and forecast inflation (see chapter 6).

5.2 Evoenergy's response to the draft decision

5.2.1 Initial capital base

Evoenergy accepts the AER's adjustments to our opening capital base and agrees the opening capital based should be further amended for actual 2019/20 capex and the most up to date inflation released by the Australian Bureau of Statistics (ABS) at the time of the AER's final decision.

5.2.2 Projected capital base

We accept the methodology in the draft decision used to calculate the projected capital base, including the need to update the initial capital base value. We also accept the draft decision to update the forecast inflation rate, and that it will also be updated in the final decision based the Reserve Bank of Australia (RBA) statement on forecast inflation and the final position of the AER's 2020 review of inflation.

The AER's draft decision on the cost of capital also impacts the projected capital base value, so it is noted here for completeness. We have used the draft decision cost of capital value, but we expect it will be updated in the final decision for the updated risk-free rate and cost of debt based on our nominated averaging periods.

We have different views from the AER in relation to the following matters raised in the draft decision:

- forecast capex (see chapter 3); and
- asset lives for depreciation (see chapter 4).

5.3 Evoenergy's revised proposal

5.3.1 Initial capital base

Our revised GN21 plan has adopted the draft decision roll forward model and updated it for 2019/20 actual capex. In addition to the updated capex information, our revised proposal uses the draft decision inflation data, but we expect that the inflation data will be updated by the AER in its final decision.

Our revised proposal has determined an opening capital base of $381.1 million (nominal), which is a slight reduction from the draft decision because the net capex in 2019/20 reduced from the forecast $15.1 million to the actual value of $14.2 million.

Table 5.1 shows our revised proposal capital base with the updated 2019-20 actual capex.

Table 5.1 Evoenergy's revised GN21 plan capital base for 2016–21

$ million (nominal)	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Opening capital base	338.4	349.7	361.1	366.9	371.4	376.2
Net capex	17.4	19.6	13.2	13.3	14.2	15.1
Indexation of capital base	5.7	5.2	6.9	6.6	6.8	7.5
Less: straight-line depreciation	11.8	13.4	14.3	15.3	16.3	17.3
Interim closing capital base	349.7	361.1	366.9	371.4	376.2	381.5
Difference between estimated and actual capex in 2014–15 capex						-0.3
Return on difference for 2014–15 capex						-0.1
Closing capital base as of 30 June 2021						381.1

Totals may not sum exactly due to rounding.

5.3.2 Projected capital base

Our revised GN21 plan has adopted the projected capital base methodology from the draft decision but we have updated the calculations to include our views on:

- the initial capital base value (see section 5.3.1);
- forecast capex (see chapter 3); and
- asset lives for depreciation (see chapter 4).

For this revised proposal, we have applied the draft decision values for the forecasts of the rate of return and inflation. We expect these values will be updated by the AER's final decision, as noted above.

Table 5.2 shows our revised proposal projected capital base values. The projected capital base value as of 30 June 2026 has reduced from the draft decision of $405.7 million to $395.0 million (nominal), driven mainly by a reduction in forecast capex (see chapter 3 for further details).

Table 5.2 Evoenergy's projected capital base for 2021–26

$ million (nominal)	2021/22	2022/23	2023/24	2024/25	2025/26
Opening capital base	381.1	389.5	396.0	397.7	397.1
Net capex	15.2	14.3	10.4	9.3	8.8
Indexation of opening capital base	9.0	9.2	9.4	9.4	9.4
Less: straight-line depreciation	15.8	17.0	18.2	19.3	20.3
Closing capital base	389.5	396.0	397.7	397.1	395.0

Totals may not sum exactly due to rounding.

5.4 Supporting attachments

Table 5.3 Supporting attachments on the capital base

No	Attachment title	Author
5.1	Roll forward model	Evoenergy
5.2	Post tax revenue model	Evoenergy

6 Rate of return

6.1 The AER's draft decision

6.1.1 Rate of return

The AER draft decision applied the current 2018 Rate of Return Instrument (2018 Instrument) to estimate a placeholder rate of return shown in Table 6.1. The AER accepted our proposed risk-free rate and return on debt averaging periods to calculate the rate of return in its final decision, using the 2018 Instrument, as required by the NGL.

6.1.2 Inflation forecast

The draft decision applied an estimate of the average annual rate of inflation expected over a ten-year period to calculate a forecast rate of 2.37 per cent per annum. In its draft decision, the AER noted that it was undertaking a review into the treatment of inflation in its regulatory framework, including the methodology it uses to estimate expected inflation, and that it expected to apply its final position in our final decision.[32]

6.1.3 Debt and equity raising costs

The draft decision applied the same equity raising costs as in our proposal, however it updated the calculated values in the AER's post tax revenue model (PTRM) (Attachment 5.2) using its standard approach. The updated calculations resulted in zero equity raising costs, as did our proposal.

For debt-raising costs, the AER updated its annual benchmark rate and determined a rate of 9.42 basis points per annum (bppa). In arriving at this value, the AER applied the approach from its final decision for SA Power Networks, that is, it used updated Bloomberg data to inform the 'arrangement fee' component of debt raising costs and Chairmont's updated estimates for the remaining components.[33]

The AER's estimate was higher than our proposal estimate of 8.46 bppa. The AER decided that its value was not materially different to ours, and so accepted our value of 8.46 bppa.

6.2 Evoenergy's response to the draft decision

6.2.1 Rate of return

As the AER accepted our approach in calculating its placeholder rate of return and our proposed risk-free rate and return on debt averaging periods, we have not proposed any changes to the rate of return and have used the AER's draft decision as a placeholder in our revised GN21 plan and PTRM. We note that the AER will update its rate of return calculations using our proposed averaging periods in the final decision.

6.2.2 Inflation forecast

On 17 December 2020, the AER released its final position on the treatment of inflation. The timing of this release was such that we were not able to update our forecast inflation

---

[32] AER draft decision, *Attachment 3*, p.6
[33] AER draft decision, *Attachment 3,* p.9

estimate to reflect the AER's final position, and instead our revised GN21 plan adopts the AER's draft decision estimate of 2.37 per cent as a placeholder. The AER's final position reaffirms the draft decision to implement a five-year target inflation horizon and applies a linear 'glidepath' approach from the RBA's forecasts of inflation for years 1 and 2 to the mid-point of the inflation target band in year 5. The final position also requires the immediate implementation of the changes to any forthcoming regulatory decisions.

We expect the AER to update forecast inflation in accordance with its final position on forecast inflation in the final decision based on the RBA Statement of Monetary Policy released in February 2021. We note that this will result in a lower estimate of forecast inflation than the placeholder of 2.37 per cent, which will increase the revenue requirement. In its draft decision overview,[34] the AER gave an indicative estimate of the effect of this decision of a 2.1 per cent increase in revenue and a 0.3 per cent increase in average residential and small business customer bills.

6.2.3 Debt and equity raising costs

As the AER accepted our equity raising costs in the capex forecast and debt raising costs in the opex forecast, we have not revised our proposal.

6.3 Evoenergy's revised proposal

Table 6.1 shows our GN21 plan, the draft decision and revised GN21 plan rates applied in the rate of return and inflation. We have used these amounts as placeholders in our revised PTRM. We have included zero equity raising costs and the amount of debt raising costs has been included in our forecast opex (see chapter 2).

Table 6.1 Proposal, draft decision and revised proposal rate of return

Decision component	GN21 plan	AER draft decision	Revised GN21 plan
Nominal risk-free rate	1.00%	0.91%	0.91%
Market risk premium	6.1%	6.1%	6.1%
Equity beta	0.6	0.6	0.6
Return on equity (nominal post-tax)	4.66%	4.57%	4.57%
Return on debt (nominal pre-tax)	4.69%	4.62%	4.62%
Gearing	60%	60%	60%
Nominal vanilla WACC	4.68%	4.60%	4.60%
Forecast inflation	2.40%	2.37%	2.37%

Note: The AER will update values stated for the risk-free rate, return on equity, return on debt and inflation. These are placeholder values and will be updated by the AER in its final decision consistent with the approved confidential averaging periods for the risk-free rate and cost of debt, and its final position methodology for forecast inflation.

6.4 Supporting attachments

There are no attachments to this chapter.

[34] AER draft decision, *Overview,* p.37

7 Corporate income tax

7.1 The AER's draft decision

7.1.1 Tax revenue building block

The AER's draft decision accepted our proposed approach for calculating the forecast cost of corporate income tax. The approach is built into the AER's PTRM for gas pipeline service providers (our completed PTRM forms attachment 5.2), which implemented the findings from the AER's 2018 Review of the regulatory tax approach (tax review). The draft decision accepted our proposed tax rate of 30 per cent and gamma value of 0.585.

The AER calculated a corporate income tax amount of $1.4 million (nominal) for Evoenergy in the 2021–26 access arrangement period, compared to our initial proposal of $1.5 million (nominal). The main reason for the difference is the AER's lower rate of return.

7.1.2 Tax asset base

The AER set an opening tax asset base (TAB) value as of 1 July 2021 of $260.3 million (nominal), which was a 0.1 per cent reduction to our proposed value of $260.5 million. This is due to the AER updating the 2014-15 capex values.

7.1.3 Tax asset lives

The AER accepted our proposed standard tax asset lives for existing assets.

7.1.4 New asset classes

The AER created three new asset classes for pipeline assets located in the NSW region of Evoenergy's gas network for the purpose of calculating depreciation, which we discuss in chapter 4 (regulatory depreciation and asset lives).

7.2 Evoenergy's response to the draft decision

7.2.1 Tax revenue building block

As the AER has accepted our approach to calculating the tax building block, we have used that approach in our revised proposal. The AER calculated a corporate income tax amount of $1.4 million (nominal) for the 2021–26 access arrangement period. We have updated the draft decision calculations and have arrived at $1.5 million (nominal) for our revised proposal. The difference is due to the two changes we made which are:

- we updated the capex forecast in the tax asset base in light of the new demand forecast; and
- we have not adopted the draft decision's three new assets classes, which separated assets in NSW and the ACT for tax depreciation.

7.2.2 Tax asset base

As the draft decision accepted our approach to the calculation of the initial tax capital base, we have updated that approach with actual 2019/20 capex, which were not available at the time of our GN21 plan and the AER's draft decision. Our revised opening

TAB value as of 1 July 2021 is $259.5 million (nominal) compared to our GN21 plan proposed value of $260.5 million.

7.2.3 Tax asset lives

As the AER accepted our asset lives proposal, we have adopted the same lives in our revised GN21 plan.

7.2.4 New asset classes

The AER created three new asset classes for the purposes of depreciation. We have not adopted the new asset classes, and this is discussed in chapter 4.

7.3 Evoenergy's revised proposal

Table 7.1 shows our revised GN21 plan tax revenue building block, which is based on a corporate tax rate of 30 per cent and gamma of 0.585 (consistent with the draft decision) and the tax asset depreciation expense shown from our tax asset roll forward shown in Table 7.2 and Table 7.3.

Table 7.1 Revised proposal tax revenue building block

$ million (nominal)	2021/22	2022/23	2023/24	2024/25	2025/26
Estimated tax revenue	59.1	60.0	62.0	63.7	66.8
Estimated tax expenses	56.0	57.6	60.0	61.5	64.2
Estimated taxable income, ETI_t	3.1	2.4	2.0	2.2	2.7
Estimated cost of corporate income tax ETC_t = (ETII x 30%)(1–0.585)	**0.9**	**0.7**	**0.6**	**0.7**	**0.8**

Totals may not sum exactly due to rounding.

Table 7.2 Actual tax asset base

$ million (nominal)	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Opening tax asset values	231.4	237.7	245.5	248.4	252.4	255.8
Actual net capex	17.1	19. 2	13.3	13.9	13.9	14.8
Actual tax depreciation	-10. 8	-11.4	-10.4	-10.0	-10.5	-11.1
Closing tax asset values	**237.7**	**245.5**	**248.4**	**252.4**	**255.8**	**259.5**

Totals may not sum exactly due to rounding.

Table 7.3 Projected tax asset base

$ million (nominal)	2021/22	2022/23	2023/24	2024/25	2025/26
Opening tax asset values	259.5	263.5	264.9	260.9	254.9
Forecast net capex	15.1	14.1	10.3	9.2	8.8
Forecast tax depreciation	-11.1	-12.9	-14.3	-15.2	-15.9
Closing tax asset values	**263.5**	**264.9**	**260.9**	**254.9**	**247.9**

Totals may not sum exactly due to rounding.

7.4 Supporting attachments

There are no attachments to this chapter.

8 Forecast demand

8.1 The AER's draft decision

The AER's draft decision did not accept Evoenergy's demand forecast for the 2021–26 period. The AER determined that the central forecasting methodology used by Evoenergy's economic consultant, the Centre for International Economics (CIE), was reasonable and in line with recent regulatory decisions.[35] However, the AER did not accept the post model adjustments for reduced usage per customer and increased rates of abolishments in the ACT for the 'volume individual' (VI) tariff.

The AER draft decision recognises the considerable demand uncertainty facing Evoenergy, and the limited evidence that was available at the time of Evoenergy's submission regarding the magnitude of impacts from the ACT Government's climate change policy. The AER also noted that since GN21 plan, there has been additional clarity following the ACT election on specific commitments from the new ACT Government to achieve net zero emissions. Therefore, the AER's draft decision included a placeholder demand forecast, with no post-model adjustments, and invited Evoenergy to present further evidence and update its demand forecast based on the latest available information for its revised GN21 plan.

While the AER's draft decision did not accept the overall demand forecast, the AER accepted the base forecasting methodology used by Evoenergy's consultant CIE, and certain forecast impacts of the ACT climate change policy. In particular, The AER accepted CIE's exclusion of growth in greenfield sites from the demand forecast, agreeing that "it is likely that any new suburbs from future ACT land releases will move away from gas, due to higher energy rating requirements and other financial incentives".[36] The AER noted that it expects that further refinements to CIE's model are possible in relation to brownfield developments, as a result of commitments made in the P&G Agreement.

The AER also accepted Evoenergy's customer number and usage forecast for the 'volume business' tariff (Tariff VB) and demand tariff (Tariff D). However, the AER noted it expects Evoenergy's Tariff D forecast to be updated based on the ACT Government's commitments in the P&G Agreement and any additional information Evoenergy is able to obtain on major customers' future plans for gas usage.[37]

8.2 Evoenergy's response to the draft decision

Evoenergy's gas demand and customer number forecast is a critical input into the GN21 plan and is used to determine our operating and capital expenditure requirements, as well as our reference tariffs for the 2021–26 period. The development of the demand forecasts has been strongly influenced by the policy environment in the ACT, including actions by the ACT Government to achieve net zero greenhouse gas emissions by 2045.

This policy environment poses challenges for conventional approaches to forecasting, which are largely based on statistical analysis of historical usage patterns. Evoenergy's gas demand over the 2021–26 period and subsequent years will be shaped by a range of exogenous factors including customers' changing energy fuel preferences, emerging

---

35 AER draft decision, *Attachment 12*, p.15
36 *Ibid*, p.16
37 *Ibid*, p.22

government policy, and financial incentives in the lead up to the ACT Government's 2045 target. This means that forecasting approaches restricted to analysis of historical data will not produce the best possible forecast in the circumstances, as required under Rule 74(2) of the NGR.

Evoenergy submitted its GN21 plan to the AER in June 2020. This proposal was submitted at a time when customers' knowledge of and responses to ACT Government climate policy were undergoing significant change. The ACT Government was strengthening its campaign to transition customers away from natural gas and new incentives, such as rebates under the Energy Efficiency Improvement Scheme (EEIS), had been recently introduced to encourage customers to switch to electric appliances. The ACT was also preparing for the territory election held between September and October 2020, which would help set the future direction of ACT energy policy.

Given these circumstances, and the timing of Evoenergy's GN21 plan, our gas demand forecast included post model adjustments that were based on a conservative expectation of reduced gas usage and connection numbers in the 2021–26 period. These adjustments were necessary because the CIE's base model forecast was largely based on historical data, which did not fully reflect emerging actions under the ACT Government's climate change policy.

For our revised GN21 plan, Evoenergy has undertaken additional research and analysis and incorporated the latest available information for our revised demand forecast. This section outlines the improvements Evoenergy has made to its demand forecast, how Evoenergy has addressed the AER's draft decision, and the findings of additional research and analysis undertaken by Evoenergy since its initial GN21 plan.

8.2.1 Improvements to Evoenergy's demand forecast

The demand forecast in Evoenergy's GN21 plan included several post-model adjustments reflecting Evoenergy's expectation of future reductions in gas demand and customer numbers as a result of ACT Government policy. Evoenergy recognises that a detailed analysis of the post-model adjustments in the GN21 plan was precluded by limited available data at a time when ACT Government policy was actively evolving ahead of the 2020 ACT election. Therefore, the post model adjustments represented Evoenergy's best estimate of future demand impacts at the time.

Since then, the conclusion of the ACT election has seen greater clarity around the ACT Government's approach to achieving the 2045 net zero emissions target. This included the release of the P&G agreement between the ACT Labor and Greens parties, which sets out concrete targets for reducing use of natural gas.[38]

In developing its revised GN21 plan, Evoenergy has undertaken a program of work to build a stronger body of evidence for its revised demand forecast and address the major components of the AER's draft decision. This work has included:

- updating the demand forecast based on latest available customer numbers and usage data, up to October 2020;
- commissioning expert market research consultants Sagacity Research, to undertake a survey of ACT residential customers on their energy fuel preferences, future gas usage intentions, and responsiveness to electrification incentives;

[38] P&G Agreement

- analysis of specific policy targets set out in the P&G agreement to achieve net zero emissions in the ACT by 2045, including the goal of no new gas connections to future infill developments from 2023; and
- review of gas demand by major gas customers on Tariff D, including commitments to transition away from natural gas.

This program of work has provided our economic consultant, the CIE, with robust and compatible evidence to develop a revised demand forecast for the 2021–26 period. Our revised demand forecast represents CIE's expert assessment of the likely reductions in customer numbers and usage over the forecast period as a result of the ACT Government's climate change policy. Given the significant evidence available for our revised demand forecast, Evoenergy considers that this forecast represents the best possible forecast in the circumstances, and therefore the revised forecast does not include any post model adjustments by Evoenergy. The details of CIE's analysis are presented in Attachment 8.1.

Given the importance of the 2021–26 demand forecast, Evoenergy has also engaged Core Energy and Resources (CE&R) to undertake an independent assessment of the expected impact of recent developments in the ACT's energy and planning policy on Evoenergy's gas connections and demand during 2021–26. This analysis was developed independently of the CIE forecast, and is based on 'top-down' analysis of ACT Government targets and other publicly available information. The analysis by CE&R provides an independent point of comparison and validation for Evoenergy's forecasts and has given Evoenergy confidence that its forecasts reflect an accurate assessment of future gas demand.

The sections below summarise the outcomes of the work undertaken by Evoenergy to strengthen its demand forecast, and present an overview of the updated forecast results developed by the CIE. The attachments to this chapter include detailed reports from our consultants on the findings of their research and analysis.

8.2.2 Evoenergy's response to specific components of the AER draft decision

In its draft decision, the AER identified several areas where it requested additional information or analysis from Evoenergy in its revised GN21 plan. [39] Table 8.1 summarises how Evoenergy has addressed the major components of the AER's draft decision and the areas where the AER has sought clarification or further information.

[39] AER draft decision, *Attachment 12*, p.15

Table 8.1 Evoenergy's response to AER draft decision recommendations

AER draft decision recommendation[40]	Evoenergy's response
Consider the new commitments from the ACT Government and incorporate any tangible changes into its demand forecast	The revised demand forecast reflects the recent commitments made by the ACT Government in the 2020 P&G agreement. This includes a commitment for no new gas connections in brownfield areas from 2023, and the commitment to transition ACT Government buildings away from natural gas by 2045.
Incorporate updated demand and customer number forecast based on 2019–20 actual usage and customer numbers	The revised demand forecast has been updated with historical customer number and usage data up to October 2020. This represents the latest available data for Evoenergy's revised GN21 plan.
Compare and consider any potential differences between the Australian Energy Market Operator's (AEMO) latest demand forecast and information papers on Evoenergy's proposed demand forecast	Evoenergy understands that AEMO's 2020 Gas Statement of Opportunities for the first time separately modelled the ACT region as distinct from NSW. This allowed AEMO to develop insights into structural and behavioural changes and to model energy policy impacts.[41] Evoenergy contacted AEMO to explore the possibility of comparing AEMO's ACT forecast with the demand forecast developed by Evoenergy. However, Evoenergy was advised by AEMO that its ACT forecast was not sufficiently granular and fit-for-purpose to enable meaningful comparisons.
Provide further analysis on the impact that the current ACT EEIS is likely to have on usage per customer based on the latest rebate offer. In particular, the rebate scheme associated with customers upgrading from gas heaters to reverse cycle air conditioning and the factors that would influence the increase or decrease in its uptake rate over the 2021–26 period	At the time Evoenergy submitted its GN21 plan, only six months of EEIS rebate data were available to be considered for the demand forecast. For its revised demand forecast, the CIE has assessed twelve months of EEIS data, covering the period August 2019 to August 2020. This has provided a representative data series that captures a full annual and seasonal cycle. The updated EEIS data shows an acceleration in the uptake of rebates relative to the shorter data series initially used.
Provide further analysis on abolishments. In particular, the actual data and quantitative analysis that support tripling the rate of abolishments in the ACT.	Evoenergy commissioned Sagacity Research to survey customers on their energy fuel preferences and intentions to use gas appliances over the next five years. The results of this survey have informed CIE's analysis of the number of customers who will cease using gas in future. This has resulted in a revised, more accurate forecast of abolishments, which is detailed in Attachment 8.1.
Provide further analysis to demonstrate that customers will be better off in the 2021–26 period with Evoenergy's proposed post model adjustments than without	The revised demand forecast prepared by CIE incorporates the results of additional research and analysis undertaken since Evoenergy's GN21 plan. Evoenergy considers that this has provided a strong evidence base for its 2021–26 demand forecast. Given the availability of this evidence, Evoenergy has not applied any post model adjustments to CIE's revised demand forecast.

[40] *Ibid.*
[41] Australian Energy Market Operator, *Gas Statement of Opportunities*, March 2020, p19

8.2.3 ACT 2020 Parliamentary and Governing Agreement

In November 2020, following the ACT election, the ACT Labor and Greens parties signed a P&G agreement. It sets out several specific initiates towards achieving the Government's target of net zero emissions by 2045. These initiatives provide greater clarify on the ACT Government's intended timeframes and targets for transitioning away from natural gas, and the expected demand impacts over the 2021–26 period. This has allowed Evoenergy to develop a more accurate demand forecast based on the ACT Government's policy position. Table 8.2 summarises the major commitments in the P&G agreement and how these have been reflected in Evoenergy's revised demand forecast.

Table 8.2 Evoenergy's revised demand forecast responses to ACT 2020 P&G Agreement

P&G Agreement Commitments*	Evoenergy's revised demand forecast response
Implementing a program of zero-interest loans of up to $15,000 for households and not-for-profits to assist with the upfront costs of investing in rooftop solar, battery storage, zero emissions vehicles and efficient electric appliances	Evoenergy commissioned Sagacity Research to undertake a survey of ACT residential customers on their energy fuel preferences and plans for appliance switching. The research also explored customers' awareness of and responsiveness to government rebates for switching to electric appliances. The results of this research were incorporated by the CIE in their revised demand forecast model for the 2021–26 period. CIE also included the latest EEIS data in the updated forecast, based on a representative 12-month period.
Legislate to prevent new gas mains network connections to future stages of greenfield residential development in the ACT in 2021–22.	The demand forecast prepared by the CIE excludes greenfield connections from 2021–22 in line with ACT Government targets.
Commence a transition project, working with industry and other stakeholders, to advance all-electric infill developments, with a goal of no new gas mains network connections to future infill developments from 2023.	The demand forecast prepared by the CIE assumes that there will be no new connections in future infill developments from 2023 in line with ACT Government targets.
Ensure all new ACT Government buildings and facilities are fossil-fuel-gas free, including new leases. All retrofitting in Government buildings and facilities will have a goal of net-zero emissions post retrofit.	In line with the commitment in the P&G Agreement, the CIE has assumed all ACT Government customers will gradually phase out gas, based on linear progress towards the ACT Government target of phasing out fossil-fuel gas in the ACT by 2045. The CIE removed the historical time trend component of the base forecast for ACT Government customers to recognise that the reduction in demand is a gross impact, which should not apply in addition to a continuation of the energy efficiency and fuel switching observed historically.

* P&G Agreement, Appendix 1A

Further detail on how CIE has modelled these impacts is provided in Attachment 8.1.

8.2.4 Survey of residential customers in November 2020

Evoenergy recognises that customer preferences, behaviours, and responses to the ACT Government's climate change policy will be significant drivers of gas demand over the 2021–26 period. In November 2020, Evoenergy engaged Sagacity Research, a customer and market research firm, to undertake a survey of ACT residential customers to better

understand their energy fuel preferences, future gas use intentions, and responsiveness to ACT Government incentives to switch away from natural gas. In particular, the focus of the research was on:

- understanding customers' current desire for gas and stated future intentions
- providing a time continuum that details the future uncertainty and demand for gas; and
- determining the impact of rebates for switching to electric appliances.

In November 2020, a 10-minute online survey was distributed to a random sample of approximately 30,000 of Evoenergy's residential customers.[42] The research was timed to coincide with the conclusion of the ACT 2020 election to ensure the survey captured customers' most up-to-date attitudes towards different energy fuels, and understanding of ACT Government policy.

A total of 1,886 responses were received representing a range of demographic profiles in the ACT. To ensure that the sample profile was representative of the ACT as a whole, Sagacity Research weighted the responses to match Australian Bureau of Statistics (ABS) demographic data based on home ownership, income and age.

The survey results identified significant uncertainty for gas over the next five years, finding that:

- customers' preferences are skewed towards electric appliances, for all major appliance categories except cooktops (with gas cooktops preferred by around 50 per cent of customers).
- just over a third of major gas appliances in the ACT are at an age when replacements are more likely (10+ years old), and about a third are flagged for replacement in the next five years.
- about one in five customers have shown a very strong preference to move away from gas when they replace each of their major gas appliances.
- around 20 per cent of customers are aware of rebates for switching from gas to electric home heating. Of those customers who were not previously aware, 40 per cent stated they are much more likely to consider changing to an electric appliance when prompted with the rebate.

Based on a detailed analysis of the survey results, the CIE has estimated that the weighted average likelihood that a representative owner-occupier would no longer have any gas appliances in the next five years is 17 per cent. This means that we can expect approximately 17 per cent of our current ACT customer base to not use gas in five years' time.

The survey findings are described in greater detail in Sagacity Research's report in Attachment 8.3. The CIE's analysis of the results, and how they have been applied in Evoenergy's revised demand forecast, is described in Attachment 8.1.

[42] The focus of the survey was on residential gas customers since these make up approximately 98 per cent of Evoenergy's gas customers and have been the focus of the ACT Government's campaign to transition away from natural gas.

8.2.5 Independent assessment of the impacts of government climate change initiatives

Evoenergy acknowledges the importance of ensuring its demand forecast reflects the most accurate and evidence-based projection of customer numbers and volumes for the 2021–26 period. This is particularly important at a time when the ACT is entering a critical period to set the territory's trajectory for net zero emissions by 2045.

In order to help validate the accuracy of our demand forecast, Evoenergy engaged Core Energy & Resources (CE&R) to undertake an independent assessment of the expected impact of recent policy developments in the ACT on gas connections and volumes during the 2021–26 period. CE&R has significant experience as an independent expert consultant to the gas network sector and eastern Australian gas markets, and in developing gas demand forecasts as part of AER reviews.

The scope of CE&R's review included consideration of publicly available evidence and using their experience in the gas sector to produce a best estimate of the likely impact of Government policies on demand in the ACT. This included consideration of information including:

- the 2019–25 ACT Climate Change Strategy;
- the ACT Labor and Greens election commitments and P&G agreement of 2 November 2020;
- the impacts of similar policies (that CE&R is aware of) in other jurisdictions; and
- the ACT Government's track-record of achieving energy efficiency targets, and the feasibility of policy commitments to phase out natural gas.

The purpose of this analysis is to serve as a 'top-down' independent comparison to the 'bottom-up' forecasts developed by CIE and informed by market research data. CE&R's analysis has focussed on two principal groups:

- Existing tariff VI customers, including disconnections and substitution of appliances and associated changes in consumption per connection; and
- New tariff VI customers, including reductions in the rate of connections and its impact on aggregate demand.

Based on its analysis, CE&R has derived scenario-based estimates of gas demand reductions during 2021–26 which are attributable to Government policy. The scenarios extend from a low to high range, with the 'Best Estimate' being CE&R's estimate of the most likely single-point position within that range. These results are summarised in Table 8.3, with further detail provided in CE&R's report in Attachment 8.4.

Overall, CE&R estimates that total annual gas volumes on Tariff VI will decline by between 16 to 23 per cent by 2025–26 relative to 2019–20 levels as a result of ACT Government's targets to transition away from natural gas. This estimate is consistent with the reduction of 20 per cent forecast by the CIE for the same period.

Table 8.3 CE&R estimated impact of government policy on ACT gas demand for Tariff VI

	2021–22	2022–23	2023–24	2024–25	2025–26
Best estimate					
Annual demand reduction due to Government policy (GJ)	266,250	535,500	798,750	1,065,000	1,331,250
Decrease relative to 2019-20	4.09%	8.17%	12.26%	16.34%	20.43%
High estimate					
Annual demand reduction due to Government policy (GJ)	301,250	602,500	903,750	1,205,000	1,506,250
Decrease relative to 2019-20	4.62%	9.25%	13.87%	18.49%	23.12%
Low estimate					
Annual demand reduction due to Government policy (GJ)	213,750	427,500	641,250	855,000	1,068,750
Decrease relative to 2019-20	3.28%	6.56%	9.84%	13.12%	16.40%

Note: The annual demand reductions can be interpreted as the total decrease in gas volumes on the VI tariff directly attributable to government policy, relative to a base case where there is no policy intervention.

8.3 Evoenergy's revised proposal

This section provides an overview of our revised gas demand and customer number forecast for the 2021–26 period. The detailed forecast results and supporting calculations are contained in Attachment 8.1 and Attachment 8.2.

8.3.1 Volume tariff customers

Table 8.4 sets out Evoenergy's revised forecast of connection numbers (number of fixed charges) and total usage for volume customers for the 2021–26 period. This captures all customers on the Volume Individual (VI) and Volume Boundary (VB) tariffs.

Table 8.4 Evoenergy's revised demand forecast for Tariff VI and Tariff VB 2021–26

	2021/22	2022/23	2023/24	2024/25	2025/26
Tariff VI connections	145,872	143,621	140,719	137,351	133,975
Tariff VI total usage (GJ)	6,117,672	5,901,230	5,656,742	5,399,626	5,151,378
Tariff VB total connections	13	13	13	13	13
Tariff VB total usage (GJ)	4,226	4,160	4,093	4,027	3,965

Note: Number of connections is expressed as the average number of supply charges over the year.

The number of connections on the volume tariffs is forecast to fall by approximately 8.2 per cent over the period. Compared to Evoenergy's GN21 plan, which forecast a small increase in connections, the revised forecast reflects the ACT Government's commitment to have no new gas connections for infill developments from 2023. For this reason, the number of customers on the Tariff VB is forecast to remain unchanged over the period.

The revised connections forecast also reflects CIE's analysis of the results of Evoenergy's residential customer survey, which predicts there will be approximately 2,500 new zero-consuming customers for ACT detached dwellings each year. As

described in our GN21 plan,[43] Evoenergy is forecasting that customers who have recorded zero consumption for the previous 12 months or longer will be suspended and will no longer pay the fixed charge.

Total gas usage for the volume market is expected to decrease by approximately 15.8 per cent between 2021–22 and 2025–26. This reflects both a decrease in connections as well as usage per connection, which is forecast to fall as a result of customers' increasing energy efficiency and switching from gas to electric appliances.

8.3.2 Demand tariff customers

Table 8.5 sets out the forecast number of connections, usage and chargeable demand for Evoenergy's Tariff D.

Table 8.5 Evoenergy revised demand forecast for Tariff D 2021–26

	2021/22	2022/23	2023/24	2024/25	2025/26
Tariff D connections	39	39	39	39	39
Total usage (TJ)	1,096	1,062	1,033	1,007	984
Total chargeable demand (GJ/day)	6,331	6,154	6,001	5,868	5,751

Note: number of connections is expressed as the average number of supply charges over the year.

The number of connections in the demand market is forecast to remain stable over the 2021–22 to 2025–26 period. There has been a small downward adjustment in the forecast number of connections relative to Evoenergy's GN21 plan. This is due to some major customers who have recently used less than 10 TJ over 12 months transitioning to the volume market. Another Tariff D customer has recently disconnected from the gas network.

Total usage and chargeable demand are forecast to fall by 10 per cent and 9 per cent, respectively. The decrease is primarily driven by recent commitments by some major customers (including ACT Government sites) which have set a timeline for transitioning away from natural gas. Further detail regarding the assumed reductions is presented in Attachment 8.1.

8.4 Supporting attachments

Table 8.6 Supporting attachments on forecast demand

No	Attachment title	Author
8.1	Update to forecast demand for natural gas	CIE
8.2	Revised demand forecasting model (confidential)	CIE
8.3	Demand for natural gas: understanding future uncertainty	Sagacity Research
8.4	Assessment of the impact of government climate change initiatives	CE&R
8.5	Assessment of the impact of government climate change initiatives databook	CE&R

[43] Evoenergy, *Access arrangement information ACT and Queanbeyan-Palerang gas network 2021–26 Submission to the Australian Energy Regulatory,* Attachment 7, June 2020, p4.

9 Revenue requirement and price path

9.1 The AER's draft decision

The AER's draft decision accepted our approach to the calculation of the forecast revenue requirement and how this would be recovered through prices by 'smoothing' the revenue requirement over the 2021–26 access arrangement period. The revenue requirement and price path of the draft decision were based the AER's draft decisions on each of the revenue building block components.

The AER accepted a considerable amount of our initial proposal and made minor adjustments to other components. In summary, the AER's draft decisions were to:

- accept our forecast capex and opex;
- accept our approach to the initial capital base, with minor changes;
- accept our approach to the tax building block, with minor changes;
- accept our application of the Rate of Return instrument, with minor changes; and
- accept our approach to incentive schemes, with minor updates.

Given the minor changes made to each of the components, the draft decision revenue is marginally different to that of our GN21 plan, as shown in Table 9.1.

Table 9.1 GN21 plan and AER draft decision forecast revenues

$ million (nominal)	2021/22	2022/23	2023/24	2024/25	2025/26	Total
Evoenergy GN21 plan						
Revenue requirement	58.84	60.35	62.86	64.67	69.04	315.76
Smoothed revenue	61.92	62.42	62.97	63.62	64.02	314.95
AER draft decision						
Revenue requirement	58.69	60.07	62.22	64.01	67.19	312.18
Smoothed revenue	59.73	60.95	62.29	63.80	65.12	311.89

9.2 Evoenergy's revised proposal

As we have revised parts of our proposal, there are changes to our forecast revenue and prices. Our revised GN21 plan adopts many of the draft decisions and makes minor updates to others. We have updated our capex forecast, which has reduced due to a lower connections forecast. This is discussed further in chapter 3 (capex) and chapter 8 (demand).

As our capex forecast has reduced, so too has our forecast smoothed revenue requirement of $310.17 million (nominal) compared to the draft decision of $311.89 million, shown in Table 9.2 and Table 9.1, respectively. As noted in chapter 6, some inputs to our rate of return estimate and forecast inflation are placeholders and once updated, the forecast revenue requirement will change to reflect these updated parameters. As noted by the AER in its draft decision[44] and with the release of its final position paper on the treatment of inflation, we expect the forecast revenue requirement

[44] AER draft decision, *Overview*, p.37

to increase in the final decision because the forecast inflation estimate will be lower than the draft decision and our revised GN21 plan.

Table 9.2 sets out our revised proposal building block revenue requirement. To smooth the revenue requirement, we have adopted the same price path assumption as the GN21 plan and the AER's draft decision, which sees an initial price decrease in real terms, followed by no price change in the remaining years in real terms.

Table 9.2 Revised proposal building block revenue requirement 2021–26

$ million (nominal)	2021/22	2022/23	2023/24	2024/25	2025/26	Total
Return on capital	17.53	17.25	16.85	16.23	15.52	83.37
Regulatory depreciation	6.76	7.75	8.83	9.86	10.90	44.09
Operating expenditure	33.72	35.94	36.13	37.84	40.05	183.68
Revenue adjustments	0.54	-1.36	-0.08	-0.52	0.00	-1.43
Net tax allowance	0.39	0.29	0.25	0.28	0.33	1.54
Unsmoothed revenue req.	**58.93**	**59.87**	**61.98**	**63.68**	**66.79**	**311.26**
Smoothed revenue req.	**63.28**	**62.92**	**62.23**	**61.33**	**60.42**	**310.17**
Indicative X factor (CPI-X)*	0.05%	0.00%	0.00%	0.00%	0.00%	

Totals may not sum exactly due to rounding.

*Under CPI-X, a positive value results in a price reduction in real terms as calculated in the AER's PTRM. The X-factor for 2021/22 is indicative only. The revised GN21 plan establishes 2021/22 tariffs directly, rather than referencing a change from 2020/21 tariffs.

9.2.1 Customer impacts

Because our updated demand forecast results in lower customer connections and gas volumes, our revised GN21 plan results in a smaller price reduction than what we initially proposed and what the draft decision included. Estimated customer impacts of the revised GN21 plan are provided in Table 9.3.

Table 9.3 Customer bill impacts

$ (nominal)	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Revised proposal						
Real weighted average price change across all tariffs (%)		-0.05	0.00	0.00	0.00	0.00
Increase in the typical residential customer network bill ($)		9.81	8.22	8.42	8.62	8.82
Estimated Evoenergy network gas bill for the typical residential customer ($)	337	346	355	363	372	380
Estimated retail gas bill for the typical residential customer ($)	1,440	1,488	1,547	1,616	1,674	1,721
Draft decision						
Real weighted average price change across all tariffs (%)		-9.77	0.00	0.00	0.00	0.00
Increase in the typical residential customer network bill ($)		-24.02	7.42	7.60	7.78	7.96
Estimated network gas bill for the typical residential customer ($)	337	313	320	328	335	343
Estimated retail gas bill for the typical residential customer ($)	1,440	1,454	1,512	1,580	1,637	1,684

9.3 Supporting attachments

Table 9.4 Supporting attachments on the revenue requirement

No	Attachment title	Author
9.1	Customer bill impacts model	Evoenergy

10 Incentive schemes

The current access arrangement includes one explicit incentive mechanism, the Efficiency Carry-over Mechanism (ECM). For our 2021–26 access arrangement, we proposed to continue the ECM and add a capital expenditure sharing scheme (CESS).

10.1 The AER's draft decision

10.1.1 ECM carryover amounts

The AER draft decision approved carryover amounts of negative $1.3 million ($2020-21) from the application of the ECM in the 2016–21 access arrangement period. Our proposal included negative $6.1 million, which we amended to negative $5.0m on 1 October 2020.

The AER's draft decision carryover amounts amended our proposal to:

- use audited 2019–20 opex;
- use updated inflation assumptions;
- remove movements in provisions; and
- include insurance and superannuation costs.

10.1.2 Application of the ECM for the 2021–26 period

The AER's draft decision approved the application of an ECM in the 2021–26 access arrangement period, subject to minor amendments. The two amendments made by the AER were to:

- include a clause 3.8 with a table of opex allowances to be used in the calculation of the efficiency carry-over calculations for the next access arrangement, and
- delete clause 6.1(d) so the ECM is not included as a fixed principle for future access arrangements.[45]

While it is not an amendment to the ECM, the draft decision did not consider the IT asset utilisation fee (ITAUF) to be a category specific cost and included it in base year opex. Consequently, it will not be an excluded cost for the ECM.

10.1.3 Application of the CESS for the 2021–26 period

The AER approved the application of our proposed CESS for the 2021–26 period.

10.2 Evoenergy's response to the draft decision and revised proposal

10.2.1 ECM carryover amounts

We accept the AER's draft decision to approve a carry-over amount of negative $1.3 million and have included this adjustment in our revised building block revenue forecast.

[45] AER draft decision, *Attachment 8*, p.12

10.2.2 Application of the ECM for the 2021–26 period

Evoenergy accepts the draft decision's application of the ECM for the 2021–26 period.

Our revised proposal adopts the draft decision's amendment to not require the ECM to be a fixed principle. We have also accepted that the final access arrangement will include a clause showing the opex allowance for ECM purposes.[46]

10.2.3 Application of the CESS for the 2021–26 period

Evoenergy's revised proposal includes the CESS proposed in our initial proposal as approved by the AER, with minor amendments to exclude capex for connecting or progressing renewable gas alternatives as well as to update the performance measure targets (based on a four-year average), as outlined below. and.

As we have reflected the commitments in the P&G agreement in our revised capex and demand forecasts, we also considered what impact this might have on the CESS (see also chapter 3).

We continually heard through our consumer engagement activities that consumers want us to continue to explore the use of our gas network to transport renewable gas alternatives. This would serve the long-term interests of our consumers by reducing costs and continuing to provide choice. We intend to invest over the 2021–26 period to facilitate this. While several projects are under consideration, no project is sufficiently progressed to include in our revised expenditure forecasts.

As such, we propose to exclude from the CESS capex for projects to connect or progress the injection of renewable gas alternatives into the gas network, and have inserted a new clause 4.2(e)(iv) to our access arrangement to facilitate this.

We have also updated the performance measure targets used for calculating CESS rewards. The targets proposed in our GN21 plan were calculated using a three-year simple average of historical data (from 2016/17 to 2018/19). The choice of a three-year average (compared to five-year average used by some other gas distribution businesses) is due to a new data reporting system implemented by Evoenergy around 2016/17. This means that performance data before 2016/17 are not directly comparable to more recent data.

Since the time of Evoenergy's GN21 plan, performance data for 2019/20 have become available and Evoenergy has now updated its CESS targets based on a four-year average. Evoenergy considers that a four-year average provides greater stability in the performance measure targets, is closer to the five-year averages used by other gas distributors, and ensures the targets reflect recent trends in service performance.

10.3 Supporting attachments

There are no attachments to this chapter.

[46] We note that values in this table will need to be updated if any changes to the opex forecast are made in the final decision.

11 Network access and tariffs

11.1 The AER's draft decision and Evoenergy's response to the draft decision

The AER's draft decision approves Evoenergy's proposed amendments for the 2021–2026 access arrangement, including the Reference Services Agreement (RSA), except for a small number of changes set out in Table 11.1.

We accept the changes to the 2021–26 access arrangement, including the RSA, in the AER's draft decision as outlined in Table 11.1 below. We expect none of the required changes to materially impact the operation of our gas network or its users.

Table 11.1 Evoenergy's response to the AER draft decision on network access

Decision component	The AER's draft decision	Evoenergy's response
AER's Attachment 5 Capital Expenditure and AA Clause 5.2	Reject Evoenergy's proposal for calculating the Capital Base at the commencement of the 2026 Access Arrangement Period using "depreciation of the Capital Base is to be based on forecast capital expenditure". Replace with "depreciation (straight-line) for establishing the opening capital base will be based on forecast capital expenditure at the asset class level approved for the 2021 Access Arrangement Period."	Accept AER's drafting. See Section 3 for further detail.
AER's Attachment 8 ECM and AA Clause 3.8	Add a table of operating expenditure for each year used to calculate efficiency gains and losses in the expenditure carryover mechanism calculation.	Accept AER's proposed new clause including the table. See Section 10 for further detail.
AER's Attachment 8 ECM and AA Clause 6.1 (d)	Reject Evoenergy's proposal for adding a new fixed principle for the operating expenditure efficiency carryover mechanism is fixed for the 2021, 2026 and 2031 Access Arrangement Periods.	Accept AER's removal of proposed clause. See Section 10 for further detail.
AER's Attachment 10 Reference Tariff Variation Mechanism and AA Clause 8.4 (b) CPI paragraph	Reject Evoenergy's proposal for the situation "If the ABS does not, or ceases to, publish the index, then CPI will mean an inflation index or measure agreed between the Relevant Regulator and the Service Provider."	Accept AER's reversion to the clause in Evoenergy's 2016–21 AA.
AER's Attachment 10 Reference Tariff Variation Mechanism and AA Clause 8.8	Reject Evoenergy's proposal that the cost pass through application be submitted within 90 Business Days of the later of the dates on which Evoenergy becomes aware of the Cost Pass Through Event and when Evoenergy becomes aware that the Cost Pass Through Event will or is likely to have an Administrative Cost Impact.	Accept AER's draft decision that the cost pass through application to be submitted within 90 Business Days of the occurrence of the Cost Pass Through Event. Revert to 2016 AA clause regarding notification of likely cost pass through events.

Decision component	The AER's draft decision	Evoenergy's response
AER's Attachment 10 Reference Tariff Variation Mechanism and AA Clause 8.5	Remove Intra-year variation clause 8.5 proposed.	Accept AER's removal of Evoenergy's proposed clause 8.5.
AER's Attachment 10 Reference Tariff Variation Mechanism and AA Clause 8.20	Remove Intra-year variation notice clause 8.20 proposed.	Accept AER's removal of Evoenergy's proposed clause 8.20
Schedule 1: Definitions	Remove the definition of **Service Provider.**	Accept AER's replacement of the term "The Service Provider" with "Evoenergy" throughout AA.
Schedule 1: Definitions related to AER's Attachment 10 Reference Tariff Variation Mechanism	Add to the definition of **Regulatory Change Event** "; and (d) materially increases or materially decreases the costs of providing those services."	Accept AER's proposed new sub-clause added to definition.
Schedule 1: Definitions related to AER's Attachment 10 Reference Tariff Variation Mechanism	Amend definitions of cost pass through events to align with other service providers for **Natural Disaster Event, Regulatory Change Event, Service Standard Event** and **Terrorism Event.** Reject Evoenergy's proposed inclusion of 'epidemic' in the definition of Natural Disaster Event and reject the new definition for Ring-fencing Guideline.	Accept AER's various proposed amendments to definitions for **Insurer Credit Risk Event, Natural Disaster Event** and **Regulatory Change Event**. Accept AER's removal of Evoenergy's proposed new Ring-fencing Guideline definition. (Evoenergy proposed a new definition for **Insurance Cap Event**. See Section 11.2).
Schedule 3: Initial Reference Tariff Schedule, Section 4	Accept proposed changes to reference tariff classes, tariff categories and ancillary charges. Reflect AER changes to various building block costs and demand forecasts resulting in changes to the initial reference tariffs.	Amend initial reference tariffs. Clarify that the ancillary charges for disconnection are for volume customers, which was erroneously omitted. This is consistent with Clause 12 in the RSA and AER's approved JGN AA.
AER's Attachment 11: Non- tariff components and AA Schedule 5: RSA, clause 15.9 (c) and 12 (b)(i)	Accept all Evoenergy's Non-tariff components, apart from the two exemptions: 15.9(c) and 12 (b)(i)	Adopt AER's required amendments to the RSA.

11.2 Evoenergy's revised proposal

In addition to the revisions to the proposed 2021–26 access arrangement set out in the AER's draft decision and accepted by Evoenergy as outlined in Table 11.2, we propose a small number of new changes to the access arrangement to further improve or correct drafting and reflect changes in circumstances since we submitted our proposed revisions in June 2020.

Table 11.2 Evoenergy's additional proposed changes to the 2021–26 access arrangement

Decision component	Evoenergy proposal
Add clause 4.2 (e) (iv) under Capital Expenditure Incentive Mechanism	This clause excludes capital expenditure on projects to connect or progress the injection of renewable gas into the gas network. The explanation for adding this clause is provided in section 10.2.3.
Amend Schedule 1: Definition for **Insurance Coverage Event**	Amend the definition for **Insurance Cap Event** to **Insurance Coverage Event** as detailed below.
Amend Schedule 4: Reference Tariff Adjustment Factor, Section 1. Automatic adjustment factor definition formula for A'_t component $(1+realWACC_t)^2$	Revert to original $(1+realWACC_t)$ x $(1+realWACC_{t-1})$. Evoenergy believes that the AER's change to the formula was inadvertent – the two terms differ by virtue of the subscripts to *realWACC*.
Amend Schedule 5: RSA, Annexure 3 – Gas Balancing	Amend the gas balancing clauses as detailed below.
Amend Schedule 9: CESS Contingency Payment Index	Update the performance measure targets in clause (e) to reflect four-year averages, as explained in section 10.2.3.
Amend minor changes to correct drafting errors in AA and RSA	• Minor amendments that fix typographical errors. • AA Schedule 3: Initial Reference Tariff Schedule, section 4 Initial Reference Tariffs – correction to clarify that published charges for disconnection, reconnection and abolishments relate to Volume Customers only. • AA Schedule 3 section 4.1 Reference Service, (f) Ancillary Charges, Disconnection, Charge "625m^3/hr" to be changed to "25m^3/hr" to correct typographical error.

11.2.1 Reasons for additional changes to access arrangement and RSA

This section sets out the reasons for two further proposed changes to the access arrangement and RSA, where explanations are not provided in other parts of this document or addressed in the table above.

Insurance Cap Event

Evoenergy proposes to amend the access arrangement Schedule 1: Definition for 'Insurance Cap Event' to 'Insurance Coverage Event' as reflected in the AER's final decision for South Australia Power Networks (SAPN), Energex and Ergon Energy electricity distribution determinations for 2020-2025.

The reasons that the AER provided for an amended definition for SAPN and other electricity distribution networks similarly apply to Evoenergy's gas distribution network

because we also incurred higher premiums and insurance coverage gaps.[47] We expect this situation to continue. [48]

> *The change from 'insurance cap event' to 'insurance coverage event' recognises that, in the future, pass through event applications may relate to costs incurred as a result of potential insurance gaps where a Network Service Provider has not been able to efficiently purchase insurance.*

The AER is consulting on the application of the definitional changes to 'insurance coverage event' to both electricity and gas network service providers.[49]

For the reasons provided above, we propose to adopt the updated definition for 'insurance coverage event' as it applies to recent AER final decisions for electricity distribution service providers. The detail of our proposed change is to amend Schedule 1: Definitions by removing the **Insurance Cap Event** definition and replacing it with the **Insurance Coverage Event** defined as follows:

An insurance coverage event occurs if:

1. Evoenergy:

a) makes a claim or claims and receives the benefit of a payment or payments under a relevant insurance policy or set of insurance policies; or

b) would have been able to make a claim or claims under a relevant insurance policy or set of insurance policies but for changed circumstances; and

2. Evoenergy incurs costs:

a) beyond a relevant policy limit for that policy or set of insurance policies; or

b) that are unrecoverable under that policy or set of insurance policies due to changed circumstances; and

3. The costs referred to in paragraph 2 above materially increase the costs to Evoenergy in providing direct control services.

For the purposes of this insurance coverage event:

- *'changed circumstances' means movements in the relevant insurance liability market that are beyond the control of Evoenergy, where those movements mean that it is no longer possible for Evoenergy to take out an insurance policy or set of insurance policies at all or on reasonable commercial terms that include some or all of the costs referred to in paragraph 2 above within the scope of that insurance policy or set of insurance policies.*
- *'costs' means the costs that would have been recovered under the insurance policy or set of insurance policies had:*

  i. the limit not been exhausted; or

  ii. those costs not been unrecoverable due to changed circumstances.

---

47 AER, *Final Decision*, SA Power Networks Distribution Determination 2020 to 2025, Attachment 14 – Pass Through Events, June 2020. pp. 13-14

48 *Ibid*. p. 7

49 AER, *Consultation Paper*, Guidance note on key matters the AER is likely to have regard to when assessing an insurance coverage event application, August 2020. p. 11

- *A relevant insurance policy or set of insurance policies is an insurance policy or set of insurance policies held during the regulatory control period or a previous regulatory control period in which Evoenergy was regulated; and*
- *Evoenergy will be deemed to have made a claim on a relevant insurance policy or set of insurance policies if the claim is made by a related party of Evoenergy in relation to any aspect of Evoenergy's network or business; and*
- *Evoenergy will be deemed to have been able to make a claim on a relevant insurance policy or set of insurance policies if, but for Changed Circumstances, the claim could have been made by a related party of Evoenergy in relation to any aspect of Evoenergy's network or business.*

Note for the avoidance of doubt, in assessing an insurance coverage event through application under rule 6.6.1(i), the AER will have regard to:

- *The relevant insurance policy or set of insurance policies for the event*
- *The level of insurance that an efficient and prudent DNSP would obtain, or would have sought to obtain, in respect of the event; and*
- *Any information provided by Evoenergy to the AER about Evoenergy's actions and processes."*

Gas balancing

During the first quarter of financial year 2021 we undertook a review of operational gas balancing (OBG) arrangements partly in response to feedback received from users in relation to the proposed RSA. As a result of this review, we are proposing to amend the gas balancing clauses in the RSA as detailed in Table 11.3.

Farrier Swier Consulting Pty Ltd (Farrierswier) was engaged to conduct the review. As part of their work, Farrierswier engaged with all relevant stakeholders, including all users of the network, to understand the key areas of concern and to identify possible improvements to the existing arrangements. The Farrierswier report is provided at Attachment 11.1. Network users were provided with an opportunity to review Farrierswier's report and were generally supportive of the recommendations.

Farrierswier's recommendations for changes to the OBG arrangements include improvements to drafting of the RSA, operational changes and provision of further information to users. This document addresses the changes that are reflected in the RSA. These drafting changes will be discussed with retailers during January/February 2021, with the objective of having agreement from all retailers by the end of February.

Table 11.3 below sets out Evoenergy's approach to the recommendations for changes to the RSA proposed by Farrierswier.

Farrierswier also proposed a change to combine market identifiers (IDs) for network users who operate under two market IDs (i.e. Origin/Country and Energy Australia/TXU). This change was not raised by retailers but was suggested by Evoenergy and Jemena. We have since identified that there would be material costs in implementing this proposal (including changes to Jemena's CABS system, prior to its scheduled replacement in 2024), while the benefits of undertaking it are limited. Accordingly, Evoenergy is proposing not to proceed with this change.

Table 11.3 Evoenergy's additional proposed changes to Schedule 5: RSA, Annexure 3: Gas Balancing

Farrierswier proposed change	Evoenergy reason for change
Simplify clauses to remove legalistic language and more clearly explain the OBG calculation.	Remove sections A and B that relate to arrangements that are not likely to arise. Remove clauses 5.2 and parts of 5.4 that are replicated in AEMO's Retail Market Procedures.
Combine receipt points	Evoenergy is investigating IT system changes required to combine receipt point volumes for Users that receive gas at both Hoskinstown and Watson. It is understood that this change is relatively simple and will cost approximately $20,000. On this basis, Evoenergy is proposing to proceed with the change.
Confirm that definitions align with Retail Market Procedures	Update Section 2 definitions with reference to definitions in Retail Market Procedures, including removing duplication between the RSA and the Retail Market Procedures.

Farrierswier proposed that a worked example of the OBG arrangements be included either in Annexure 3 to the RSA or on Evoenergy's website. We intend to include the worked example, along with a description of OBG, on our website because it is simpler and faster for Evoenergy to respond to User information requests than to change the RSA.[50]

We intend to further engage with users of the network on the proposed drafting changes to Annexure 3 and to inform the AER of the feedback obtained.

CESS Performance Measure Targets

We have updated the performance measure targets used for calculating CESS rewards based on a four-year average, as explained in section 10.2.3.

11.3 Supporting attachments

Table 11.4 Supporting attachments on network access

No	Attachment title	Author
11.1	Review of Operational Balancing Gas arrangements	Farrierswier
11.2	Marked up Access Arrangement	Evoenergy
11.3	Marked up Reference Service Agreement	Evoenergy

[50] RSA changes would require AER approval to change the AA.

Shortened forms

Term	Meaning
AA	Access Arrangement
ACT	Australian Capital Territory
ACT climate change strategy	ACT Government's Climate Change Strategy 2019-25
ACTCOSS	ACT Council of Social Service
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
bppa	basis points per annum
capex	capital expenditure
CCP, CCP24	AER Consumer Challenge Panel (number 24)
CE&R	Core Energy and Resources
CESS	Capital Expenditure Sharing Scheme
CIE	Centre of International Economics
cl.	clause
CPI	consumer price index
EEIS	Energy Efficiency Improvement Scheme
ECM	Efficiency Carryover Mechanism
ECRC	Energy Consumer Reference Council
EIL	Energy Industry Levy
ETC	Estimated cost of corporate income tax
GN21	Evoenergy gas network access arrangement 2021–26
GJ	gigajoule = 10^9 joules
ITAUF	Information Technology Asset Utilisation Fee
NGL	National Gas Law
NSW	New South Wales
OBG	Operational balancing gas
opex	operating expenditure
P&G Agreement	Parliamentary and Governing Agreement for the 10th Australian Capital Territory Legislative Assembly, 2 November 2020
p., pp.	page, pages
PTRM	post-tax revenue model
RSA	Reference Service Agreement
Rules	National Gas Rules
s.	section
TAB	tax asset base

Term	Meaning
TJ	terajoule = 10^{12} joules
UAG	unaccounted for gas
UNFT	Utilities Network Facilities Tax
VB	Volume Boundary (tariff class)
VI	Volume Individual (tariff class)