Overview

Access arrangement information

ACT and Queanbeyan-Palerang gas network 2021-26

Submission to the Australian Energy Regulator

June 2020

evoenergy

Foreword

I am pleased to present Evoenergy's gas network plan for the 2021–26 access arrangement period (GN21 plan). This plan sets out our proposed services and network investments, the revenue we propose and resulting prices we would charge to deliver this plan.

We have developed this plan against the backdrop of extreme weather events and a global pandemic which brought our priorities of environmental sustainability and affordability into even sharper focus. The COVID-19 pandemic has had significant and lasting impacts on our community and changed the way we work as a business, as well as the way consumers use energy. As always, the safety of our staff and the community remains our highest priority as we continue to navigate these challenging times.

Our GN21 plan reflects Evoenergy's commitment to work with the community and other stakeholders to achieve the ACT Government's legislated target of net zero carbon emissions by 2045. Evoenergy supports a responsible transition to achieve this target while recognising significant uncertainty remains about the most effective and least cost pathway to get there. Our challenge is to continue to provide safe, reliable and affordable energy to existing customers as well as those who want to connect to gas where economically efficient to do so, against this uncertain backdrop.

The GN21 plan has been shaped by consumer feedback gathered through our comprehensive consumer engagement program, including responses to the GN21 draft plan which we published in February 2020. We have heard our consumers support environmental sustainability and want us to transition to a net zero emissions energy future in a responsible way. This will involve working with the community and the ACT Government to understand the costs and impacts of potential future decarbonisation pathways. We heard that consumers are concerned about affordability and support for vulnerable consumers, and this assessment of future pathways will need to take these into account. Consumers also value a safe and reliable gas supply and expect us to continue to maintain this while we consider the future of the gas network.

The GN21 plan aims to respond to these concerns by minimising our expenditure and delivering reduced network charges while we continue to assess potential decarbonisation pathways and develop a roadmap for achieving net zero emissions by 2045.

As we work towards securing the region's future energy needs in whatever shape this may take, our GN21 plan will allow us to continue to provide our consumers with a safe, reliable and affordable gas supply. We look forward to continuing our work with stakeholders on this important issue, over this access arrangement period and beyond.

John Knox
Chief Executive Officer

What our plan delivers for customers

Responsible market expansion and gas usage assumptions while we plan the transition

- No forecast connection of gas customers in new ACT developments, consistent with the removal of government mandated gas reticulation of such areas and in view of risks associated with the uncertain future of the gas network.
- A lower forecast rate of new gas connections within the existing network footprint in recognition of ACT Government measures to discourage natural gas use. Evoenergy has an ongoing obligation to continue to connect such customers. However, such connections also contribute to affordability of gas for existing customers by increasing the number of connections over which fixed costs can be spread (see section 2.2.2.2 on page 22).

Time to progress our transition roadmap for achieving net zero emissions by 2045

- A stable platform from which to progress Evoenergy's roadmap to net zero emissions by the government's 2024 target for setting timelines with appropriate transition periods for phasing out new and existing gas connections. This timing will assist Evoenergy in its planning and engagement for the subsequent access arrangement period to begin in July 2026.
- Accelerated depreciation of new, long-lived assets as an early, precautionary measure against rising bills as the result of declining customer numbers. Accelerated depreciation will reduce the risk that, in the event of network closure, consumers who find it difficult or unfeasible to move away from gas will be left to pay an unfair share of costs (see Attachment 4 – *Capital base and depreciation*).

Safe and reliable gas supply while costs are minimised

- Our forecasts allow for spending on safety and reliability while we consider the future of the network.

Reduced expenditure, resulting in lower network charges

- Lower average opex per customer and a commitment to annual productivity improvements while allowing us to continue to deliver network safety and reliability outcomes that consumers told us they value and expect (see Attachment 2 – *Operating expenditure*).
- Evoenergy network costs will be 10 per cent lower in total (and 13 per cent lower per customer) over the 2021–26 access arrangement period compared to the current (2016–21) period (see Attachment 8 – *Revenue requirement and price impacts*).
- A real reduction in network prices of just over 4 per cent in 2021, with stable prices in real terms over the remainder of the period. Given that the network component is around one-quarter of a typical residential gas bill, this translates to a one per cent bill reduction, other components remaining constant (see Attachment 8 – *Revenue requirement and price impacts*).

Capital and operating expenditure sharing schemes to promote efficiency

- Continuation of the current (2016–21) efficiency carryover mechanism (ECM) and a proposed capital expenditure sharing scheme (CESS) to promote further efficiencies. The CESS includes proposed performance measures to ensure that capital savings are not made at the expense of aspects of network performance of importance to consumers (see Attachment 9 – *Incentive schemes*).

A declining value of our assets, which is good news for future bills

- A declining capital base promoting affordability in the medium to long term. Capex has been constrained to projects with to address safety and reliability issues, while market expansion capex for new ACT land developments has been forgone (see Attachment 4 – Capital base and depreciation).

Simplified tariffs

- Tariff simplification via the discontinuation of unused or underused tariffs (see Attachment 10 – *Reference services and tariffs*).

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Key points

- Evoenergy is required to submit an access arrangement revision proposal and accompanying access arrangement information, also referred to as our Gas Network 2021 (GN21) plan, to the Australian Energy Regulator by 30 June 2020. This sets out proposed terms and conditions for access to pipeline services on Evoenergy's ACT and Queanbeyan–Palerang gas distribution network for the five year period July 2021 to June 2026.
- **Evoenergy has published a separate Gas network 2021 Summary for consumers to provide a quick reference to the 2021–26 plan for our gas network and what it means for gas consumers.**
- This document is the overview to the access arrangement information and includes background on Evoenergy and the gas network, the current context of the network, regulatory requirements, and summaries of the elements of the access arrangement proposal
- Our network provides natural gas to more than 150,000 residential, and commercial and industrial customers across Canberra, greater Queanbeyan and Bungendore. It comprises over 4,500km of pipeline and associated facilities.
- Two factors have primarily shaped the development of our access arrangement proposal. These are the ACT Government's climate change policy; and the findings of engagement Evoenergy has undertaken with energy consumers with regard to their views on our gas network and how it should operate.
- The ACT Government has legislated for net zero greenhouse gas emissions from the ACT by 2045, and in September 2019 published a climate change strategy requiring the phasing out of natural gas use in the ACT, and its replacement by renewable electricity. Natural gas currently meets 43 per cent of the ACT's household and commercial energy demand over the year.
- By 2024, during the 2021-26 access arrangement period, the ACT Government has undertaken to develop a plan to achieve net zero emissions from gas including setting timelines with transition periods for phasing out new and existing gas connections.by 2045.
- Evoenergy is preparing a roadmap for transition to net zero emissions by 2045 which will look at options including closing our gas network; using our network to transport renewable gas; or a combination of these and/or other possible options.
- Evoenergy's approach to the 2021-26 access arrangement period in the face of uncertainty pending the government's decision on the future of the network, is to minimise investment to that necessary to maintain the safety and reliability of the network; plan for no connections in new ACT developments and declining new connections in other areas; and to accelerate depreciation on new, long lived assets.

1 Background and context

1.1 Evoenergy's gas network access arrangement proposal

Evoenergy is required to submit proposed revisions to the access arrangement (access arrangement revision proposal) for its natural gas distribution network in the Australian Capital Territory (ACT), and the Queanbeyan-Palerang region of New South Wales (NSW) (the ACT and Queanbeyan-Palerang gas network)[1] to the Australian Energy Regulator (AER) by 30 June 2020.[2]

An *access arrangement* for a gas pipeline is an 'arrangement setting out terms and conditions about access to pipeline services.'[3] Access arrangements (including revisions to an applicable access arrangement) are to be submitted to, and approved by, the AER according to provisions of the National Gas Law (NGL) and National Gas Rules (Rules).[4]

In the case of a pipeline, such as Evoenergy's, with an existing *access arrangement,* the Rules require proposed changes to be set out in an *access arrangement revision proposal.* This is to be submitted to the AER by the *review submission date* set out in the current *access arrangement*.[5] The *review submission date* set down for Evoenergy's current *access arrangement* is 30 June 2020.[6] The revised *access arrangement* is intended to take effect on the *revision commencement date* of 1 July 2021.

1.2 Purpose and structure of access arrangement information

The Rules require Evoenergy to submit *access arrangement information* with our access arrangement revision proposal.[7] The access arrangement information must include information specifically required by the law.[8]

Access arrangement information is information that is reasonably necessary for users and prospective users of the network to understand:

- the background to the access arrangement revision proposal; and
- the basis and derivation of the various elements of the access arrangement revision proposal.[9]

We also refer to the access arrangement information as our GN21 plan.

This document is the overview of Evoenergy's access arrangement information for the access arrangement revision proposal. It includes background on Evoenergy and the gas network, the current context of the network, consumer feedback, and summaries of the elements of the access arrangement proposal.

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1 Note that since publication of the current (2016–21) access arrangement, the ActewAGL Distribution partnership began using the name Evoenergy for its energy network business, and the Queanbeyan City and Palerang Shire councils merged to form the Queanbeyan-Palerang Regional Council.
2 NGL, s.132(1); Rule 52 and clauses 34 and 35(3) of Part 5 of Schedule 1 to the Rules.
3 NGL, s.2
4 NGL, s.132
5 Rules, cl.52
6 ActewAGL Distribution, Access arrangement for the ACT, Queanbeyan and Palerang gas distribution network, 1 July 2016 – 30 June 2021. cl. 1.9.
7 Rules, cl.43(1)
8 Rules, cl.42(2)
9 Rules, cl.42(1)

As well as this overview, Evoenergy's access arrangement information comprises:

- eleven subject-matter attachments addressing the basis and derivation of the various elements of the access arrangement revision proposal, and
- over 100 individual appendices supporting this overview and relevant attachments.

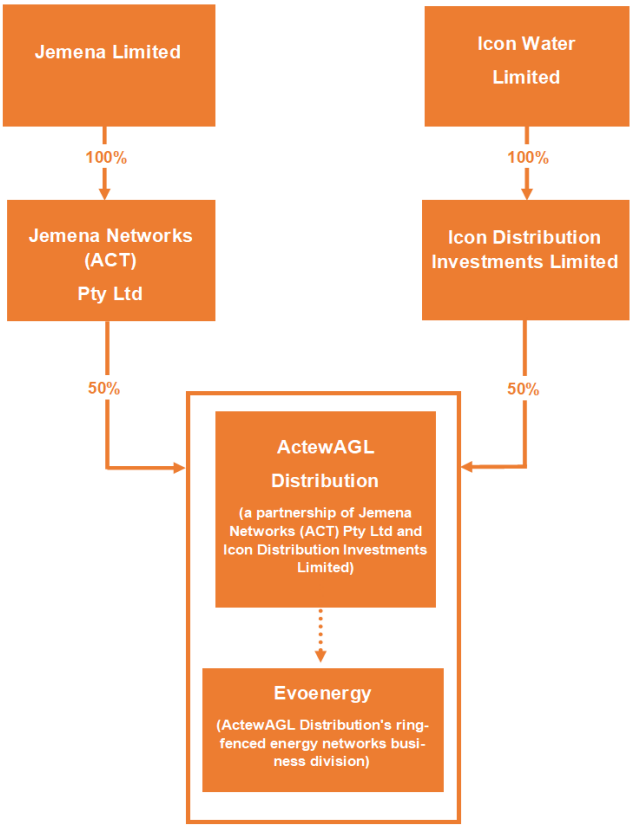
Evoenergy has also published a separate ***Evoenergy gas network 2021 summary for consumers*** to provide a quick reference to the plan for our gas network and what it means for consumers using the gas network.

The document map at Appendix A to this overview sets out the numbering and hierarchy of the documents making up Evoenergy's access arrangement proposal.

1.3 Evoenergy, our gas customers and network

Evoenergy is the energy networks business of ActewAGL Distribution which owns and operates the electricity distribution network in the ACT, and gas distribution networks in the ACT and Queanbeyan-Palerang, and in the Shoalhaven (Nowra) area of NSW.[10] ActewAGL Distribution is a partnership of Icon Water Ltd and Jemena Limited through subsidiary companies (see Figure 1).

Figure 1 Ownership structure of Evoenergy



[10] Evoenergy's gas distribution network in the Shoalhaven City Council (Nowra) area of NSW is not covered by the access arrangement.

The Evoenergy gas network serves around 150,000 customers, a large majority of whom are residential and small business customers each using less than 10 terajoules (TJ) of gas per year. Forty of our network's largest customers, those using more than 10 TJ of gas per year, are charged according to the capacity of the supply pipeline they require. Of the total customer connections, around 90 per cent are in the ACT, with the remaining 10 per cent in NSW.

Figure 2 provides selected information on the network and the services provided to gas consumers. A map showing network coverage in provided at Appendix B to this overview.

Figure 2 Information on Evoenergy's ACT and Queanbeyan-Palerang gas network

Customers

- Our gas network has over 150,000 customer connections, with arround 90 per cent located in the Australian Capital Territory and 10 per cent in New South Wales.
- Evoenergy's customer base comprises 98 per cent residential customers and about 2 per cent commercial and industrial customers. The network supplies no heavy industry.
- The network has a 75 per cent average penetration rate among end use customers within its footprint.

Network

- Our gas network is over 4,550 kilometres (km) in length (2018/19).
- By length, 4,281 km of pipeline is at medium pressure, and 221 km at high pressure. The remaining 53 km operates at transmission pressure.
- High pressure mains are constructed of protected steel, while medium pressure mains are constructed of either nylon (polyamide) or polyethylene. By length, nylon is the predominant piping material followed by polyethylene and protected steel.

Usage

- Our gas network transported over 9,900 terajoules (TJ) of gas to residential, and commerical and industrial end-users in 2018/19. *****
- An average home consumes around 28 gigajoules (GJ) of gas annually.*****
- The network has 31 connections per km of mains, which is below the national average density of 54 connections per mains km.

Reliability

- Evoenergy's network is highly reliable, with very low rates of unplanned outages and interruptions compared to other Australian gas networks.
- In 2018/19, the network had 91 unplanned outage events which is 37 per cent below the 5-year average for such events. Unplanned outages and interruptions affecting 5 or more customers have declined over the past 5 years and are amongst the lowest in Australia. Evoenergy's System Average Interruption Duration Index (SAIDI) (average outage duration for each customer served) was zero in 2018/19.
- The number of leaks reported by the public has remained relatively steady in the 3 years to 2018/19.

* 1 TJ = 1,000 GJ. 1 GJ = 1,000 megajoules (MJ). For context, a 9kg gas bottle contains 441 MJ.

Table 1 sets out network assets and their description.

Table 1 Evoenergy's gas network assets

Asset class	(km or number)	Description
Transmission mains	30.3 km	The single asset in this class, the Hoskinstown–Fyshwick pipeline, was built in 2000/01 to supply gas to the primary network via the Fyshwick TRS. This asset class comprises of a pipeline, cathodic protection systems and easements. The pipeline has a diameter of 250 mm and a maximum allowable operating pressure (MAOP) of 14,895 kilopascal (kPa).
Primary mains	37.5 km	Primary mains provide natural gas to the secondary distribution system of the ACT and Queanbeyan. They are constructed of high-strength steel pipe of 250 mm diameter and have an effective MAOP of 6,895 kPa. They are internally and externally protected against corrosion by a physical coating and via cathodic protection.
Secondary mains	233.7 km	Secondary mains provide gas to the Secondary District Regulator Sets (SDRS) within the ACT and Queanbeyan networks. They also directly supply a number of large contract customers. The secondary mains network is constructed from steel pipe externally coated to protect against corrosion. Mitigation of corrosion risk is also achieved via cathodic protection. Secondary mains have an MAOP of 1,050 kPa.
Medium pressure mains	4,372 km	Medium pressure mains supply natural gas to domestic and industrial and commercial (I&C) users. They are predominately plastic (polyethylene and nylon) and operate at an MAOP of 210 kPa.
Custody transfer stations (CTS)	1	The CTS at Hoskinstown provides the custody transfer of gas ownership from the Eastern Gas Pipeline (EGP) to the Hoskinstown to Fyshwick pipeline with an MAOP of 14,895 kPa.
Trunk receiving stations (TRS)	2	The TRS at Fyshwick provides the step down from transmission pressure in the Hoskinstown to Fyshwick pipeline to the primary network mains. The TRS at Watson provides a step down in transmission pressure from the Dalton to Watson Lateral to the secondary network mains.
Primary regulating stations (PRS)	4	Primary regulating stations are pressure reduction facilities located at each off-take on the primary main and at the end of the Hume Primary Main extension. The ACT/Queanbeyan PRSs reduce pressure from an MAOP of 6,895 kPa to supply the secondary network at 1,050 kPa.
Package offtake stations (POTS)	1	Bungendore POTS is located in the Hoskinstown CTS compound. The Bungendore POTS reduces the transmission pressure of the gas from 14,895 kPa to 400 kPa.
Secondary district regulator sets (SDRS)	95	Secondary district regulator sets are required at each off-take from the secondary system to supply the medium pressure systems. They reduce the pressure from 1,050 kPa at the inlet to 210 kPa outlet pressures.
Residential gas and water meter sets	149,627	Evoenergy provides energy transportation services for energy retailers and their customers. The financial transactions between the networks, energy retailers and the end users are largely determined by the metering equipment provided by Evoenergy to measure delivered quantities.
Industrial and Commercial (I&C) Gas Meter sets	6,762	I&C meter sets have the same purpose and functionality as residential meter sets. However, equipment complexity, unit cost and maintenance requirements increase with load size and as the network delivery pressures increase.

1.4 Regulatory framework

The NGL provides the foundation objective and principles for the regulation of gas network access arrangements. The NGL requires the AER, in performing a function or power that relates to the making of an access arrangement decision, to:

> *... perform or exercise that function or power in a manner that will or is likely to contribute to the achievement of the national gas objective.*[11]

The National Gas Objective (NGO) is:

> *... to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.*[12]

When exercising discretion in approving or making those parts of an access arrangement that relate to *reference tariffs*, the AER must also take into account the *revenue and pricing principles* set out in section 24 of the NGL.[13] These principles include that a service provider should be provided with:

- a reasonable opportunity to recover at least the efficient costs it incurs in providing *reference services* and complying with a regulatory obligation or requirement or making a regulatory payment; and
- effective incentives in order to promote economic efficiency with respect to *reference services* it provides.

A checklist of the relevant Rules requirements applicable to Evoenergy, and where they are addressed in this access arrangement information and the 2021-26 access arrangement, is provided at Appendix C to this overview.

1.4.1 Treatment of sensitive information

Where information is confidential and its public disclosure could cause undue harm to the legitimate business interests of the *service provider*, a network user or prospective user, the AER may permit the *service provider* to submit *access arrangement information* in a form in which the sensitive information is either aggregated or generalised or is entirely suppressed so as to avoid disclosure of the elements that make it sensitive.[14]

Appendix D to this overview provides a register of sensitive information where appropriate treatment of the information is proposed to mitigate harm from its public release.

1.4.2 Basis for information provided in this access arrangement information

Rule 73 requires Evoenergy to provide all financial information consistently on the same basis and to state the basis on which that information is provided in the access arrangement information. Unless otherwise stated, the financial information in this access arrangement information is provided in 2020/21 real dollars. Past values are brought to this basis using the Consumer Price Index (CPI) calculated using the all groups index for the weighted average of eight capital cities for the December quarter over the December quarter for the previous year, published by the Australian Bureau of Statistics for the individual years 2015/16 to 2019/20. A placeholder inflation estimate of 2.00 per cent is used for 2020/21. Estimated inflation for the access arrangement period for use in the financial modelling is forecast as discussed in Attachment 4 to this access arrangement information.

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11 NGL, s. 28(1)(a)
12 NGL s. 23
13 NGL s. 28(2)(a)(i)
14 Rules, cl. 43(2)

2 Context of the access arrangement proposal

Two factors, besides the regulatory framework outlined above in section 1.4, have primarily shaped the development of Evoenergy's access arrangement proposal. These are:

- the ACT Government's climate change policy[15]; and
- the findings of the engagement Evoenergy has undertaken with energy consumers with regard to their views on our gas network and how it should operate.

The ACT climate change policy requires substantial change to future shape and operation of the gas network in the ACT, as well as in NSW, and, in turn, sets the scene for stakeholder engagement.

2.1 The ACT Government's climate change policy

The ACT Government has legislated for the ACT to achieve net zero greenhouse gas emissions across all sectors by 2045, with several interim targets.[16] At this time, the ACT is the only jurisdiction in Australia with such targets in legislation. The government's target of sourcing 100 per cent renewable electricity for the ACT by 2020, the first tranche of the policy, was achieved during 2019.

In September 2019, the ACT Government released the ACT climate change strategy for the period 2019 to 2025.[17] The climate change strategy reflects a need for urgent action to reduce greenhouse gas emissions, and outlines work planned and currently under way to investigate opportunities to embed climate change emergency considerations across government operations and decisions.

According to the climate change strategy, with the elimination of electricity generation as a source of ACT's greenhouse gas emissions, reticulated natural gas accounts for 22 per cent of the remaining greenhouse gas emissions in 2019-20, second to transportation (62 per cent) as a source of such emissions.[18]

To address the contribution of natural gas to total emissions, the ACT climate change strategy proposes actions to reduce emissions from natural gas as set out in Table 2.

Evoenergy's energy network experience tells us that achieving net zero greenhouse gas emissions while continuing to provide affordable energy to our customers safely and reliably is a multifaceted undertaking with major strategic, technical, social and operational challenges.

Careful planning and thorough community consultation are required, with proper assessment of potential options and their costs and benefits informing an optimal path forward. We have begun preparing a roadmap (see Box 1) for transition to net zero emissions by 2045. This will guide our actions as we assess all options including closing our gas network and instead using all-electric energy; using our network to transport renewable gas; or a combination of these and/or other possible options.

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15 We use 'climate change policy' to refer to the broader policy context, encompassing the net zero emissions target and interim targets, together with the *ACT Climate Change Strategy 2019-25*.

16 *Climate Change and Greenhouse Gas Reduction Act 2010 (ACT)*

17 ACT Government, *ACT Climate Change Strategy 2019–25*, September 2019

18 *Ibid*, Figure 4, p.34

Table 2 ACT Government proposed actions to reduce emissions from gas

Action number	Action	ACT Government timeframe	Status
4.3	Amend planning regulations to remove the mandating of reticulated gas in new suburbs.	*By* 2020	Complete
4.4	Conduct a campaign to support the transition from gas by highlighting electric options and savings opportunities to the ACT community.	*From* 2020	In progress
4.5	Develop 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.	*By* 2024	In progress

Source: ACT Government, ACT Climate Change Strategy 2019-25, p.10

Box 1 Transition roadmap for to net zero emissions

Evoenergy is committed to working with the ACT Government and the community to achieve net zero carbon emissions by 2045 in the most effective and least cost way. As we work toward the 2045 target, we are investigating a range of network decarbonisation solutions that have the potential to provide our community with access to safe, sustainable, reliable and affordable energy.

As a regulated energy distributor, Evoenergy cannot participate in energy production or retailing activities. There are ways that we can and will continue to contribute, for example:

- Continue investing in research and testing at the Hydrogen Test Facility at Canberra Institute of Technology, Fyshwick, to understand hydrogen's potential application and impact on existing materials, equipment and work practices.
- Continue research into the use of biogas and its potential commercial participation in our network, including collaborating with industry partners and developers to optimise waste-to-energy integration.
- Increase collaboration with the ACT Government, industry, community and other stakeholders to determine how to reduce greenhouse gas emissions at the lowest possible cost and impact.

Where we can, we will work with project proponents to ensure there are no impediments to using renewable gas in the network or to explore the impact and cost of additional electricity infrastructure. We will also work with other organisations who are better placed to provide relevant information to customers.

We have observed the success of the offset market in the electricity sector enabled by the federal government's Renewable Energy Target and believe that with support from renewable gas generators and demand from consumers, a similar market mechanism could be equally successful in the gas market. Where possible, Evoenergy will provide support to the ACT Government and industry partners to enable an emissions offset market for gas.

As we work to achieve net zero greenhouse gas emissions we will collaborate to:

- choose a pathway that ensures customers continue to have certainty in safe, secure, reliable and affordable energy;
- investigate options like renewable gas and consider the complementary roles that the gas and electricity networks can play; and
- address the growing pressure the electricity network is under from the increasing uptake of distributed energy resources like solar photovoltaics, batteries and zero emissions vehicles.

We will continue to advocate consumer needs by providing the ACT Government with information we collect through our consumer engagement on what our gas consumers want and need from the gas network. We will also do what we can to support gas consumers outside the ACT, and urge the ACT Government, NSW Government and the Queanbeyan-Palerang Regional Council to consider how the ACT Government's Climate Change strategy may affect those communities.

Over the 2021–26 period we will minimise capital investment on network expansion and development while we continue to progress the transition roadmap.

Depending on which transition pathway is adopted, Evoenergy will consider the value of investment in infrastructure, taking into account the impacts on customer bills.

Evoenergy recognises the importance of ensuring a transition pathway is chosen and communicated to provide clarity and certainty for our customers. We also know that the complexity and dynamic nature of future energy policy decisions and trends will continue to provide a challenging environment that influences our decision-making and planning. It will need to be an iterative process requiring adaptation and ongoing evaluation and revaluation rather than the implementation of a single plan.

2.1.1 Future options for net zero energy distribution networks

Considering how our energy distribution networks will meet the region's future energy needs with net zero emissions presents us with a challenge which must take account of numerous and complex considerations. Evoenergy envisages two broad scenarios:

- transition away from the gas network, with the region's energy needs being met by renewable electricity; and
- transition away from carbon-emitting natural gas to renewable gas options, including hydrogen and biomethane.

Issues to be considered under these scenarios are discussed below. There may be other options or a combination of scenarios that come to light as we consider the future of our energy networks.

2.1.1.1 MEETING THE REGION'S ENERGY NEEDS WITH RENEWABLE ELECTRICITY ONLY

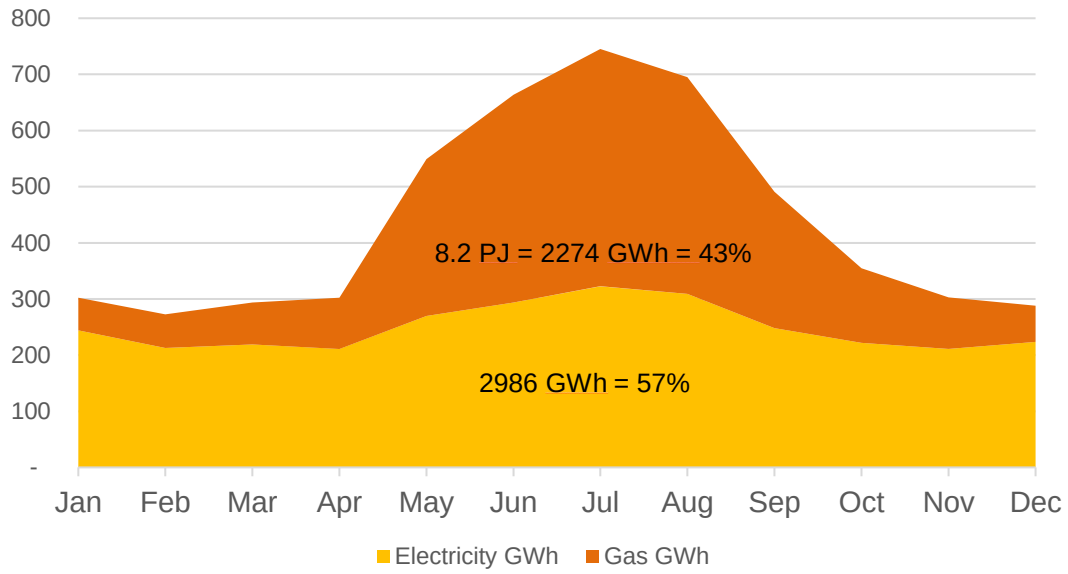
An electricity-only scenario would involve the gradual disconnection of all gas customers until the gas network was inactive by 2045. As customers disconnect from the gas network, their energy needs would be completely met by renewable electricity.

It would require households and businesses to invest in new electrical appliances to replace gas appliances, and in many cases would require upgrades to electricity supply points. It would require significant household and business investment as well as shifts in behaviour, which may be more difficult for some members of our community, for example:

- those who are facing financial hardship;
- those households and businesses who are used to having gas available for specialised cooking methods, for example, wok burners;
- residential strata developments, large businesses and institutions that rely on gas to heat large spaces and large volumes of water for which availability and affordability of suitable substitutes is currently limited.

Without a gas network, the demands on the electricity network would increase significantly. Around 75 per cent of all Canberra households use gas. Over the year, gas currently provides over 40 per cent of Canberra's total energy needs and, in winter, that figure increases to between 55 and 60 per cent when gas is providing more energy than electricity. This is illustrated in Figure 3, which shows total ACT energy demand over 2018.

Figure 3 ACT energy demand 2018



Consumers mainly use gas in mornings and evenings, creating defined demand peaks on the gas network which typically coincide with demand peaks on the electricity network. A gas network typically copes with peaks in demand more flexibly than electricity, given that gas is stored in the network under pressure, while electricity networks must be sized (or have other arrangements, such as demand management, in place) to cope with specific instantaneous peaks.

Transferring residential customers to electricity for all their energy needs is likely to significantly increase peak demand on the electricity network and require significant investment to upgrade its capacity. Meanwhile, substantial investment by Evoenergy and the community in the gas network and appliances could potentially become stranded. Most gas network assets have a long life (50 to 80 years). Reticulated gas supply was first made available in the ACT in 1982 and the network has gradually expanded since then meaning that Evoenergy's gas network still has a considerable remaining useful life.

If significant numbers of customers transition away from gas in brownfield sites (established suburbs), and other areas already at electricity capacity, there may be only very limited—and costly—network solutions. Box 2 provides a case study of electrification in an established Canberra suburb.

Aside from cost, large-scale electrification poses a significant disruption to the community during construction of trenches across roads, footpaths and driveways, and new electrical infrastructure in nature strips and resumption of land for substations. Many homeowners would also need to upgrade their own electrical wiring if they switch their cooking, hot water and heating appliances from gas to electricity. In addition, businesses with large gas appliances such as boilers may not be able to fit the electrical equipment required to replace the gas appliances on their site.

Box 2 A case study of electrification in an established Canberra suburb

As Canberra has become more densely populated, some suburbs are already at electricity network capacity and without augmentation cannot support an increase in demand for electricity that would arise from existing gas customers transitioning to all-electric homes. For example, in the suburb of O'Conner in Canberra's inner north, one street that originally had 47 customers now has over 180 customers connected to the network because of the greater density of new housing.

While there have been some gains in improving the energy efficiency of dwellings and appliances, the large increase in the number of customers has increased reliability issues and placed unsustainable stress on network equipment. This can lead to more frequent and longer power outages, increased instances of 'hot spots' (connection points between power lines that are operating above their normal temperatures) on the network, and equipment that fails before its expected end of life.

In the 92 years since O'Connor was established, we have made periodic upgrades to the electricity network, however rapid property development in recent years coupled with a decrease in available space for new network assets, poses a significant challenge. The introduction of the gas network to O'Connor in 1982 has also helped to carry the load of the majority of new energy demand in the area in the past 40 years. To continue to provide a safe and reliable electricity supply to such customers, we would normally consider a second substation as an effective long term solution, but in this instance the lack of space in the highly developed area and the high cost of network augmentation make a resolution difficult. This situation in O'Connor is one of several similar examples.

2.1.1.2 GRADUALLY TRANSITION ACT GAS SUPPLY TO RENEWABLE GAS

Under a scenario of transition to renewable gas, our gas network would continue to be used but the supply of fossil natural gas would be gradually replaced with gas from other sources. We believe that 'renewable gas,' supplied over our existing gas network, could play an important role in achieving the required net zero emissions.

We define 'renewable gas' as combustible fuel gas that is obtained from renewable resources and which does not add to net carbon emissions. Examples of renewable gas are:

- hydrogen, produced when electricity from renewable sources splits water molecules into their hydrogen and oxygen atoms via electrolysis. The renewable hydrogen extracted is a combustible fuel gas. As a transitional measure, up to 10 per cent hydrogen can be added to existing natural gas to reduce its emissions without major changes to network and end-use customers' infrastructure;
- biomethane extracted from existing waste streams, which though it produces carbon-dioxide when burnt, would otherwise, for example as waste in landfill, add methane (a more potent greenhouse gas than carbon-dioxide) to the atmosphere; and
- renewable hydrogen and carbon-dioxide combined to make renewable methane (albeit this requires a reliable source of carbon-dioxide as a by-product of another process).

Such renewable gas options are proven technologies overseas. Evoenergy is currently working in partnership with the Canberra Institute of Technology (CIT), the Australian National University (ANU) and Deakin University to research and test the use of hydrogen and biomethane in the existing gas network. Other network distributors around

Australia, such as the Australian Gas Infrastructure Group in South Australia and Jemena in Sydney and NSW regions, are investing in large-scale hydrogen and bio-methane projects and sharing their research findings—all aimed at transforming Australia's energy economy in the shortest possible timeframe.

Production of hydrogen and biomethane could be facilitated under initiatives such as a national accreditation system for renewable gas recently proposed in a submission on the Bioenergy Road Map currently being drawn up by the Australian Renewable Energy Agency (ARENA). Such a system would allow gas to be purchased with environmental credentials certifying it as carbon-free. This would, in turn, allow the development of a renewable gas product enabling green gas power purchase agreements (PPAs) similar to renewable electricity PPAs which have opened the way to 100 per cent renewable electricity, and spurred a boom in wind and solar power.[19]

2.1.2 What is the right option for our region?

There is not yet a clear answer to the question of the right option for the region. While there is a common goal of achieving net zero emissions by 2045, there is much to consider in forming a plan on how we get there at the lowest possible cost and impact. Assessing the options to determine the best way forward requires thorough consideration of the long term practicalities, costs, benefits and impacts of each scenario.

It will take time to determine the right option. Evoenergy supports the ACT Government's intention to develop a plan by 2024 for achieving zero emissions from gas use by 2045, including setting timelines, and is eager to contribute to its development.

2.1.3 Planning for 2021-26 in the midst of uncertainty

While we continue to prepare a roadmap for achieving net zero emissions by 2045 over the next five years, we must now set the regulatory plan for the 2021–26 access arrangement period including estimates of the operating and capital costs of the business as well as our expectations of what the demand for gas will be, both in terms of customer numbers and average customer usage. This task is further complicated by the policy environment, which remains uncertain and could change during the 2021–26 access arrangement period.

It is clear that our plan cannot simply reflect a 'business as usual' situation, but the timelines, transition mechanisms and technical solutions for phasing out new and existing natural gas connections in the ACT remain uncertain.

In these circumstances, Evoenergy's access arrangement proposal for 2021-26:

- excludes expansion of the gas network in new ACT suburbs, reflecting the ACT Government's strategy to end the mandating of reticulated gas in new suburbs while including necessary replacement and growth of the network in areas where the gas network already exists (see Attachment 3 – *Capital expenditure*);
- reflects a reduction in volumes based on the reasonable assumption that the ACT Government's strategy to campaign for a transition from gas to electric options will result in a significant curtailment of gas usage (see Attachment 7 – *Demand forecasts*); and

[19] Macdonald-Smith, Angela, 'New push for "green gas" accreditation', *Australian Financial Review*, 29 May 2020, p.17

- seeks to accelerate the recovery of new investment in long-lived asset with the aim of reducing the stranding risk associated with the ACT Government's climate change strategy (see Attachment 4 – *Capital base and depreciation*).

Evoenergy will continue to look at options in detail between now and the end of the 2021–26 access arrangement period to develop our roadmap ahead of the following access arrangement period starting July 2026. We look forward to working closely and collaboratively with the ACT Government, industry and climate change experts, and the community to comprehensively assess the options as we prepare the roadmap.

The directions set out here reflect Evoenergy's responses to consumer engagement discussed in section 2.2 below.

2.2 What consumers have told us

Evoenergy has a long-standing commitment to the local community that we serve. We strive to operate on a daily basis with our customers' interests at heart. With this in mind, we have undertaken a comprehensive program of consumer engagement as described in Attachment 1 to this access arrangement information. The findings of the engagement we have undertaken with energy consumers with regard to their views on our gas network and how it should operate have informed the shape of access arrangement proposal. The influence of engagement on specific issues is discussed in the subject matter attachments to this access arrangement information, and summarised below.

2.2.1 Process and themes

The centrepiece of Evoenergy's consumer engagement program was a citizens' jury, convened over two weekends during October 2019, in which a representative group of citizens considered and made recommendations on the future of Evoenergy's gas network based on information from a variety of viewpoints.

In February 2020, Evoenergy published its gas network 2021 draft plan (GN21 draft plan). In preparing this, we tapped into existing community relationships and a range of additional channels to gain an understanding of consumers' expectations and to ensure we are responding to the challenges and opportunities they identify.

The release of the GN21 draft plan was followed by a community roadshow where community responses were recorded.[20] Deep dives were held during March 2020 to receive feedback on the GN21 draft plan. By early April 2020, feedback included broad ranging written submissions from the ACT Council of Social Service, Conservation Council ACT Region and Better Renting. The AER's Consumer Challenge Panel for the Evoenergy access arrangement review (CCP24) also provided advice to the AER, publicly on the AER website, on the GN21 draft plan.

Key themes of written submissions and feedback and how Evoenergy is responding are summarised in Table 3 (beginning on page 15), organised under four overarching, and somewhat interdependent themes as set out in Box 3 below.

[20] The roadshow program was unfortunately curtailed by the Covid-19 pandemic emergency but we consider that a critical mass of events was already delivered by the time that such events ceased to be possible.

Box 3 Overarching themes identified in Evoenergy's consumer engagement

Environmental sustainability

Environmental sustainability, as embodied in the ACT Government's climate change policy leading to net zero greenhouse gas emissions from activities in the ACT by 2045, has widespread support in the community. We have recognised this in our 2021-26 plan by, consistent with the ACT climate change strategy, assuming that our gas network will not be expanded into new ACT suburbs while a transition roadmap is being developed; assuming lower numbers of new connections and declining gas use of gas in response to policy; and minimising investment in the network and accelerating depreciation of new long lived assets in view of the uncertainty future of the network pending a decision by 2024 on the nature of the transition.

Responsible transition

As well as incorporating the elements discussed above under *Environmental sustainability* for acting consistently with the ACT climate change strategy, responsible transition also involves a least cost and orderly transition to net zero emissions. This involves our working with other stakeholders to develop a roadmap to net zero emissions, and sharing with our community findings on the costs and benefits associated with various options for achieving net zero emissions, including both electrification and renewable gas options, and with emphasis on the needs of vulnerable customers. The impacts of accelerated depreciation should be further explored, including the AER providing necessary certainty to customers and to network owners as to how asset stranding is to be managed.

Safe and reliable service

Many consumers will continue to use gas during the transition to net zero emissions, and Evoenergy needs to maintain a reliable service and to ensure absolutely that the network remains safe for them, network technicians, and the general community.

Affordability and fairness

Consumers are concerned about the high price of gas services and note the need to ensure that Evoenergy's network prices promote affordability wherever possible. Supply charges as well as disconnection fees are seen as unfairly high. Gas consumers sometimes see fairness as requiring flatter tariff structures. They are concerned that declining block tariffs lack progressivity, and perhaps even encourage higher gas consumption counter to ACT Government policy objectives. They support tariff simplification. They also support incentive schemes which encourage lower network expenditure, so long as there are measures in place to ensure continued focus on performance measures that they value.

Table 3 Key themes of engagement and how we are responding

Overarching theme	Sub-theme	What we heard	How we are responding
Environmental Sustainability	Net zero greenhouse gas emissions strategy	This feedback covered support for the environmental drivers of the ACT Government climate change policy as well as more general environmental drivers. Supporting environmental sustainability is a key driver for many consumers. This was highlighted as a key driver for Evoenergy to consider as we plan for the future. This includes some support for halting the expansion of the gas network in new ACT suburbs. Most feedback related to the ACT Government climate change strategy was supportive, but some unsupportive feedback was also received. What was clear throughout the feedback was that the community wanted more clarity about the strategy's intent for the future of renewable gas and the government's role in implementation, including cost mitigation and protection of vulnerable customers. There were mixed levels of awareness of the climate change strategy, and concern that a change of government would impact the strategy.	In the short-term, we are responding to consumer feedback on environmental sustainability by assuming that the gas network will not be extended into new ACT suburbs while we develop our transition roadmap for achieving net zero emissions by 2045. We have assumed that average gas usage per customer will gradually decline, reflecting consumer sentiment and the expected response to ACT Government policy. Over the longer-term, our roadmap will set out a pathway for achieving net zero greenhouse gas emissions consistent with the ACT Government's legislated target
Responsible transition	Network expansion	**Halting mandatory expansion of gas network into new ACT suburbs** There was general, though not unanimous, support for Evoenergy's proposal to not connect customers to gas in new ACT developments. Some consumers said they like using gas and want diversity of fuel choice. Others were comfortable with an increased reliance on the electricity network distributing renewable energy. Some feedback labelled any gas market expansion a risk and said Evoenergy should reduce the size of our regulated asset base.	As a response to the ACT Government decision to end mandatory gas reticulation in new developments, Evoenergy is not proposing to connect new customers in these areas. *See this Overview for more information.* Evoenergy proposal forecasts continuing growth in gas connections (albeit at a lower rate) within the existing network footprint in the ACT, as well as in NSW. *See this Overview for more information.* **Minimisation of capital expenditure** Evoenergy has developed its capex program to meet the needs of customers for safe and reliable network and maximum affordability in the face of an uncertain future. The capex forecast is substantially below what it would

Overarching theme	Sub-theme	What we heard	How we are responding
		New connections to the existing gas network Some community feedback called strongly for Evoenergy to cease all new gas network customer connections irrespective of whether this was in a new or existing suburb. One submission suggested complete revision of the planning for 2021–26 to enable network closure by 2030. Some feedback indicated renters may be disadvantaged if property investors continue to connect to the gas network leaving renters subject to the landlords' energy preference. Some feedback queried the potential cost and environmental impact if retrofitting of new connections from gas to all-electric appliances is required in future. **Network expansion in NSW** Where feedback was opposed to ACT network expansion, it was similarly opposed to expansion of the network in NSW. **Minimisation of capital expenditure** The overall direction from our customers is to constrain investment given the uncertainty the gas network faces. More than one submission suggested that market expansion capex be minimised (in line with recommendations to cease network expansion).	have been had we planned for connection of customers in new ACT developments. Evoenergy has further reduced market expansion capex forecasts from those in its draft plan as the result of re-evaluating the impact of ACT Government policy measures on customer growth in areas currently served by the gas network. *See Attachment 3 – Capital expenditure for more information*
Responsible transition	Future renewable gas distribution	Some feedback embraced the idea of using the gas network for distributing or storing renewable hydrogen as a means of storing electrical energy. Feedback also questioned the safety and feasibility of this, and whether calling biomethane renewable gas was misleading. It was suggested the ACT had an opportunity to become the model for other jurisdictions. One submission favoured a shift to electrification instead of exploring renewable gas distribution.	Evoenergy is seeking to work with the ACT Government, industry, researchers and the community to develop a road map to net zero emissions from natural gas. The access arrangement proposal provides a "stable platform" from which to consider and progress the road map pending the ACT Government's decision on the future of the gas network by 2024. *See this Overview for more information.*

Overarching theme	Sub-theme	What we heard	How we are responding
Responsible transition	Transition impacts	This feedback included cost and non-cost related impacts, preference for gas and timeframes. **Non-cost related impacts** Consumers are concerned about whether appliances would work the same without gas, as well as their upgrading potential. They want continuing reliable services during the transition. Feedback also showed curiosity about the impact on the electricity network, a preference for gas for some users, concern about loss of choice particularly in the event of a blackout, and whether available electrical technology would be reliable enough to replace gas. **Cost-related impacts** Feedback indicated concern for the cost implications of achieving the net zero emissions 2045 target: about the cost of renewable gas, cost of electrification, cost of changing appliances, protecting vulnerable customers, need for compensation, reduced competition and who would end up paying for stranded assets. **Support for vulnerable customers** Consumers (both through advocate groups and as individuals) advocate support for vulnerable consumers, including a key recommendation from the Citizens' Jury, including through all elements of a transition.	In the short-term, our plan reflects a commitment to investing only what we need to maintain the safety and reliability of gas supply as we develop a transition roadmap. Based on consumer feedback, an important part of our roadmap will involve working with stakeholders to understand and fully consider transition impacts. We will work with stakeholders to understand and consider the needs of vulnerable customers and what we can do to help as we develop our transition roadmap.
Responsible transition	Research into options and costs	Consumers want to gain a better understanding of the costs associated with various future energy options and how to transition to them. Consumers want us to undertake research and invest in understanding what the future energy options are. One submission posed the idea of community purchasing network assets in the long-term to re-invest.	We will continue to investigate the options and their costs as we develop our roadmap to 2045, and share what we find with stakeholders. In the meantime, we have focussed on minimising our costs, and we will continue initiatives, such as our Hydrogen Test Facility in Fyshwick. Exploring the idea of a community-owned network is beyond the scope of the plan for the 2021–26 regulatory period and Evoenergy's control.

Overarching theme	Sub-theme	What we heard	How we are responding
Responsible transition	Accelerated depreciation	Stakeholders held a variety of views on Evoenergy's proposal to shorten lives of new, long-lived assets in response to the potential for assets stranding as a consequence of the ACT Government's foreshadowed phasing out of the gas network. There was some support for accelerated depreciation, given expectations of a shrinking customer base. Some feedback questioned why accelerated depreciation should not be extended to existing (and not just new) assets, while some opposed it altogether on the basis that consumers should not bear the risk of asset stranding. One submission proposed deep dive engagement to test the assumption that accelerated depreciation would be required, and whether it would be in the interests of consumers.	Evoenergy remains optimistic about the future of the network given the potential for renewable gas to secure net zero emissions. This has driven a very conservative approach to accelerating depreciation. However, there remains a clear and present risk that ACT Government policy will require closure of the network. It remains important that the AER provide certainty as to how asset stranding is to be addressed. *See Attachment 4 – Capital base and depreciation for more information*
Responsible transition	Customer number and volume forecasts	Some feedback suggested that instead of a gradual and linear decrease in gas consumption there may be a more marked decrease as customers embrace electrification. The majority of the feedback suggested Evoenergy's customer number forecasts seemed reasonable.	The development of the forecasts has been strongly influenced by the policy environment in the ACT, and the significant uncertainty that surrounds the impacts of the ACT Government's target of net zero greenhouse gas emissions by 2045. We have sought feedback on our forecasts from a range of stakeholders, and have worked closely with our expert consultant to develop a forecast that is as accurate as possible in the circumstances. *See Attachment 7 – Demand forecasts for more information*
Responsible transition	Communication and ongoing involvement	Consumers want to be kept informed and involved at all stages of the research, planning and transition towards a net zero emissions future.	Our consumer engagement program to date and this draft plan are part of our mission to communicate with and involve our consumers. We will continue to keep consumers informed and involved throughout the 2021-26 period and as we develop our roadmap to 2045.

Overarching theme	Sub-theme	What we heard	How we are responding
Safe and reliable service	Safety and reliability of the network	Consumers told us they valued the safety of the network and this would need to be ensured no matter what future avenue the gas network took. Closely coupled with reliability, consumers told us that they wanted to be sure that they would have a safe, reliable energy supply that would meet their energy use requirements. Consumers told us they are satisfied with how we maintain the gas network, manage the safety of the network and respond when there is a supply problem. Consumers expect us to continue to prioritise reliability and safety, and to continue to maintain infrastructure while we consider the future of the gas network.	Our opex forecast will allow us to continue to maintain the level of service consumers told us they value and expect. *See Attachment 2 – Operating expenditure for more information* The key theme of our capital program is to efficiently maintain the safety and integrity of the existing gas network. *See Attachment 3 – Capital expenditure for more information*
Affordability and fairness	Gas affordability	Evoenergy received feedback on affordability, with many consumers indicating that current prices are too high and there was a need to focus on reducing network charges going forward. These views were often coupled with feedback that consumers seek price stability, a flat tariff structure (generally) and certainty related to their gas supply. Overall, this feedback indicated that consumers feel gas to be too expensive and that disconnection fees and supply charges are too high. There was also feedback received that related to alternative operating models from off grid to community owned retailing.	Evoenergy's opex forecast includes a reduction in the base year costs (reflecting efficiencies achieved over the current regulatory period) and a reduction in the proposed growth rate, including a 0.5 per cent year on year improvement in productivity. *See Attachment 2 – Operating expenditure for more information.* Evoenergy's proposal results in a declining capital base which will support lower prices in the medium to long term *See Attachment 4 – Capital base and depreciation for more information.* The proposal as a whole will provide a reduction in network prices of just over 4 per cent in 2021/20 with stable network prices for the remainder of the 5-year period. *See Attachment 8 – Revenue requirement and price impacts for more information.*
Affordability and fairness	Marketing expenditure	A number of submissions queried expenditure on the 'gas rewards program' and felt it was at odds with the ACT Government Climate Change Strategy.	Evoenergy's marketing program, included in base opex, assists gas customers who need or choose to use gas to upgrade to more energy efficient gas appliances. Doing

Overarching theme	Sub-theme	What we heard	How we are responding
			so lowers the cost of their energy bill and reduces their energy use, which has a positive environmental impact. Retaining customers who continue to want to use gas also lowers bills for the remaining customer base. *See Attachment 2 – Operating expenditure for more information.*
Affordability and fairness	Continuation of efficiency carryover mechanism (ECM) for operating expenditure	Stakeholders expressed broad support for retaining the ECM and agreed that it can encourage Evoenergy to achieve opex efficiencies in the long term interests of consumers. One submission proposed that the ECM should exclude opex associated with new connections to align the scheme with our proposed Capital expenditure Sharing Scheme.	The ECM helps to drive efficient costs, which in turn lowers bills for customers. Evoenergy proposes to retain the existing ECM including all costs forecast using the single-year revealed cost approach. *See Attachment 9 – Incentive schemes for more information*
Affordability and fairness	Proposed Capital Expenditure Sharing Scheme (CESS)	The feedback received on the CESS included exploration of the concept and the proposed performance measures themselves, as well as the proposed selection criteria and weighting and measures used for evaluation. The concept of a CESS was generally endorsed, however there was a question of the value in adopting a CESS given reduced forecast capex. Assessing the performance measures, criteria and weighting generated a great deal of discussion particularly relating to the structure of what would be measured and how. In response to the performance measures, the frequency and duration of unplanned supply interruptions was viewed as most important and 'estimated meter reads' were not considered an appropriate measure for the CESS and it was suggested this should be removed. There was a general consensus in support of a gas CESS, subject to providing appropriate safeguards to ensure that service quality does not deteriorate as a result of any efficiencies.	A CESS helps to drive efficient capital investment, which in turn lowers bills for customers. Evoenergy proposes the introduction of a CESS in the next period for its ability to provide more balanced incentives for efficient expenditure. Consumer groups were instrumental in the selection of appropriate network performance measures and weightings ensuring that the scheme as proposed achieves a balance of efficiency and service quality. *See Attachment 9 – Incentive schemes.*

Overarching theme	Sub-theme	What we heard	How we are responding
		There was a question of the value in adopting a CESS given reduced forecast capex.	
Affordability and fairness	Tariffs	**Pricing – declining block** Stakeholders expressed concern that the declining usage rate (declining block tariff) is not progressive and may not equally benefit low-income households who have lower gas usage per quarter. Some stakeholders observed that a declining block tariff appears to encourage higher consumption contrary to ACT Government policy objectives. **Tariff structure – NSW customers** It was suggested by CCP24 that there was potential merit in a separate tariff for NSW customers. **Tariff structure – cross-subsidy to support transition** One submission proposed that demand customers could support network maintenance costs while residential volume customers transition away from the network. **Tariff simplification** There was general support for tariff simplification	Evoenergy is not proposing to change its current declining block structure. Evoenergy does not see a current need for a separate tariff for NSW customers. Evoenergy considers cross subsidisation to support transition would be inconsistent with the Rules framework Evoenergy has included in the proposal abolishing both unused and underutilised tariffs. *See Attachment 10 – Reference services and tariffs for more information*

2.2.2 Responses to high level feedback from stakeholder engagement

The following sections discuss issues raised in stakeholder engagement relevant to the overall context of the Evoenergy gas network over the upcoming (2021–26) access arrangement period.

2.2.2.1 RESPONSE TO ACT CLIMATE CHANGE POLICY

In a recent letter to Evoenergy Citizens' Jury members, the ACT Minister for Climate Change and Sustainability noted that:[21]

> *The ACT Government has not announced or made a commitment to ban natural gas usage. The Government committed to amending planning regulations to remove the mandatory installation of reticulated gas in new suburbs. This does not prevent its installation should customers continue to value its service. However, in developing its position on the future of natural gas, the ACT Government recognises the inconsistency of ongoing natural gas use with achievement of emissions targets.*

Evoenergy's access arrangement proposal is submitted from a position where the main jurisdiction in which it operates is proposing to phase out natural gas, firstly through short-term measures, and then via a plan which it will develop by 2024 to transition households and businesses away from gas completely by 2045. The ACT Government's 2024 plan will need to focus on workability both for consumers and for Evoenergy as owner of the energy networks.

For the duration of the upcoming (2021–26) access arrangement period and into transition to net zero emissions, Evoenergy retains the responsibility to customers to maintain a safe, reliable, and affordable gas supply across the network in the absence of relevant information about how consumers will transition.

Other than the general aim of providing network owners with a reasonable opportunity to recover their costs, the regulatory framework does not directly contemplate the closure of networks. In the face of uncertainty for Evoenergy and gas consumers in advance of the government's 2024 transition plan, Evoenergy is proposing to limit expenditure for the coming 2021-26 access arrangement period. Given investment in the network and the potential cost that would be borne in closing it down, all options to achieve net zero emissions should be explored. It is in this context that Evoenergy is examining the alternative of renewable gas.

2.2.2.2 NEW GAS CONNECTIONS IN EXISTING AREAS

Given the uncertain future of our gas network, we are planning to minimise our investment while we determine the pathway to a net zero emissions future. We are planning not to invest in market expansion in new ACT developments and invest only

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[21] Rattenbury, Shane, MLA, ACT Minister for Climate Change and Sustainability, Letter to Evoenergy Citizens' Jury members, 25 March 2020. Published on Evoenergy website at https://www.evoenergy.com.au/-/media/evoenergy/documents/gas/minister-rattenbury-letter-to-citizens-jury.pdf

when it is required to keep our network safe, to meet regulatory obligations, or where customer benefits are realised in relatively short timeframes.

A number of submissions on our GN21 draft plan questioned whether it is therefore prudent to continue connecting customers within the existing network footprint, or recommended that we cease all new connections, in what the CCP24 considered a 'no-regrets' strategy, over the 2021-26 period.[22]

Stakeholders highlighted the ACT Government's climate change strategy of net zero emissions by 2045 as well as the NSW Government's policy to achieve net zero emissions by 2050.[23] CCP24 considered that it would be impossible for the NSW Government to achieve net zero emissions by 2050 without ending conventional gas use. Submissions explored the consequences for vulnerable customers[24] as well as our NSW gas customers.[25]

Ultimately, we cannot refuse to connect new customers

Whether or not to connect new customers in reticulated areas is not a decision over which Evoenergy has discretion. We must comply with the access regime set out in the NGL and the Rules. As an open access network, we are required to make connection offers and provide third parties with access to our network.[26]

In almost all cases, we must undertake connections without asking for a capital contribution toward the cost. We can only impose connection charges when expected revenue is less than the capex required for the connection.[27] Almost all connection applications pass this test.[28] Even if we assume that the gas network will be inactive in 2045, new connections in areas of existing network coverage would still clear this hurdle since:

- it is unlikely that a new connection would disconnect within 10 to15 years — the typical life of gas appliances; and
- as connection costs are low, it takes on average only seven years for a connection to yield more revenue than the capex incurred.

Putting aside our regulatory obligations, new connections drive bill reductions

While all customers will fund residential connections capex, they will receive in return significantly more in bill reductions. These benefits are achieved as we are able to spread our largely fixed costs over a bigger customer base. As well as improving the affordability of network costs, the new connections increase the likelihood that our network has a role to play in delivering renewable gas, such as hydrogen, in the future.

The best approach to protecting our customers (of both gas and electricity networks) from cost increases is to avoid a staged shut-down of our network. We are already exploring how we can transition the Evoenergy gas network to renewable gas. This

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22 For instance, CCP24, Advice to Australian Energy Regulator on Evoenergy Draft Plan, p.11, Conservation Council, Submission re Evoenergy GN21 gas network plan, p.3, Kevin Cox representing GCC, Submission on Evoenergy's draft plan, p.1, Better Renting, Re: Evoenergy draft gas plan, p.1

23 CCP24, Advice to Australian Energy Regulator on Evoenergy Draft Plan, p.12

24 ACTCOSS 2020, Submission: Evoenergy Gas Network 2021 Draft Plan, p.14

25 Better Renting, *Re: Evoenergy draft gas plan*, p.5,

26 Part 12A of the Rules.

27 Rule 199M.

28 If a connection application failed this test, we would only proceed if we received a capital contribution towards the connection cost.

pathway will allow us to help achieve the ACT Government's net zero emissions targets without the costs of decommissioning the gas network or those of expanding the capacity of our electricity network.

We are confident that bill reductions will be achieved and have factored these reductions as a result of new connections into 2021-26 network prices. This means that over the 2021-26 period, consumers will benefit even if these connections do not occur as forecast.

Accelerated depreciation will help to ensure that those receiving the benefit of lower bills contribute towards the cost of new connections

However, given the uncertainty around the future of our gas network we cannot be sure that these benefits will be sustained for the next 50 years. This is why we are proposing to reduce the asset lives of our new investments for medium pressure mains and services from 50 to 30 years. This will ensure that those who receive lower bills as a result of these new connections also fairly contribute towards the cost.

Evoenergy engaged Incenta Economic Consulting (Incenta) to provide advice regarding our proposed approach to managing stranded asset risk for the 2021–26 access arrangement period. Incenta's recommendations are discussed in Attachment 4 to this access arrangement information at section 4.2.3. Incenta's report is provided at Appendix 4.3 to that attachment.[29]

By ensuring that the customers who receive the benefits pay a fair share of the cost, our proposal will go some way to address the concerns raised that vulnerable groups of customers will be harmed. Without a reduction in asset lives, these customers who are unable or prefer not to switch from gas will be left paying for connection capex. Reducing the asset lives will ensure that existing customers (who received 100 per cent of the benefits) contribute towards the costs before they disconnect.

Given the uncertainty facing the gas network, it is very difficult to forecast connections. The full implications of ACT Government policies, and broader trends towards electrification are unknown and cannot be known with certainty for the 2021-26 period. We discuss our forecasts of gas use and customer numbers in detail in Attachment 7 – *Demand forecasts*. Further market segment information is discussed in Attachment 3 – *Capital expenditure* with relevance to market expansion capex, but in general terms:

- the principal developer in the ACT, the Suburban Land Agency (SLA)[30] has told us it will not be applying to connect gas in its new estates. We have reflected this information in our plans by assuming that we will not connect any new estates in the ACT;
- in NSW, over the past five years, we have seen strong demand for gas as shown in NSW Government data. We have forecast to continue receiving connection requests for homes in NSW. Trends in the ACT could affect take-up in the NSW, but this has not occurred to date.
- over the last few years we have seen a dramatic drop in existing homes requesting to be connected to our gas network. We expect this decline to continue over the 2021-26 period;

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[29] Incenta Economic Consulting 2020, *Responding to stranded asset risk*, Evoenergy, June

[30] The Suburban Land Agency is the ACT statutory authority responsible for delivering the ACT Government's suburban development program, including urban renewal in established town centres and suburbs.

- historically, we have captured a large share of the medium density/high-rise sector across the ACT and in NSW. Developers have preferred centralised gas hot water plants which are cheaper, take up less space, and perform better in colder climates. At this stage, developers are continuing to choose gas for these developments, but are increasingly telling us they are looking to move away from gas.

2.2.2.3 RENEWABLE GAS

We have used *renewable gas* to refer to non-fossil natural gas alternatives which either:

- do not release greenhouse gases in their production or end use (for example, 'green hydrogen' produced by electrolysis of water using electricity generated by solar or wind); or
- mitigate the emission of greenhouse gases from another source (for example, the capture of methane from waste streams).

It could also be feasible to adopt for gas a similar approach to that used by the ACT Government to achieve 100 per cent renewable electricity in the ACT. This allows new electricity generation from wind or solar in other regions to balance greenhouse emissions produced in generating electricity used in the ACT.

In relation to the ACT's and Evoenergy's approach to hydrogen as a renewable gas alternative, CCP24 observed:[31]

> *We are somewhat surprised that the [Evoenergy's] Draft Plan does not give more consideration to the potential of a hydrogen future, particularly noting that the National Hydrogen Strategy now exists and that trials in aspects of the production and distribution of hydrogen are underway.*
>
> *CCP24 recognises that uncertainty abounds about the potential future use of hydrogen, but this will reduce as we see the results of research and trials currently underway. We suggest that Evoenergy could give some further narrative about their hydrogen thinking in the Access Arrangement Proposal.*

CCP24, itself, notes some potential technical risks, reported to it by the ACT Environment, Planning and Sustainable Development Directorate (EPSDD), in transporting hydrogen through transmission networks.[32]

More recently, *The Canberra Times* reported the ACT Minister's objection to the federal government's plans for a hydrogen economy in the following terms:[33]

> *Federal government support for coal-burning power generation to produce hydrogen fuel for future projects means the ACT won't be dipping deeply into the latest $300 million national funding pool known as the Advancing Hydrogen Fund.*

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31 Consumer Challenge Panel (CCP) Sub-Panel CCP24, CCP24 Advice to Australian Energy Regulator on Evoenergy Draft Plan for Evoenergy Gas Network Access Arrangement July 2021 – June 2026. p.13

32 Consumer Challenge Panel (CCP) Sub-Panel CCP24, p13. CCP24 cites a discussion on embrittlement in high pressure pipelines in a December 2019 report to COAG Energy Ministers.

33 'ACT wants only to invest in "green" hydrogen, and that's at odds with the federal government's view', The Canberra Times, Canberra, ACT, 11 May 2020

> *ACT minister for sustainability Shane Rattenbury said that he had argued unsuccessfully at the National Energy Council for the Federal government to only support green or renewable energy for hydrogen projects.*
>
> *While it may appear to be a gilt-edged opportunity lost for the ACT, Mr Rattenbury is adamant that future demand is for "green" hydrogen, not coal-derived "brown" hydrogen.*

Evoenergy is giving attention to hydrogen produced from renewable energy as part of the suite of renewable gas measures under consideration for the future of the network. In the coming years, Evoenergy envisages that the gas network would continue to serve current gas users as we trial and innovate to reduce emissions from gas use.

As mentioned, Evoenergy is working in partnership with the CIT), the ANU and Deakin University to research and test practical application of hydrogen in the existing gas network. Renewable 'green' hydrogen has the massive advantage of omitting zero greenhouse gases, but hydrogen in general may require social and technological changes.

Hydrogen produced from excess solar electricity generation during the day for use during morning and evening peaks is a promising solution. Current aspects of hydrogen under investigation by Evoenergy include:

- Fyshwick hydrogen test facility;
- collaborating with the ANU Energy Change Institute to research hydrogen as an emerging fuel and how it can be used and stored;
- partnering with the Australian Gas Infrastructure Group (AGIG) for the *Expression of Interest — Achieving 10% renewable hydrogen in Australian gas networks* to supply up to 10 percent hydrogen to the ACT market;[34] and
- hydrogen as a source for replacement of unaccounted-for gas (UAG).

[34] https://www.agig.com.au/-/media/files/agig/expression-of-interest--achieving-10-renewable-hydrogen-in-australian-gas-networks.pdf

3 Major components of the access arrangement proposal

3.1 Summary of revenue and price outcomes

Overall, the proposed total revenue requirement for the 2021–26 access arrangement period is 10 per cent lower in real terms than the total allowed revenue requirement in the AER's decision for the 2016–21 regulatory period.

Our proposal delivers a real reduction in network prices of over 4 per cent in 2021/22, followed by stable network prices for the remaining four years of the period. Given that Evoenergy's distribution network charges comprise around 25 per cent of the typical residential retail bill, this results in a 1 per cent (or $14) real reduction in the indicative retail bill for 2021/22.

Table 4 shows the major building block components being put forward in Evoenergy's access arrangement proposal.

Table 4 Building blocks components of Evoenergy's access arrangement proposal

Major component	Description
Total revenue requirement	An unsmoothed revenue requirement of $294 million ($2020/21), which is 10 per cent lower in real terms than the AER's final decision for the current (2016–21) period.
Price path	Real network prices will decline by 4.0 per cent in 2021/22 followed by a zero real price change in each of the following four years of the regulatory period. The real price reduction is significantly lower than the reduction in the revenue requirement because we are forecasting falling average gas usage as a result of ACT government incentives to encourage customers to switch to electric appliances.
Capital expenditure (capex)	$63.3 million ($2020/21) (net of capital contributions), which significantly below both actual (18 per cent lower) and allowed (28 per cent lower) capex for the current (2016–21) period.
Operating expenditure (opex)	$175 million ($2020/21), which is $5 million or 3 per cent higher than the current (2016–21) period allowance.
Demand forecast	Annual gas usage per customer is expected to fall by approximately 16 per cent between 2019-20 and 2025-26, from 42 to 36 gigajoules (GJ) per customer. Over the same period, customer numbers are forecast to grow by 3 per cent (around 5,000 customers), with a total of 157,300 customers forecast by 2025-26. The combined effect is a 13 per cent decline in total gas usage from 7.7 petajoules (PJ) in 2019-20 to 6.7 PJ in 2025-26.
Rate of return	4.68 per cent for the first year of the regulatory period compared to an average of 5.95 per cent over the current period.
Capital base	$369 million ($2020/21) at the end of the 2021–26 access arrangement period, down 4 per cent in real terms (and 6 per cent per customer) relative to the forecast capital base at the end of the current (2016/21) period.

The following sections (3.2 to 3.11) provide summaries of the major components of the access arrangement revision proposal, each of which is discussed in detail in the respective referenced attachment.

These components of Evoenergy's access arrangement proposal are similar to those presented the GN21 draft plan published for consumer engagement in February 2020. The main variations are as follows:

- refinements to the demand and customer number forecasting model, forecast gas demand is slightly higher than in the GN21 draft (though still falling);
- a minor increase in the opex forecast (including debt raising costs) of $1.6 million (0.9 per cent), driven mainly by updated forecast assumptions for government charges;
- a reduction in capex, reflecting changes in the demand forecast (as discussed above) and the flow-on effect on market expansion capex, refinements to unit rates relating to routine capex, scope changes to some mains renewal projects, and a reduction in the proposed Construction Management Fee (CMF);
- a reduction to the rate of return and an increase to forecast inflation to reflect updated financial market information.

Rather than a stable outcome for average network prices, as in the GN21 draft plan, these changes contribute to the real price reduction of around 4 per cent in 2021/22 in the AA proposal.

3.2 Operating expenditure

Opex covers the day to day costs Evoenergy incurs to operate and maintain the gas network to ensure safe and reliable gas services for our customers and is a major component of our building block costs, accounting for 60 per cent of the total revenue required over the 2021–26 period.

Evoenergy has forecast most of its opex using the AER's preferred base-step-trend methodology. For government charges, unaccounted for gas (UAG) and the IT asset utilisation fee (ITAUF), a 'bottom-up' category specific approach has been adopted. These category specific costs account for one-third of Evoenergy's opex forecast.

Evoenergy's forecast opex for the 2021-26 access arrangement period is $175 million, $5 million or 3 per cent higher than the AER's allowance for the current period and $15 million or 10 per cent higher than actual opex for the current period. Over half of this increase is driven by category specific costs, reflecting an increase in the ACT Government's Utilities Network Facilities Tax (UNFT). Also contributing to the increase, is a change in the treatment of pipeline inspection (pigging) costs, which were capitalised in the current period and are proposed to be expensed in the 2021-26 period. While this change increases opex, there is a corresponding reduction in capex.

Our opex forecast reflects our best estimate of the efficient costs required to continue to provide safe and reliable gas pipeline services to consumers and reflects the feedback we received by striking a balance between reliability and affordability.

Figure 4 below compares Evoenergy's forecast opex for 2021-26 with the AER's allowance and actual opex for the current period of 2016-21.

Figure 4 Allowed, actual and forecast opex

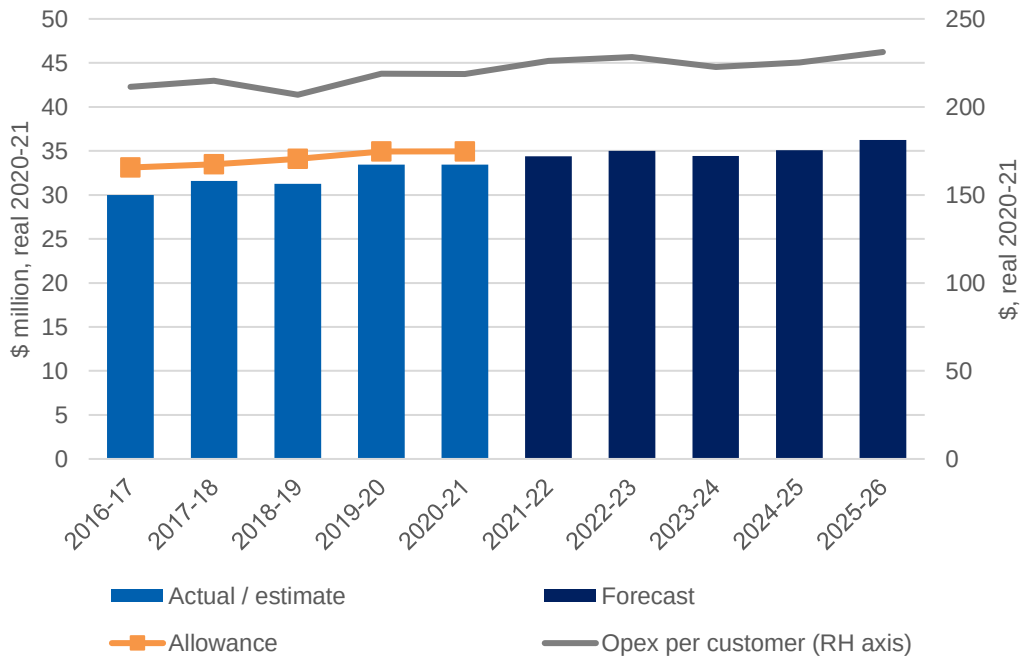


Table 5 provides total forecast opex (excluding debt raising costs) for each year of the access arrangement period.

Table 5 Operating expenditure forecast 2021-26

$ million 2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	Total
Total operating expenditure*	34.4	35.0	34.4	35.1	36.2	175.1

*Excluding debt raising costs

A detailed explanation of the process of estimation of forecast opex allowance for 2021–26 is found at Attachment 2 to this access arrangement information.

3.3 Capital expenditure

Evoenergy's capex program is focused on investments that ensure the continued safe, reliable, and secure delivery of gas to consumers in ACT and NSW.

Evoenergy's forecast capex for the 2021-26 access arrangement period is significantly below both actual and allowed spend in the current access arrangement period (18 per cent and 28 per cent respectively). This mainly the result of reducing market expansion capex to considerably below historical levels, reflecting a prudent assessment of the general direction of ACT government policy and independently assessed connection forecasts (Attachment 7).

Figure 5 compares Evoenergy's forecast capex for 2021-26 with the AER's allowance and actual capex for the current period of 2016-21.

Figure 5 Allowed, actual and forecast capex

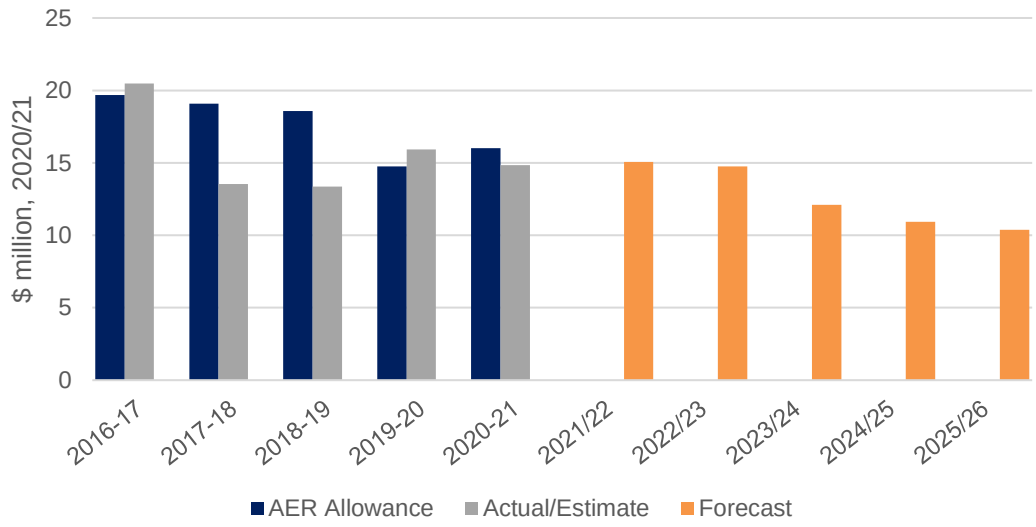


Table 6 sets out Evoenergy's capital program for each capex category in the current and upcoming regulatory periods. It shows that Evoenergy's proposed capital program represents a significant decline due a large reduction in market expansion capex and minimal capacity development capex.

Table 6 Net capex by category, current 2016-21 and forecast 2021–26 period

$ million (2020/21)	AER allowance 2016-21	Actuals 2016-21	Forecast, 2021-26
Market expansion	49.7	45.9	26.3
Capacity development	7.1	7.2	0.9
Stay-in-business - network renewal	17.0	8.2	12.9
Stay-in-business - meter renewal	18.2	17.4	23.6
Non-system	0.6	0.0	0.0
Gross capex	**92.6**	**78.7**	**63.8**
***less* capital contributions**	4.5	1.7	0.5
Net capex	**88.1**	**77.0**	**63.3**

Note: Includes construction management fee, capitalised overheads, and labour cost escalation.

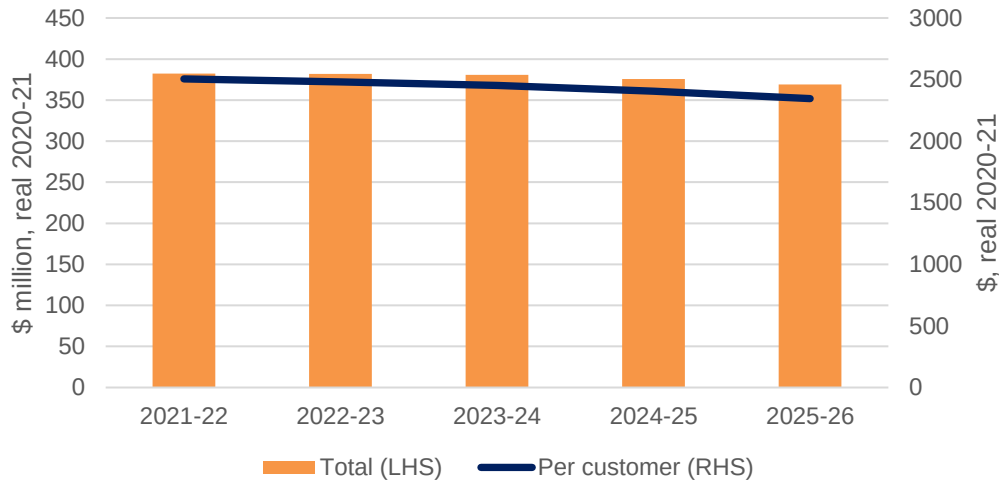
Details of Evoenergy's proposed capex program can be found in Attachment 3 to this access arrangement information.

3.4 Capital base and depreciation

Over the 2021-26 regulatory period, the real capital base (also known as the regulatory asset base, or RAB) is forecast to decline by 3 per cent in total and by 6 per cent on a per customer basis as shown in Figure 6. A declining capital base benefits customers by contributing to lower network charges.

Evoenergy has calculated the capital base using the AER's gas roll-forward model (RFM) and gas post-tax revenue model (PTRM) published in April 2020, adopting the AER's methodology for calculating forecast depreciation and forecast inflation.

Figure 6 Opening real capital base 2021-26



A detailed explanation of the process of estimation of capital base and depreciation is found at Attachment 4 to this access arrangement information.[35]

3.5 Rate of return

Evoenergy has calculated the allowed rate of return based on the AER's 2018 rate of return instrument and the return on the projected capital base using the AER's gas PTRM, which reflects the requirements of the Rules. The resulting allowed rate of return and the return on the projected capital base are presented in Table 7.

Table 7 Allowed rate of return and return of projected capital base

	2021-22	2022-23	2023-24	2024-25	2025-26
Allowed rate of return	4.68%	4.55%	4.41%	4.28%	4.15%
Return on projected capital base $ million (2020/21)	17.89	17.78	17.61	17.26	16.82

Attachment 5 to this access arrangement information sets out the parameters of Evoenergy's proposed allowed rate of return for each regulatory year of the access arrangement period and presents the resulting return on the projected capital base calculated using the method set out in the Rules and Evoenergy's approach to capital raising costs.

3.6 Corporate income tax

Evoenergy has estimated the cost of corporate income tax consistent with the Rules using the AER's gas roll-forward model (RFM) and gas PTRM. Evoenergy's calculation of tax depreciation reflects the AER's 2018 regulatory tax approach, including the use of diminishing value depreciation and capping tax asset lives at 20 years. In addition, Evoenergy has adjusted the estimated cost of corporate income tax using the value of

[35] The capital base is determined in accordance with Part 9, Division 4 of the Rules.

imputation credits in the AER's 2018 rate of return instrument. Evoenergy's resulting estimate of corporate income tax for the 2021-26 regulatory period is set out in Table 8.

Table 8 Estimate of corporate income tax 2021-26

$ million nominal	2021-22	2022-23	2023-24	2024-25	2025-26
Corporate income tax	0.39	0.30	0.26	0.25	0.29

A detailed explanation of the process of estimation of the corporate income tax allowance for the 2021-26 access arrangement period is set out at Attachment 6 to the access arrangement information.

3.7 Forecast demand, throughput and customer numbers

Gas demand forecasts are a critical input into our access arrangement proposal. The forecasts are used to determine Evoenergy's operating and capital expenditure requirements, as well as Evoenergy's reference tariffs for the 2021–26 period.

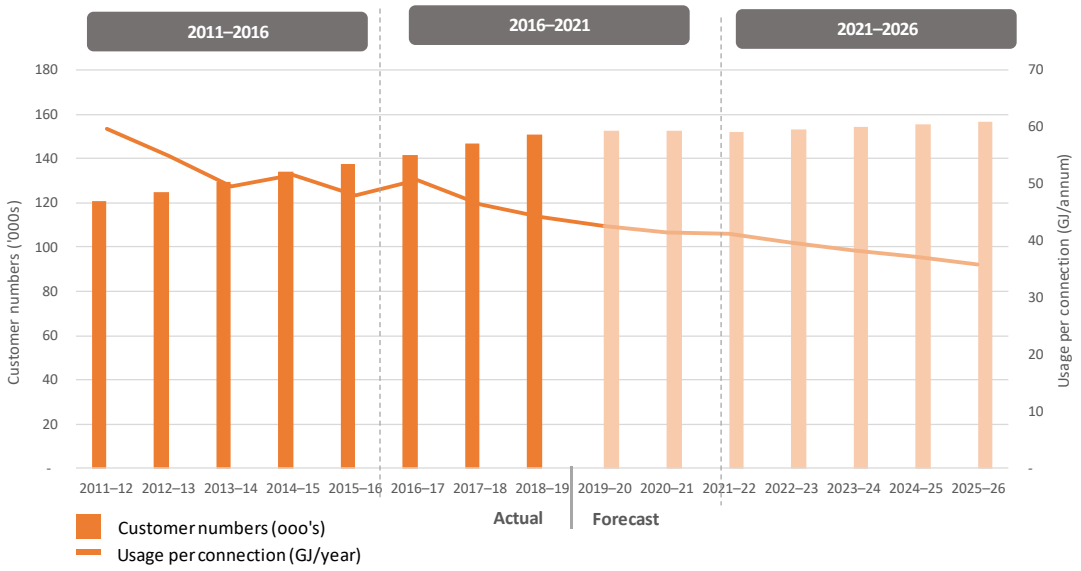
Evoenergy commissioned the Centre for International Economics (CIE), as expert consultants to develop an independent and detailed forecast of demand and customer numbers for Evoenergy's gas distribution network. CIE's approach involves developing forecasts for our two main customer groups:

- Volume customers, which include around 150,000 residential and small business customers who use less than 10 TJ of gas a year and are charged based on the volume of gas they consume; and
- Demand customers, which include around 40 of our largest commercial and industrial customers who use more than 10 TJ of gas a year, and are mainly charged on how much capacity they require

Figure 7 shows the forecast and historical usage per customer and number of connections. Connections are expected to continue growing over the 2021-26 period, increasing by 3.1 per cent. However, the rate of growth is slower than historically due to the impacts of the ACT Government's Climate Change Strategy Total gas usage in the volume market is expected to decline by 10 per cent between 2021/22 and 2025/26. This is slightly larger than the 8 per cent decrease seen in the 2011-16 period, but below the 11 per cent decrease expected for 2016-21.

Details of forecasts of demand and customer numbers can be found in Attachment 7 to this access arrangement information.

Figure 7 Volume market historical and forecast connection numbers and usage



3.8 Revenue requirement and price impacts

Evoenergy's proposed annual revenue requirement is comprised of each of the building blocks specified in the Rules and the AER's final gas distribution PTRM published in April 2020. The proposed total revenue requirement for the 2021-26 regulatory period is 10 per cent lower than the total allowed revenue requirement in the AER's decision for the 2016-21 regulatory period, and 14 per cent lower on a per customer basis. The key drivers of the reduction are the rate of return and tax expenses, offset to a small extent by an increase in depreciation and operating expenses.

Evoenergy's smoothed and unsmoothed revenue requirement and the resulting X-factors are set out in Table 9.

Table 9 Smoothed and unsmoothed revenue requirement

$ million nominal	2021/22	2022/23	2023/24	2024/25	2025/26
Unsmoothed revenue	58.84	60.35	62.86	64.67	69.04
Smoothed revenue	61.92	62.42	62.97	63.62	64.02

Our proposal delivers a real reduction in network prices of over 4 per cent in 2021/22, followed by stable network prices for the remaining four years of the period. Given that Evoenergy's distribution network charges comprise around a quarter of the typical residential retail bill, this results in a 1 per cent (or $14) real reduction in the indicative retail bill for 2021/22.

Details of the revenue requirement and price impact of Evoenergy's access arrangement proposal are set out in Attachment 8 to this access arrangement information.

3.9 Proposed incentive mechanisms

An access arrangement may include (and the AER may require it to include) one or more incentive mechanisms to encourage efficiency in the provision of services by the service provider. An incentive mechanism may provide for carrying over increments for efficiency

gains and decrements for losses of efficiency from one access arrangement period to the next and must be consistent with the revenue and pricing principles.[36]

Incentive schemes can help a service provider to find better ways of delivering services and reducing costs, which can ultimately benefit customers through better service quality and lower bills.

For the 2021–26 access arrangement period, Evoenergy proposes to

- retain the existing Efficiency Carryover Mechanism (ECM), with some minor modifications; and
- introduce a new Capital Expenditure Sharing Scheme (CESS), based on the designs recently approved by the AER in Victoria and NSW.

We believe the proposed CESS is in the long-term interests of our customers and will help further improve the efficiency of our capital expenditure program, keeping downward pressure on bills. In developing our proposal, we consulted widely with customer and community groups with a focus on ensuring the proposed CESS reflects customer priorities for network safety and reliability.

Details of the proposed incentive mechanisms can be found in Attachment 9 to this access arrangement information.

3.10 Reference services and tariffs

As part of the 2021- 26 access arrangement, Evoenergy is:

- simplifying its tariffs by abolishing a number of tariffs which have zero or very few customers on them;
- combining residential and business tariffs into one class;
- simplifying the process for demand customers to reset their chargeable demand; and
- making the ancillary charges more cost reflective.

Details of the proposed reference service, tariffs and tariff variation mechanisms are set out in Attachment 10 to this access arrangement information.

3.11 Revisions to the access arrangement

Evoenergy proposes for the 2021-2026 access arrangement to revise provisions of the current (2016-2021) access arrangement and associated Reference Services Agreement (RSA).

The key revisions proposed to the access arrangement are:

- changes to introduce a capital expenditure sharing scheme (CESS); and
- changes to provide for intra-year reference tariff variations.

The key changes proposed to the RSA are:

- a rebalancing of the liability and indemnity regime;
- new requirements for insurance for users and for Evoenergy; and

[36] Rules, Pt. 9, Div. 9 – Incentive mechanisms (cl.98)

- updating of the clauses for disconnection processes and arrangements.

Other changes proposed to the access arrangement and the RSA are proposed to reflect recent regulatory and market changes and to modernise, simplify and clarify the drafting.

Details of the proposed revisions to the current (2016–21) access arrangement are set out in Attachment 11 to this access arrangement information.

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
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
ANU	Australian National University
ARENA	Australian Renewable Energy Agency
BISOE	BIS Oxford Economics
CABS	A Jemena Ltd proprietary system providing retailer billing, demand customer management, network balancing and retailer nomination services.
CALD	culturally and linguistically diverse (community)
capex	capital expenditure
CCP, CCP24	the AER's Consumer Challenge Panel (number 24)
CEG	Competition Economists Group
CEPA	Centre for Efficiency and Productivity Analysis (University of Queensland)
CESS	Capital Expenditure Sharing Scheme
CIE	Centre of International Economics
CIT	Canberra Institute of Technology
CPI	consumer price index
DAE	Deloitte Access Economics
DAMS	Distribution asset management services (agreement)
DC	Demand Capacity Tariff
DT	Demand Throughput Tariff
E2G	Electricity-to-gas
EEIS	Energy Efficiency Improvement Scheme
ECM	Efficiency Carryover Mechanism
ECRC	Energy Consumer Reference Council
EGWWS	electricity, gas, water and waste services (sector)
EI	Economic Insights
EIL	Energy Industry Levy
ETC	Estimated cost of corporate income tax

Term	Meaning
EPSDD	ACT Environment, Planning and Sustainable Development Directorate
GDBs	gas distribution businesses
GN21	Evoenergy gas network access arrangement 2021–26
GJ	gigajoule = 10^9 joules
GWh	gigawatt hour
I&C	Industrial and commercial
ITAUF	Information Technology Asset Utilisation Fee
km	kilometre
LPG	liquid petroleum gas
MDLs	Meter Data Loggers
NGL	National Gas Law
NGO	National Gas Objective
NSW	New South Wales
opex	operating expenditure
PFP	Partial Factor Productivity
PJ	petajoule = 10^{15} joules
PLS	Pressure Limiting Station
PPA	power purchase agreement
PTRM	post-tax revenue model
QPRC	Queanbeyan–Palerang Regional Council (local government authority)
RAB	regulatory asset base
RFM	roll-forward model
RIN	Regulatory Information Notice
Rules	National Gas Rules
SDRS	Secondary District Regulator Sets
TAB	tax asset base
TJ	terajoule = 10^{12} joules
UAG	unaccounted for gas
UNFT	Utilities Network Facilities Tax
VB	Volume Boundary (tariff class)
VI	Volume Individual (tariff class)