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# Regulated gas pipelines

Gas pipeline networks transport gas from upstream producers to energy customers. Australia's gas pipeline networks consist of:

- › long haul transmission pipelines that carry gas from producing basins to major population centres, power stations and large industrial and commercial plant
- › urban and regional distribution networks, which are spaghetti-like clusters of smaller pipes that transport gas to customers in local communities.

This chapter covers the 14 gas pipelines and networks regulated by the Australian Energy Regulator (AER), which is the pipeline regulator in states and territories other than Tasmania and Western Australia.<sup>1</sup>

Unlike electricity networks, many gas pipelines are unregulated or face only limited regulation. This chapter discusses the various tiers of regulation that apply but focuses on 'full regulation' pipelines – those for which the AER sets access (usage) prices.<sup>2</sup> The AER sets access prices for 3 transmission pipelines – the Roma to Brisbane Pipeline (Queensland), the Victorian Transmission System, and the Amadeus Gas Pipeline (Northern Territory). In gas distribution, the AER sets access prices for networks in New South Wales (NSW), Victoria, South Australia and the Australian Capital Territory (ACT).

## 5.1 Gas pipeline services

Gas pipeline businesses earn revenue by providing access (selling capacity) to parties needing to transport gas. Those parties include:

- › energy retailers seeking to transport gas to energy users
- › commercial and industrial users
- › liquefied natural gas (LNG) exporters, which buy gas directly from producers and contract with a pipeline owner to ship it.

An interconnected transmission pipeline grid links gas basins and retail markets in all states and territories other than Western Australia (figure 5.1).

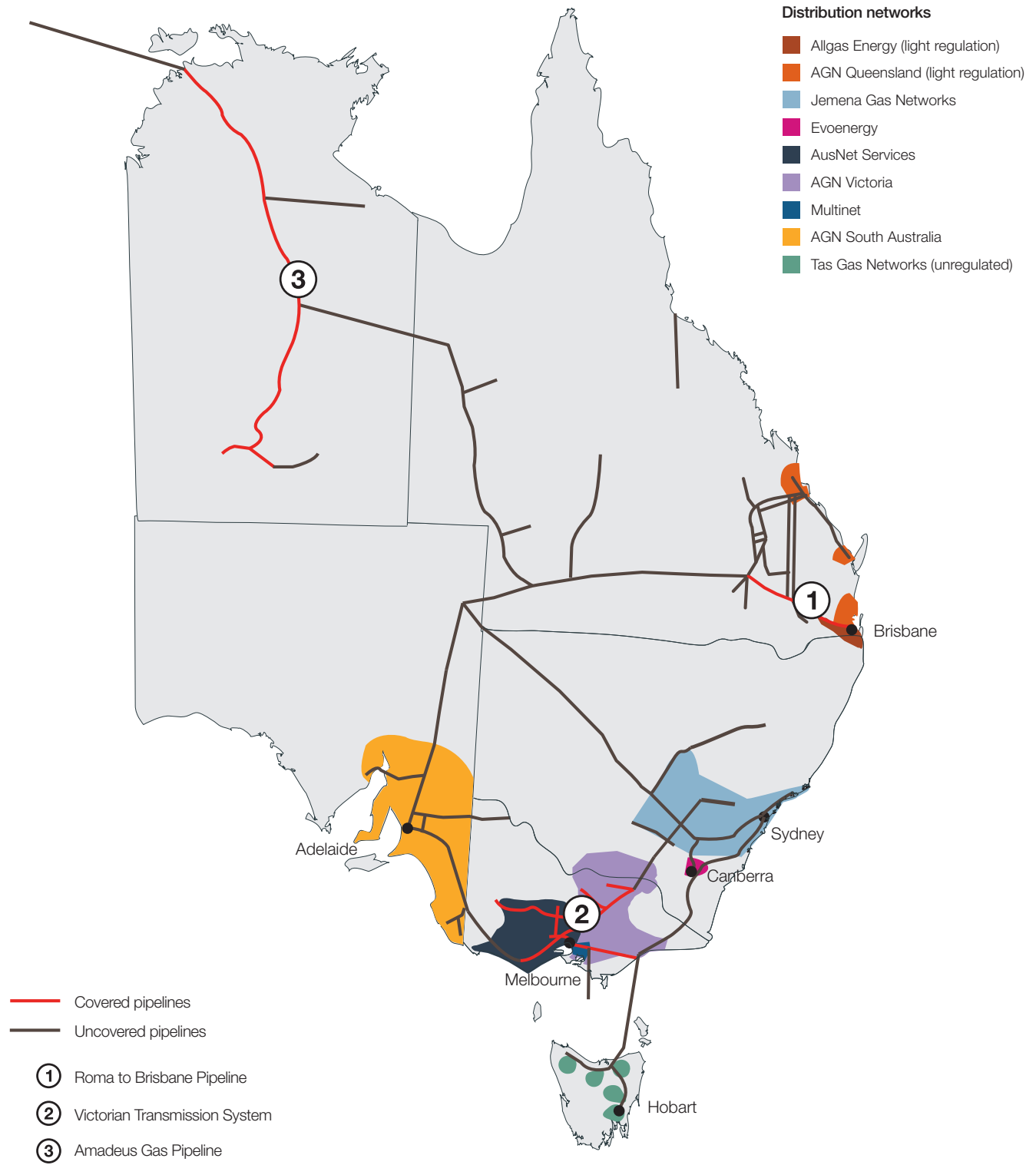
The most common service provided by transmission pipelines is haulage – that is, transporting gas in a forward direction from an injection point on the pipeline to an offtake point further along. Haulage may be offered on a firm (guaranteed) or interruptible (only if spare capacity is available) basis. Some customers seek backhaul too, which is reverse direction transport. Gas can also be stored (parked) in a pipeline on a firm or interruptible basis. As the gas market evolves, more innovative services are being offered, including compression (adjusting pressure for delivery), loans (loaning gas to a third party), redirection and in-pipe trades.

Distribution networks consist of high, medium and low pressure pipelines, which run underground. The high and medium pressure mains provide a 'backbone' that services high demand zones, while the low pressure pipes lead off high pressure mains to commercial and industrial customers and residential homes. While the nature of gas transmission services is evolving to meet changing market needs, distribution pipeline businesses tend to offer fairly standard services – namely, allowing gas injections into a pipeline, conveying gas to supply points and allowing gas to be withdrawn.

<sup>1</sup> The Economic Regulation Authority (ERA) administers separate regulatory arrangements in Western Australia ([www.erawa.com.au](http://www.erawa.com.au)). The Office of the Tasmanian Economic Regulator (OTTER) administers separate regulatory arrangements in Tasmania ([www.economicregulator.tas.gov.au/gas](http://www.economicregulator.tas.gov.au/gas)).

<sup>2</sup> Chapter 4 discusses the wider gas transmission sector, including pipelines not under full regulation.

Figure 5.1 Major gas transmission pipelines and distribution networks



Source: AER.

The total length of gas distribution networks in eastern Australia is around 72,000 kilometres. Gas is distributed to most Australian capital cities, major regional areas and towns. Victoria and Queensland each have multiple distribution networks serving particular areas of the state. NSW, South Australia, Tasmania and the ACT each have a single regulated network.<sup>3</sup>

While gas distributors transport gas to energy customers, they do not sell gas. Energy retailers purchase gas from producers, and pipeline services from pipeline businesses, and sell them as a packaged retail product to their customers. Many retailers offer both gas and electricity products.

## 5.2 Gas pipeline ownership

Australia's gas pipelines are privately owned. The publicly listed APA Group (APA) is Australia's largest gas pipeline business, with a portfolio mainly in gas transmission. Other sector participants include Jemena Gas Networks (Jemena, owned by State Grid Corporation of China and Singapore Power International) and Cheung Kong Infrastructure Holdings Limited (CKI Group), which operates Australian Gas Networks. State Grid Corporation of China and Singapore Power International also have interests in the publicly listed AusNet Services (Victoria).

State Grid Corporation of China, Singapore Power International and the CKI Group also have ownership interests (some substantial) in the electricity network sector, including distribution networks in Victoria, South Australia and the ACT (chapter 3).

**Table 5.1 Gas transmission pipelines and distribution networks – ownership**

PIPELINE	JURISDICTION	NETWORK TYPE	REGULATION	OWNER
APA Victorian Transmission System	Vic	Transmission	Full	APA Group
Roma to Brisbane Pipeline	Qld	Transmission	Full	APA Group
Amadeus Gas Pipeline	NT	Transmission	Full	APA Group
Jemena Gas Networks	NSW	Distribution	Full	Jemena (State Grid, Singapore Power)
AusNet Services	Vic	Distribution	Full	Listed company (Singapore Power, 31%; State Grid, 20%)
Multinet	Vic	Distribution	Full	CKI Group
Australian Gas Networks	Vic	Distribution	Full	CKI Group
Australian Gas Networks	SA	Distribution	Full	CKI Group
Evoenergy	ACT	Distribution	Full	Icon Water (ACT Government), 50%; Jemena (State Grid, Singapore Power), 50%
Carpentaria Pipeline (Ballera to Mount Isa)	Qld	Transmission	Light	APA Group
Central West Pipeline (Marsden to Dubbo)	NSW	Transmission	Light	APA Group
Moomba to Sydney Pipeline	NSW	Transmission	Light	APA Group
Allgas Energy	Qld	Distribution	Light	Marubeni, 40%; Deutsche AWM, 40%; APA Group, 20%
Australian Gas Networks	Qld	Distribution	Light	CKI Group

<sup>3</sup> Some networks cross state or territory boundaries. Australian Gas Network's Victorian network and Evoenergy's ACT network both extend into NSW, for example. Some jurisdictions also have smaller unregulated regional networks, such as the Wagga Wagga network in NSW.



## 5.3 How gas pipelines are regulated

Gas pipelines are capital intensive, so average costs fall as output rises. Many pipelines are natural monopolies in that it is more efficient to have a single provider than multiple providers offering the same service. Because monopolies face no competitive pressure, they have the opportunity and incentive to charge unfair prices. This poses risks to consumers, because pipeline charges make up a significant portion of residential gas bills (section 6.6.2).

Many pipelines are regulated to manage the risk of monopoly pricing, and different tiers of regulation apply (discussed below). The National Competition Council (NCC) is responsible for decisions on the classification of natural gas pipelines and the form of regulation to be applied to a covered pipeline (that is, full or light regulation). A case-by-case test is undertaken to assess the type of regulation that applies to each pipeline, considering whether:

- › the pipeline is a natural monopoly
- › regulation would promote competition
- › regulation would be cost-effective (that is, the benefits of regulation outweigh the costs).

Box 5.1 summarises the AER's role in gas pipeline regulation. Additionally, the AER monitors participants' compliance with the National Gas Law and National Gas Rules and takes enforcement action when needed. Box 4.1 in chapter 4 outlines the AER's work in this area, including its advocacy for reform to improve access to idle capacity in transmission pipelines.

More generally, the AER advises policy bodies on issues in the gas pipeline sector. It may propose or participate in rule change processes, and it engages in policy reviews to improve regulatory arrangements.

### Box 5.1 How the AER regulates gas pipelines

The AER's role in gas pipeline regulation varies depending on the type of regulation applying to a pipeline:

- › For *full regulation* pipelines, the AER sets a reference tariff (prices) for at least one service offered by the pipeline following an assessment of the pipeline's efficient costs and revenue needs. We undertake this role for 3 transmission pipelines (in Queensland, Victoria and the Northern Territory), and for all major distribution networks in NSW, Victoria, South Australia and the ACT.
- › For *light regulation* pipelines, the AER arbitrates disputes referred by access seekers and monitors pipeline businesses' compliance with their price disclosure obligations.
- › For pipelines under *Part 23 regulation*, the AER sets guidelines on the disclosure of financial and pipeline use information and monitors and enforces compliance with these obligations. We establish a pool of experienced arbitrators to deal with disputes, and we can be called on to appoint an arbitrator. We also set conditions for exempting a pipeline from Part 23 obligations.

### 5.3.1 Full regulation

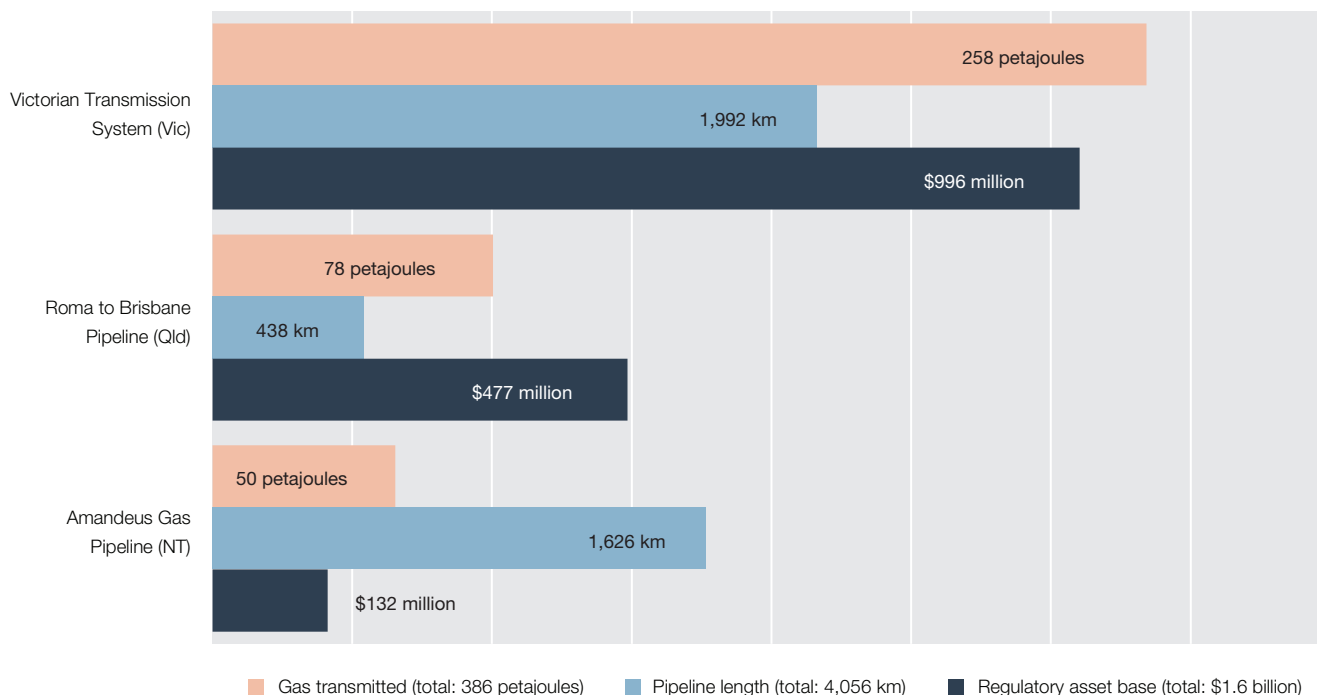
Full regulation is the most intensive form of regulation. It involves the pipeline owner submitting its prices to an independent regulatory body for a detailed economic assessment. The AER undertakes this role in jurisdictions other than Western Australia.

In particular, the AER assesses whether the access tariffs (prices) paid by a third party for using a full regulation pipeline are efficient. Currently, the AER applies full regulation to 3 gas transmission pipelines and 6 gas distribution networks, with a combined regulatory asset base of \$12.1 billion (figures 5.2 and 5.3).

Only a handful of transmission pipelines are fully regulated. Full regulation has been removed from many pipelines over the past 20 years, and no new pipeline commissioned in the past 20 years is subject to full regulation. Some pipelines moved to light regulation (section 5.3.2). Other pipelines are free from any form of regulation.

Section 5.4 further discusses full regulation.

**Figure 5.2 Gas transmission pipelines – full regulation**



km: kilometres.

Note: Excludes gas pipelines in Western Australia, which the Economic Regulation Authority (ERA) regulates. Gas transmitted and pipeline length are most recent data available, retrieved 20 April 2021. The regulatory asset base (RAB) is the forecast value of network assets based on the closing RAB at 30 June 2020, except for the Victorian transmission network (31 March 2020) and Victorian distribution networks (31 December 2020). Values are in June 2021 dollars. Each year the RAB will simultaneously increase due to new investment and decrease due to depreciation and asset disposals.

Source: AER access arrangement decisions; AEMO website; Australian Securities Exchange (ASX) releases; company annual reports; company websites; Gas Bulletin Board.

### 5.3.2 Light regulation

Light regulation uses a commercial negotiation approach supported by mandatory information disclosure. It requires gas pipeline businesses to publish access prices and other terms and conditions on their website. They cannot engage in inefficient price discrimination or other conduct adversely affecting access or competition in other markets.

If a party is unable to negotiate access to a pipeline, they may request the AER arbitrate a dispute.

The Carpentaria Pipeline in Queensland, the Central West Pipeline in NSW and portions of the Moomba to Sydney Pipeline are subject to light regulation. Queensland’s 2 gas distribution networks – Australian Gas Networks (AGN (Queensland)) and Allgas Energy – converted from full to light regulation in 2015.

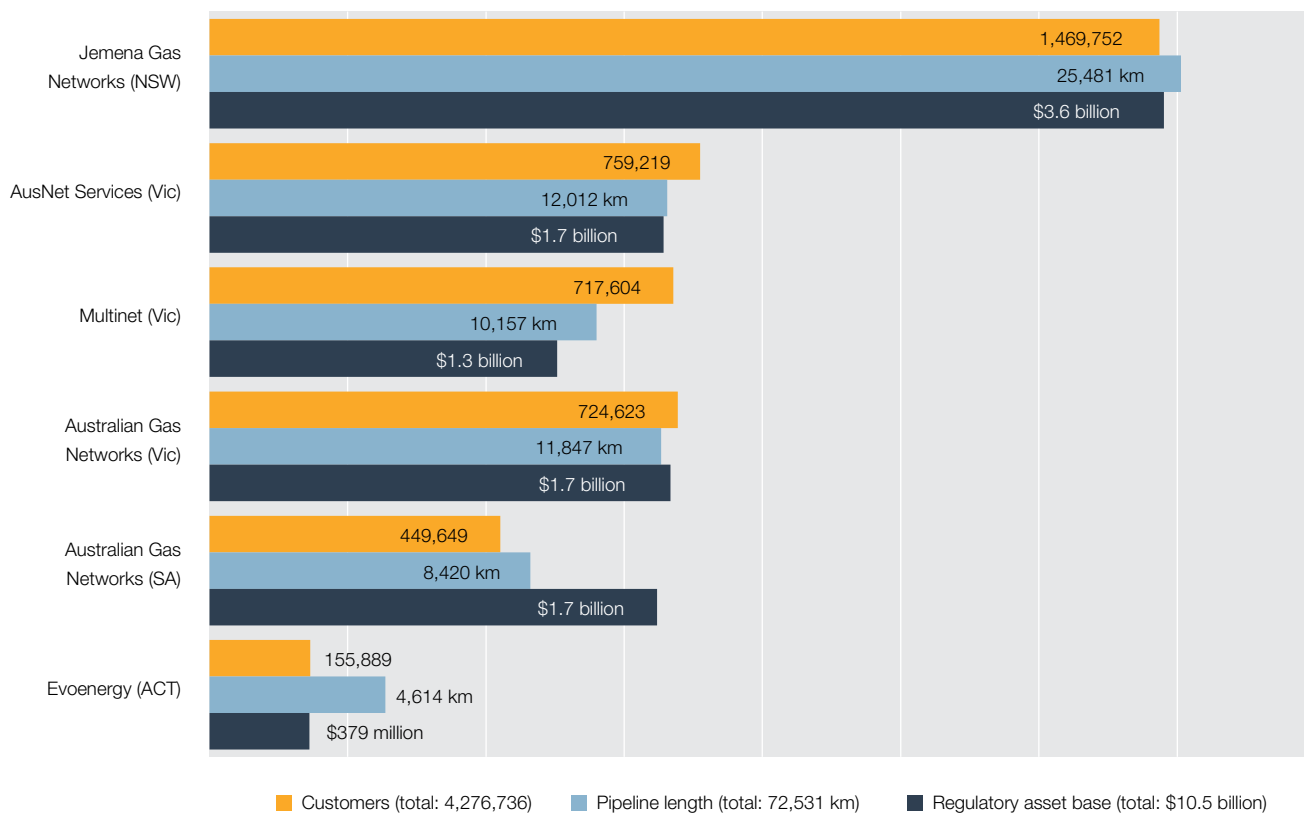
### 5.3.3 Part 23 regulation

Gas pipelines not subject to full or light regulation are ‘unregulated’, so they are free to set their own prices and other terms and conditions. A number of independent reviews raised concerns that this allowed monopolistic practices by some pipeline operators.<sup>4</sup>

These concerns led to the introduction of the Part 23 provisions in the National Gas Rules, which took effect in 2018. Part 23 aims to make it easier for gas customers to negotiate access to unregulated pipelines at a reasonable price. The rules require otherwise unregulated pipeline businesses to disclose certain financial, service and access information following guidelines published by the AER.

<sup>4</sup> ACCC, *Gas inquiry 2017–2020 interim report*, April 2018; Ministerial Forum of Energy Ministers (formerly CoAG Energy Council), Examination of the current test for the regulation of gas pipelines, December 2016.

**Figure 5.3 Gas distribution networks – full regulation**



km: kilometres.

Note: Excludes gas pipelines in Western Australia, which the Economic Regulation Authority (ERA) regulates. Customer numbers and pipeline length are most recent data available, retrieved 20 April 2021. The regulatory asset base (RAB) is the forecast value of network assets based on the closing RAB at 30 June 2020, except for the Victorian transmission network (31 March 2020) and Victorian distribution networks (31 December 2020). Values are in June 2021 dollars. Each year the RAB will simultaneously increase due to new investment and decrease due to depreciation and asset disposals.

Source: AER access arrangement decisions; AEMO website; Australian Securities Exchange (ASX) releases; company annual reports; company websites; Gas Bulletin Board.

In 2019 the Australian Competition and Consumer Commission (ACCC) found that, overall, Part 23 is working as intended and having a positive effect on some pipeline prices and the contracting environment. However, the ACCC had significant concerns with some information published by pipeline operators, including information errors and overstated costs and asset values.<sup>5</sup> To address these issues, it recommended improvements to Part 23, which ministers are considering.<sup>6</sup>

In January 2021 the ACCC reported little observed change in most gas transportation and storage prices and emphasised the importance of monitoring and enforcing gas pipeline regulatory compliance under Part 23.<sup>7</sup>

Customers can use the disclosed information under Part 23 to negotiate gas transport contracts with pipeline operators. If the pipeline operator and access seeker cannot reach an agreement, an access seeker can apply for arbitration. The AER uses a pool of experienced arbitrators to determine disputes and liaises with the parties on appointing an arbitrator from the pool. If the parties fail to select an arbitrator, the AER appoints the arbitrator. The AER maintains a register of arbitrated access determinations.<sup>8</sup>

A pipeline owner can apply to the AER for an exemption from the disclosure provisions if, for example, a pipeline does not provide third party access, has only a single shipper or has average daily gas injections of less than 10 terajoules per day. Exemptions may be subject to conditions and varied at the AER's discretion.

5 ACCC, *Gas inquiry 2017–2020, interim report*, July 2019, August 2019.

6 Ministerial Forum of Energy Ministers (formerly CoAG Energy Council), *Measures to improve transparency in the gas market – decision regulation impact statement*, March 2020.

7 ACCC, *Gas inquiry 2017–2025, interim report*, January 2021, February 2021.

8 AER, '[Part 23 \(Access to non-scheme pipelines\) exemptions](#)', AER website.

## Access disputes

As at March 2021 there had been 2 arbitrated access determinations made under Part 23 rules. The first concerned a dispute between Hydro Tasmania and Tasmanian Gas Pipeline (TGP) over access to the TGP transmission pipeline in April 2018.<sup>9</sup> The second concerned a dispute between Gas Pipelines Victoria and EnergyAustralia over access to the Carisbrook to Horsham Pipeline in January 2021.<sup>10</sup>

In both disputes, the arbitrator made a determination on a valuation method to reflect the value of assets used to provide the relevant transport services required by the access seeker. For the TGP dispute, the arbitrator adopted a 'modified depreciated actual cost' approach, which represented an indexed depreciated actual cost adjusted downwards. For the Carisbrook to Horsham Pipeline dispute, the arbitrator adopted a 'recovered capital' method.<sup>11</sup> Following each dispute, the access seeker gave notice to the AER that it wished to enter an access contract in accordance with the arbitrator's determination.

## 5.4 How gas pipeline access prices are set

Gas pipeline businesses earn revenue by selling capacity in their pipelines to customers needing to transport gas. A customer buys access to that capacity under terms and conditions that include an access price. The AER sets access prices for full regulation pipelines in eastern Australia and the Northern Territory under broadly similar rules to those applied to electricity networks (chapter 3).

The owners of other pipelines – including those subject to light regulation and the recent Part 23 provisions – are free to set their own prices. Light regulation pipeline owners must publish their prices, but these prices are not independently vetted.

### 5.4.1 Regulatory objective and approach

The National Gas Law and National Gas Rules lay out the regulatory framework for gas pipelines. The National Gas Law's regulatory objective is to promote efficient investment in, and operation and use of, gas services for the long-term interests of consumers of gas in terms of the price, quality, safety, reliability and security of supply of gas. The National Gas Rules set out revenue and pricing principles, including that pipeline businesses should have a reasonable opportunity to recover efficient costs.

Owners of full regulation gas pipelines must periodically submit a regulatory proposal – called an access arrangement – to the AER. The proposal sets out the pipeline business's forecast revenue and expenditure needs over the forthcoming access arrangement period (typically 5 years) and an access price derived from demand forecasts.

The AER then assesses the proposal, focusing on the business's forecast revenue requirements to cover its efficient costs. As in electricity, the AER uses a building block approach to assess the business's efficient costs (section 5.5). Ensuring only efficient costs are included in the calculation of a regulated business's revenue requirement helps protect customers from being charged unreasonable prices.

The AER draws on a range of inputs to assess efficient costs, including cost and demand forecasts and revealed costs from experience. Unlike electricity, the approach is not formalised in published guidelines. An exception is the allowed rate of return assessment, for which a common AER guideline applies to both electricity and gas. New legislation in November 2018 requires the AER to make binding rate of return determinations. In December 2018 the AER released a Rate of Return Instrument (RRI) that sets out its approach (section 3.11.1).

If the AER finds a business's access arrangement proposal to be unnecessarily costly, it may ask the business for more detailed information or for a clearer business case. If these steps fail to satisfy the AER, it may amend the access arrangement to align it with efficient costs.

The AER's final decision sets an access price (reference tariff) for a commonly sought gas pipeline service (reference service) – such as firm haulage – for the duration of the access arrangement. That reference tariff provides a basis for access seekers to negotiate prices to other services. If a dispute arises, a frustrated access seeker can apply to the AER to determine a tariff and other conditions of access.

<sup>9</sup> AER, *Final access determination – Tasmanian Gas Pipeline*, 12 April 2018.

<sup>10</sup> AER, *Access dispute – Carisbrook to Horsham Pipeline*, 28 January 2021.

<sup>11</sup> Under rule 569(4)(b) of the National Gas Rules.



In March 2019 the Australian Energy Market Commission (AEMC) implemented rules to improve information disclosure, support more effective negotiations and improve access to fully regulated pipelines. The rules aim to help pipeline users negotiate lower prices and better deals by:

- › setting out a process for determining which services will have reference tariffs set by the AER
- › clarifying how the AER calculates efficient costs
- › strengthening reporting obligations to support more balanced negotiations
- › giving stakeholders more input into AER decisions
- › setting a clear trigger for pipeline users to seek arbitration if negotiations fail.<sup>12</sup>

Most of the provisions commenced in March 2019.

## 5.4.2 Incentive schemes

The National Gas Rules allow scope for gas pipeline businesses to earn bonus revenue by outperforming efficiency targets (and incur penalties for underperformance). An efficiency carryover mechanism allows businesses to retain, for up to 6 years, efficiency savings in managing their operating costs. In the longer term, pipeline businesses must share efficiency gains with their customers by passing on around 70% of the gains through lower access prices. The mechanism is similar to the efficiency benefit sharing scheme (EBSS) in electricity (box 3.5), but it is written into each business's access arrangement rather than being set out in a general guideline.

A number of gas distributors have proposed a capital expenditure sharing scheme (CESS). The National Gas Rules do not mandate such schemes, but they allow the AER to approve their use to incentivise pipeline businesses to efficiently maintain and operate their networks.

The Victorian gas distributors were the first to implement a CESS as part of their 2018 to 2022 access arrangements. The AER then approved Jemena's (NSW) request for a CESS for its 2020 to 2025 access arrangement; and requests by AGN (South Australia) and Evoenergy (ACT) for their 2021 to 2026 access arrangements. To date, no gas transmission business has sought to participate in a CESS.

The CESS for gas pipelines operates in a similar way to the CESS for electricity networks (box 3.4). It allows a pipeline business to earn a bonus by keeping new investment spending below forecast levels (and incur penalties if the business invests above target). In later access arrangements, the business must pass on around 70% of savings to customers as lower pipeline charges.

The CESS risks encouraging pipeline businesses to inflate their investment forecasts. To mitigate this risk, the AER scrutinises whether proposed investments are efficient. The design of the CESS ensures deferred expenditure does not attract rewards so that businesses are not incentivised to defer critical investment needed for safe and reliable network operation. A network health index ensures that rewards depend on the pipeline business maintaining current service standards.

Other incentives applied to electricity networks – such as those relating to service performance and demand management innovations – are not available to gas pipeline businesses. The Victorian gas distributors sought the introduction of a network innovation scheme for the 2018 to 2022 access period. The AER rejected the scheme, arguing the current framework provides sufficient incentives for innovation, particularly since the addition of CESS.<sup>13</sup>

## 5.4.3 Timelines and process

Once a gas pipeline business submits an access arrangement proposal, the AER has 6 months (plus optional stop-the-clock time at certain stages) to make a final decision on how much revenue the business can recover from its customers. The assessment period can be extended by up to 2 months, but there is a maximum of 13 months to render a decision.

The AER consults with gas pipeline customers and other stakeholders during the process. As part of this consultation, the AER publishes a draft decision, on which it seeks stakeholder input to inform its final decision. At the completion of a review, the AER publishes an access arrangement decision that sets the reference tariff that a gas pipeline business can charge its customers. The AER annually reviews pipeline charges to ensure they are consistent with its decision.

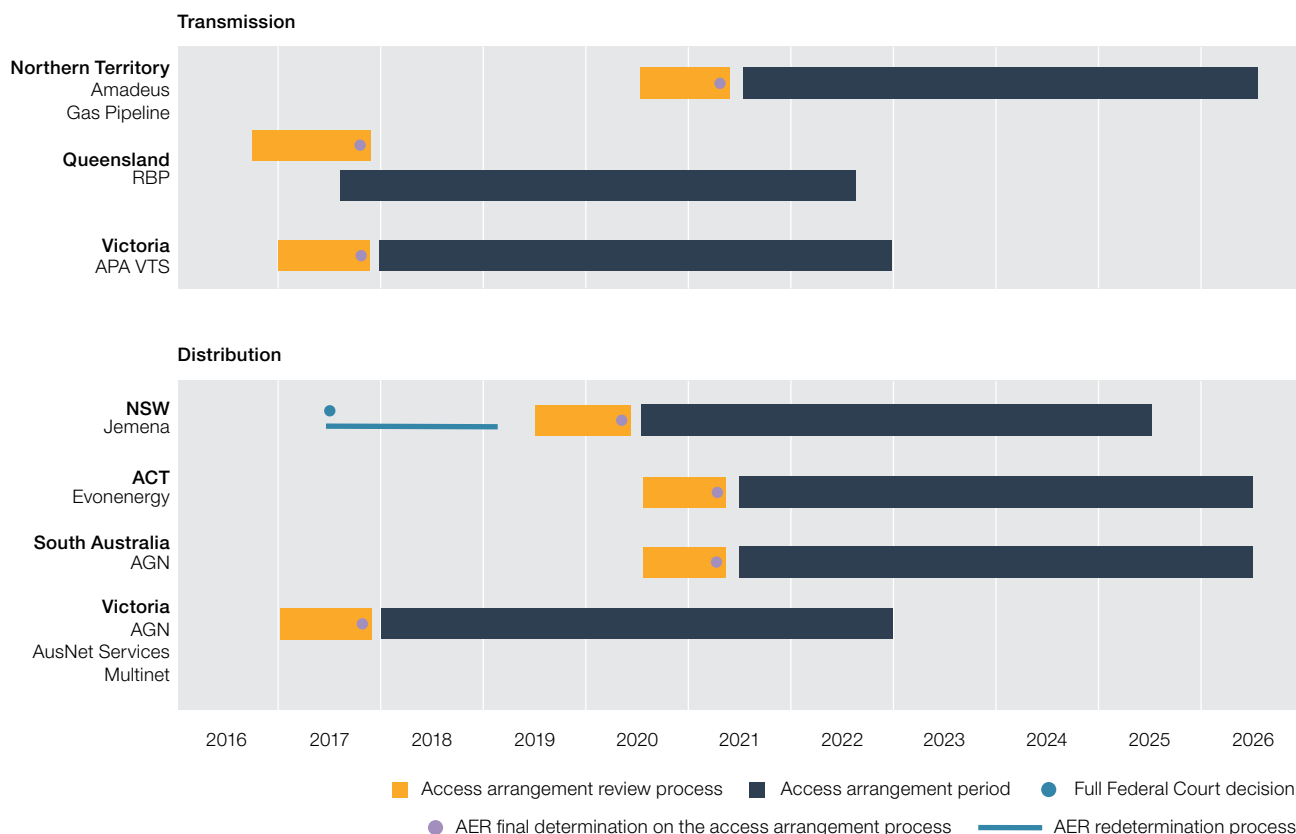
<sup>12</sup> AEMC, National Gas Amendment (Regulation of Covered Pipelines) Rule 2019, 14 March 2019.

<sup>13</sup> AER, *AusNet Services gas access arrangement 2018–2022, draft decision, attachment 14 – other incentive schemes*, July 2017.

Figure 5.4 sets out timelines for the AER’s access arrangement reviews. The AER assesses access arrangements on a rolling cycle, with staggered review timing to avoid bunching. The (typically) 5-year review cycle helps create a stable investment environment but also risks locking in inaccurate forecasts.

Countering this risk, the gas rules include ways of managing uncertainties. The AER can approve cost pass-throughs if a significant event (such as a regulatory change or natural disaster) imposes significant costs that were not forecast. A gas network may also approach the AER to pre-approve a contingent investment project whose need is uncertain at the time of the reset. A pre-approval allows the network business to roll the project into the pipeline’s regulatory asset base (RAB) in the forthcoming access arrangement if pre-determined conditions are met.

**Figure 5.4 AER decision timelines – full regulation gas pipelines**



AGN: Australian Gas Networks; RBP: Roma to Brisbane Pipeline; VTS: Victorian Transmission System.

Note: Times are subject to variation. For the latest information, please check [www.aer.gov.au/networks-pipelines/determinations-access-arrangements](http://www.aer.gov.au/networks-pipelines/determinations-access-arrangements).

Source: AER.

### 5.4.4 Customer engagement

As in electricity, an important focus of gas pipeline regulation is how constructively a business engages with its customers in developing an access arrangement proposal. While not mandated in the gas rules, evidence of real constructive engagement can give the AER confidence that the business is genuinely committed to meeting its customers’ needs and preferences. It can lay the foundation for the AER to accept elements of an access arrangement proposal, including capital and operating expenditure forecasts.

Recent access arrangement proposals have demonstrated improving levels of customer engagement:

- › Before submitting its 2021 to 2026 access arrangement proposal for the Amadeus Gas Pipeline (Northern Territory), APA consulted with stakeholders on the pipeline’s asset management plan. APA put forward a well-informed proposal underpinned by sound consumer engagement. The proposal incorporated stakeholder views and included a targeted stakeholder engagement approach which the AER considered to be well calculated and appropriate.<sup>14</sup>

<sup>14</sup> AER, *Final decision – Amadeus Gas Pipeline access arrangement 2021 to 2026*, April 2021.

- › Evoenergy submitted a well-informed proposal for its 2021 to 2026 access arrangement proposal underpinned by significant improvements to its consumer engagement approach.<sup>15</sup> Its proposal was developed against the backdrop of the ACT Government’s Climate Change Strategy 2019–25, including the legislated 2045 net zero greenhouse gas emissions target.<sup>16</sup>

The impact of evolving ACT policy settings on Evoenergy’s future network planning and consumers was a key issue for stakeholders. The AER noted Evoenergy’s commitment to put consumers at the centre of its business and to ensure stakeholders’ views are reflected in its proposals.<sup>17</sup>

- › The AER commended AGN (South Australia) on its consumer engagement approach in developing its 2021 to 2026 access arrangement proposal. AGN demonstrated meaningful engagement with its customers, which it facilitated through workshops held across regional South Australia with residential and business customers. All submissions the AER received on AGN’s proposal praised AGN for its quality consumer engagement.

Further, AGN’s (South Australia) consumer engagement program was recognised by the wider industry. In October 2020 AGN was awarded the Energy Network Consumer Engagement Award<sup>18</sup> in recognition of its leadership and innovation in consumer engagement.

## 5.4.5 Recent AER access arrangement decisions

In April 2021 the AER published its final decisions on access arrangements for gas distribution networks in South Australia (AGN) and the ACT (Evoenergy) and for a major transmission pipeline in the Northern Territory (Amadeus Gas Pipeline). The access arrangements will take effect on 1 July 2021 and remain in place until 30 June 2026.

The AER allowed AGN 16% more revenue in the current period than was used to set tariffs in the previous period. AGN provides natural gas to over 450,000 homes and businesses across South Australia and its revenue makes up around half of an average retail gas customer bill in South Australia. It estimates this change will increase annual retail gas bills for residential and small business consumers in AGN’s (South Australia) network area by 0.46% and 0.44% per year respectively over the current access period.

The AER allowed Evoenergy 6% less revenue in the current period than was used to set tariffs in the previous period. The AER accepted Evoenergy’s proposal for shorter standard asset lives for new investments in long-lived pipeline assets, which brought forward some revenue. Evoenergy distributes natural gas to approximately 150,000 homes. Around 90% of Evoenergy’s consumers are located in the ACT, with the remaining 10% in NSW. Around 98% of Evoenergy’s consumers are residential consumers. Evoenergy’s revenue makes up around a quarter of the average customer bill in the ACT. The AER estimates the access arrangement will increase annual retail gas bills for residential and small business consumers by 0.63% and 0.69% per year respectively over the current period.

The AER accepted APA’s proposed revenue for the Amadeus Gas Pipeline over the current period. The proposed revenue – 18% lower than forecast revenue used to set tariffs in the previous period – was consistent with that of a pipeline which is about halfway through its physical life, with forecast expenditure mainly for corrective maintenance and replacement. APA did not propose expanding the Amadeus Gas Pipeline over the current period.

## 5.4.6 Legal reviews

An affected party can file an application with the Federal Court for judicial review of an AER access arrangement decision. Until 2017 a party could also apply to the Australian Competition Tribunal for a limited merits review of an AER decision and then appeal the tribunal’s decision to the Full Federal Court. The Australian Government abolished this avenue of appeal in October 2017.

After a long-running appeal, in July 2017 the Full Federal Court ordered the AER to remake elements of its access arrangement decision for Jemena (NSW). The AER’s remade decision, published in February 2019, approved \$18 million of revenue additional to what it approved in 2015. However, adjustments from interim arrangements for the network will result in Jemena returning \$169 million to consumers in its current access period (figure 5.14).<sup>19</sup>

<sup>15</sup> AER, *Final decision – Evoenergy access arrangement 2021 to 2026*, April 2021, p 6.

<sup>16</sup> Environment, Planning and Sustainable Development Directorate, *ACT Climate Change Strategy 2019–25*, 2019.

<sup>17</sup> AER, *Final decision – Evoenergy access arrangement 2021 to 2026*, April 2021, p 8.

<sup>18</sup> Energy Networks Australia (ENA), in partnership with Energy Consumers Australia (ECA), runs the award, which recognises an Australian energy network business that demonstrates outstanding leadership in consumer engagement.

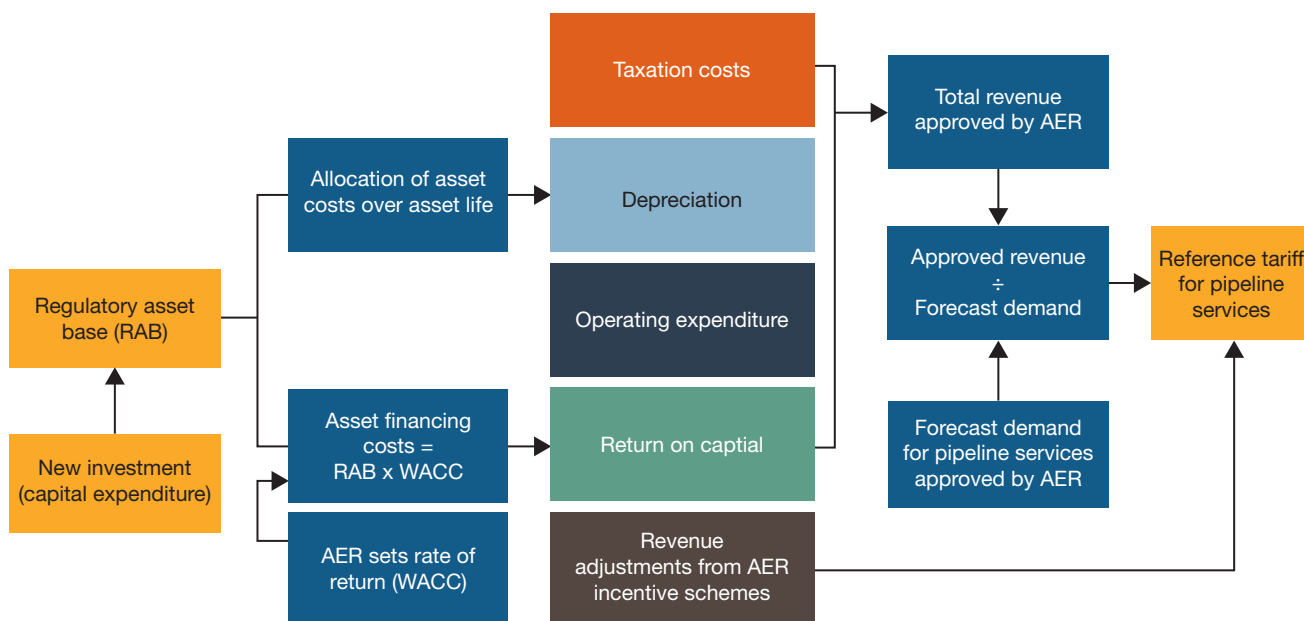
<sup>19</sup> AER, *Final decision, Jemena Gas Networks (NSW) Ltd 2015–20 access arrangement*, February 2019.

## 5.5 The building blocks of gas pipeline revenue

In setting a gas pipeline business's allowed revenue, the AER assesses the efficient costs of operating the business. The AER breaks up its cost assessment into 'building blocks' in order to forecast how much revenue the business is likely to need to cover 4 key cost components (figure 5.5). These components are:

- › efficient operating and maintenance costs
- › commercial returns to shareholders and investors that fund its operations
- › asset depreciation costs
- › taxation costs.

Figure 5.5 How gas pipeline revenue and charges are set



WACC: weighted average cost of capital.

Note: Revenue adjustments from incentive schemes encourage pipeline businesses to manage their operating and capital expenditure efficiently, and to innovate.

Source: AER.

The cost of new investment is recovered over the economic life of the asset, which may be several decades. The capital cost recovered each year is called depreciation, and it covers the lost value of assets through wear and tear and technical obsolescence.

The shareholders and lenders that fund network assets must also be paid a commercial return on their investment each year. Those returns are forecast to absorb 54% of transmission revenues and 36% of distribution revenues in the current access periods. The returns are calculated by multiplying:

- › the value of the network's RAB,<sup>20</sup> which is adjusted each year for new investment, less asset disposals and depreciation, by
- › the rate of return paid to investors that fund those assets, through either equity ownership or debt. The AER sets the allowed rate of return, also called the weighted average cost of capital (WACC).

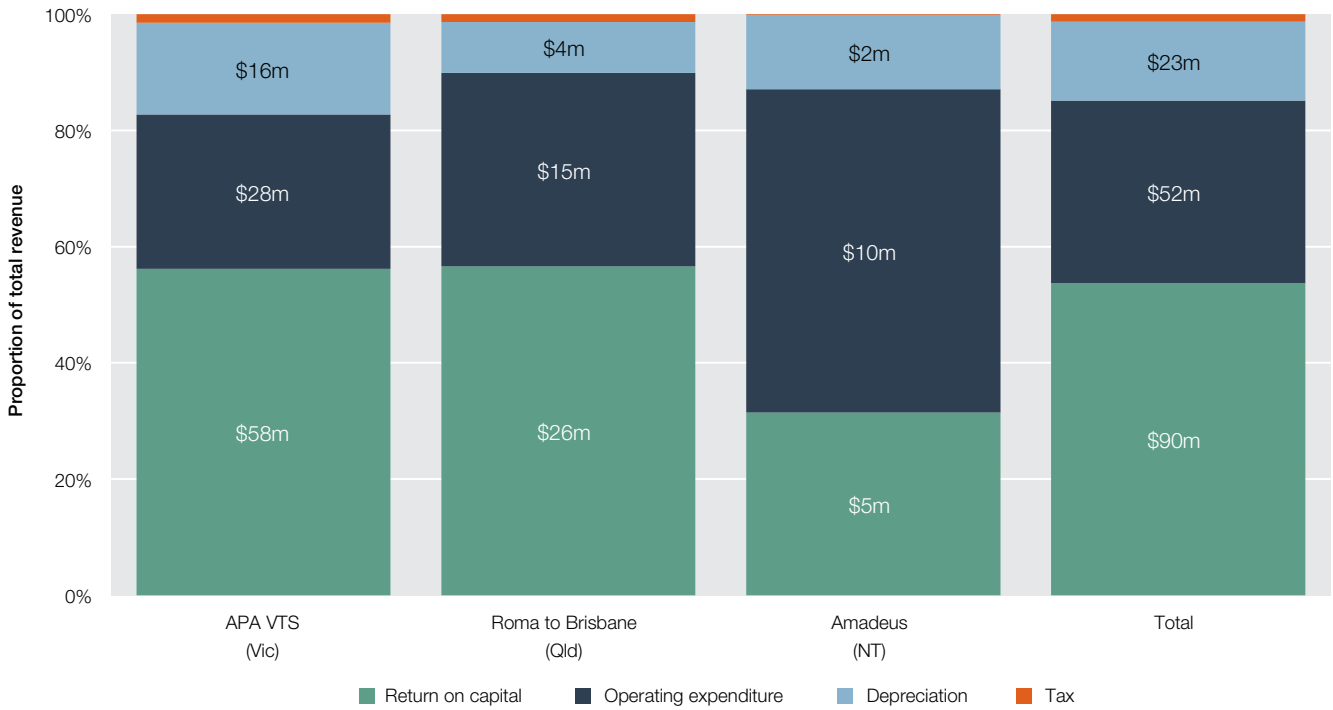
Operating and maintenance costs are forecast to absorb 31% of transmission revenues and 40% of distribution revenues in the current access periods. Overheads, taxation and other costs account for the remainder of a pipeline's revenue.

Gas pipeline businesses can earn additional revenue through regulatory incentives that encourage the efficient management of operating and capital expenditure programs (section 5.4.2).

Figures 5.6 and 5.7 illustrate the composition of pipeline revenues in recent gas transmission and distribution decisions.

<sup>20</sup> The regulatory asset base (RAB) is the economic value of a network's assets used to provide network services to customers. These assets have been accumulated over time and are at various stages of their economic life cycle.

**Figure 5.6 Composition of average annual gas pipeline revenues – transmission**

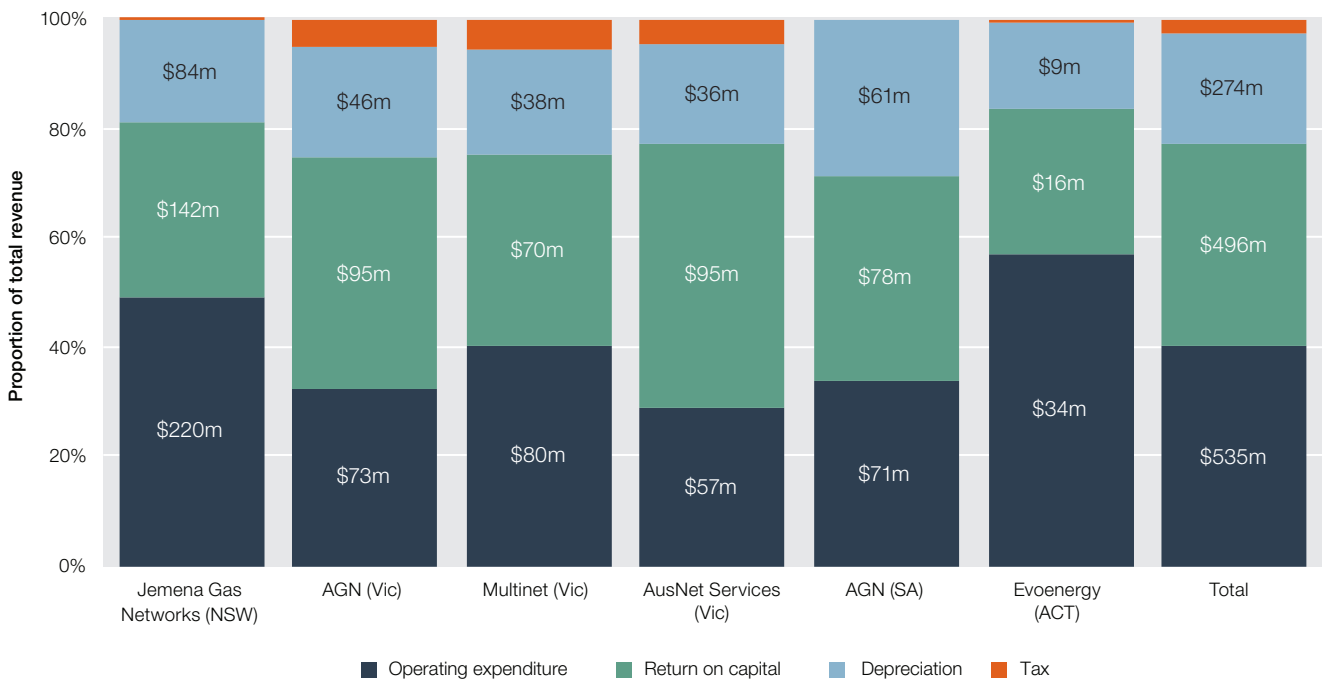


VTS: Victorian Transmission System.

Note: Network businesses also receive bonuses or penalties that impact on annual network revenues. These bonuses/penalties are not material and are not considered in figure 5.6.

Source: Post tax revenue modelling used in AER determination process.

**Figure 5.7 Composition of average annual gas pipeline revenues – distribution**



AGN: Australian Gas Networks.

Note: Network businesses also receive bonuses or penalties that impact on annual network revenues. These bonuses/penalties are not material and are not considered in figure 5.7.

Source: Post tax revenue modelling used in AER determination process.



## 5.6 Gas pipeline revenues

Full regulation gas pipelines (figures 5.2 and 5.3) are forecast to earn around \$7.6 billion in their current access arrangement periods – 1% more than was forecast in their previous respective periods:

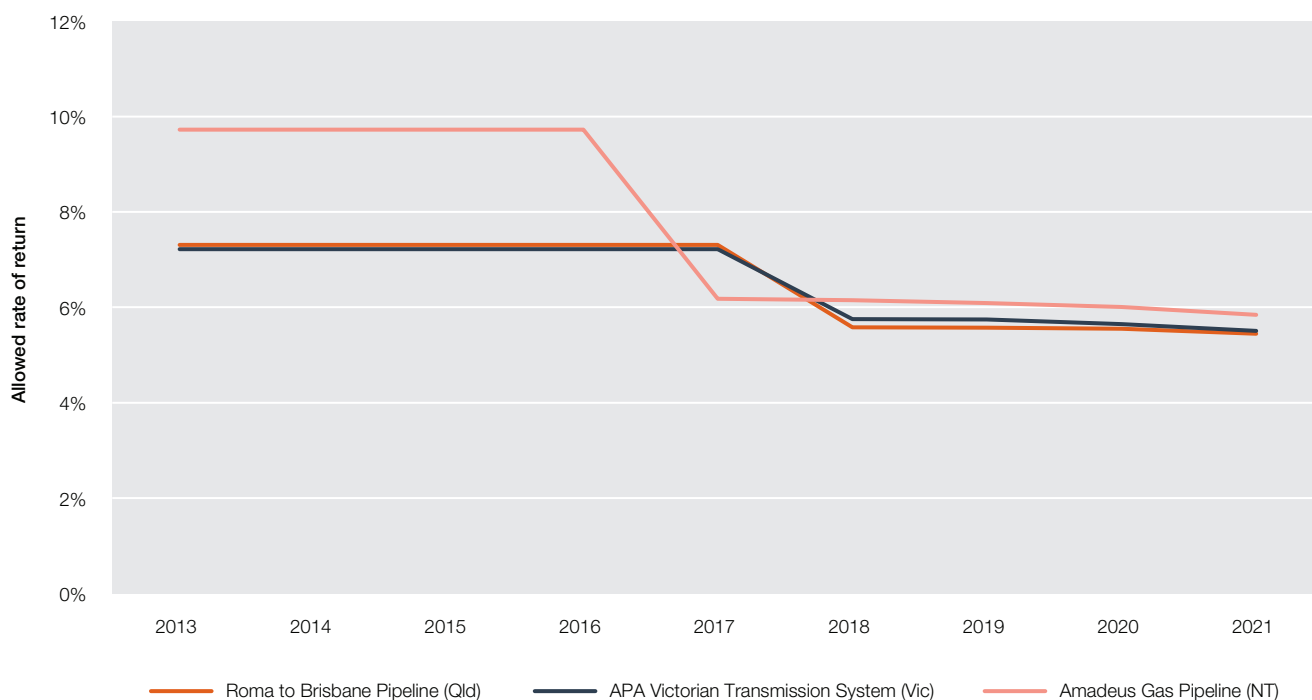
- Full regulation distribution networks are forecast to earn around \$6.7 billion<sup>21</sup> in their current access arrangement periods – \$136 million (2%) more than forecast in their previous respective previous periods.
- Full regulation transmission pipelines are forecast to earn around \$856 million<sup>22</sup> in their current access arrangement periods – \$57 million (6%) less than forecast in their previous respective previous periods.

Some key drivers of network revenues have eased in recent years. Previous access arrangements were made at a time of increased pipeline investment in response to ageing assets and forecasts of rising energy demand. However, capital expenditure on both distribution and transmission pipelines decreased in 2015–16 and has since plateaued. Network businesses also had higher financing costs due to instability in global financial markets.

Weaker domestic gas demand in recent years – caused by significantly higher gas prices – reduced forecast revenue needs for most pipeline businesses.

Further, legislation enacted in November 2018 makes the AER's rate of return determinations binding.<sup>23</sup> This change, along with lower financing costs, reduced the average allowed rate of return in the AER's 5 access arrangement decisions made in 2017 to under 6% and the 3 access arrangement decisions made in 2021 to as low as 4.78% (for Evoenergy in the ACT) in 2021–22, compared with over 10% in decisions made from 2008 to 2010 (figures 5.8 and 5.9). This reduction translates to significantly lower network revenues and gas pipeline charges.

**Figure 5.8 Allowed rates of return – gas transmission pipeline networks**



Note: Allowed rate of return = nominal vanilla weighted average cost of capital (WACC). Victorian pipeline businesses report on a calendar year basis (year ending 31 December). All other pipeline businesses report on a financial year basis (year ending 30 June). The calendar years shown in the charts reflect the later of the 2 relevant years for non-Victorian pipeline businesses (for example, 2017–18 is shown as 2018).

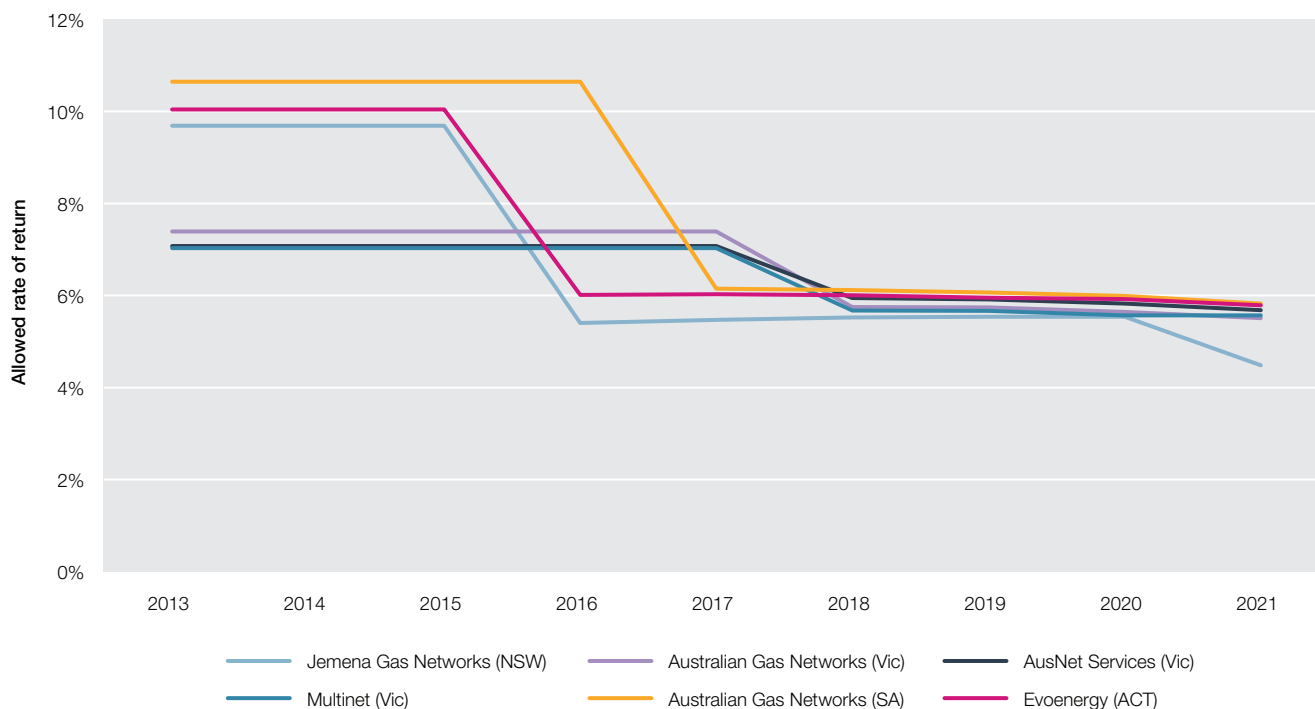
Source: AER decisions on gas pipeline access arrangements; AER decision following the remittal by the Australian Competition Tribunal and Full Federal Court.

<sup>21</sup> Excluding revenue adjustments valued at around –\$159 million.

<sup>22</sup> Excluding revenue adjustments valued at around \$26 million.

<sup>23</sup> The AER released its first Rate of Return Instrument (RRI) in December 2018, setting out how it determines the allowed rate of return on capital in access arrangement determinations. The 2018 RRI specifies the return on debt as a formula, using the trailing average portfolio approach. Network businesses not already applying this method must transition to it over a 10 year period.

**Figure 5.9 Allowed rates of return – gas distribution pipeline networks**



Note: Allowed rate of return = nominal vanilla weighted average cost of capital (WACC). Victorian pipeline businesses report on a calendar year basis (year ending 31 December). All other pipeline businesses report on a financial year basis (year ending 30 June). The calendar years shown in the charts reflect the later of the 2 relevant years for non-Victorian pipeline businesses (for example, 2017–18 is shown as 2018).

Source: AER decisions on gas pipeline access arrangements; AER decision following the remittal by the Australian Competition Tribunal and Full Federal Court.

But offsetting these changes has been the need for more revenue to cover new programs, such as AGN’s (South Australia) new Vulnerable Customer Assistance Program (VCAP) during the current access period. The objective of the VCAP is to allow AGN to develop a better understanding of the needs of its vulnerable customers and put in place measures to support these customers.

Revenue outcomes vary across network businesses. In gas distribution, revenues are forecast to increase by 16% for AGN (South Australia), 13% for AGN (Victoria) and 4% for Multinet (Victoria). However, Evoenergy (ACT) and Jemena (NSW), had a reduction in forecast revenue of 6% each over the current regulatory period and AusNet Services (Victoria) had a reduction of 1.8%. The relatively stable or increasing revenue for the Victorian networks reflects their higher operating and capital expenditure costs associated with new customer connections, as in new housing estates.

In gas transmission, revenues are forecast to fall by 19% for the Roma to Brisbane Pipeline (Queensland) and 18% for the Amadeus Gas Pipeline (Northern Territory). The Victorian Transmission System, however, is forecast to increase revenue by 3%, reflecting an increased RAB following new investment from 2013 to 2017.

### 5.6.1 Recent revenue decisions

The AER approved a total allowed revenue of \$1,134 million for AGN (South Australia) over the 2021–2026 access period. This allowed revenue is \$153 million (16%) more than the forecast revenue used to determine tariffs in the 2016–2021 period. The revenue allowance included reductions in the return on capital and operating expenditure which were marginally offset by an increase in depreciation.

The AER approved revenue of \$299 million for Evoenergy (ACT) over the 2021–2026 access period. This allowed revenue is \$21 million (6%) less than the forecast revenue used to determine tariffs in the 2016–2021 period. The allowance included reductions in return on capital and corporate income tax which were marginally offset by increases in depreciation and revenue adjustments.

Finally, the AER approved revenue of \$98 million for the Amadeus Gas Pipeline over the 2021–2026 access period. This allowed revenue is \$20 million (18%) less than the forecast revenue used to determine tariffs in the 2016–2021 period. The revenue allowance included reductions in the building blocks for operating expenditure and return on capital which were marginally offset by an increase in depreciation.

## 5.7 Gas pipeline investment

Investment requirements differ between the gas transmission and distribution sectors. Gas transmission investment typically involves large, lumpy capital projects to expand existing pipelines (through compression, looping or extension) or construct new infrastructure. Additionally, some transmission pipelines have been re-engineered for bi-directional flows.

Gas distribution investment mainly comprises augmentation (expansion) of existing systems to cope with new customer connections, as in new housing estate developments. Older networks also require replacement programs for deteriorating infrastructure. For pipelines under full economic regulation (table 5.1), the AER assesses whether investments are prudent and efficient based on criteria in the National Gas Rules.

### 5.7.1 Recent investment

Full regulation transmission pipelines are forecast to invest a total of \$332 million in their current access periods – \$98 million (42%) more than the forecast investment in their previous periods. Figures 5.11 to 5.19 show investment trends for all pipeline networks regulated by the AER.

APA expects to overspend on its approved capital allowance for the Amadeus Gas Pipeline (Northern Territory) over the previous access arrangement period. The AER approved the overspending, as it qualified as ‘conforming capital expenditure’.<sup>24</sup> The AER approved \$15 million of proposed total capital expenditure for the current access period – \$12 million (45%) below the estimated spend for the previous period. APA did not propose expanding the pipeline over the current access period. This will see its RAB decline over current access period.

Evoenergy (ACT) estimates it will underspend on its total approved capital allowance over the previous access arrangement period. The AER approved a capital expenditure allowance for Evoenergy of \$51 million for the current access period. This is \$28 million (36%) less than its estimated spend for the previous period. Evoenergy’s investment projects over the current access period include meter replacement and replacing facilities and pipes. Evoenergy’s RAB is forecast to decrease by 8.4% by 2026.

Following the October 2020 ACT election, the ACT Government confirmed its intention and planned initiatives to phase out natural gas in the ACT.<sup>25</sup> Evoenergy responded to these developments by lowering its forecasts for gas demand and capital expenditure over the current access period.

The AER approved a capital expenditure allowance of \$512 million for AGN (South Australia) for the current access period. This was \$21 million (4%) less than its estimated spend for the previous period. The allowance is largely to allow AGN to invest in mains replacement and connections. AGN’s RAB will initially increase slightly but is expected to stabilise towards the end of the current access period.

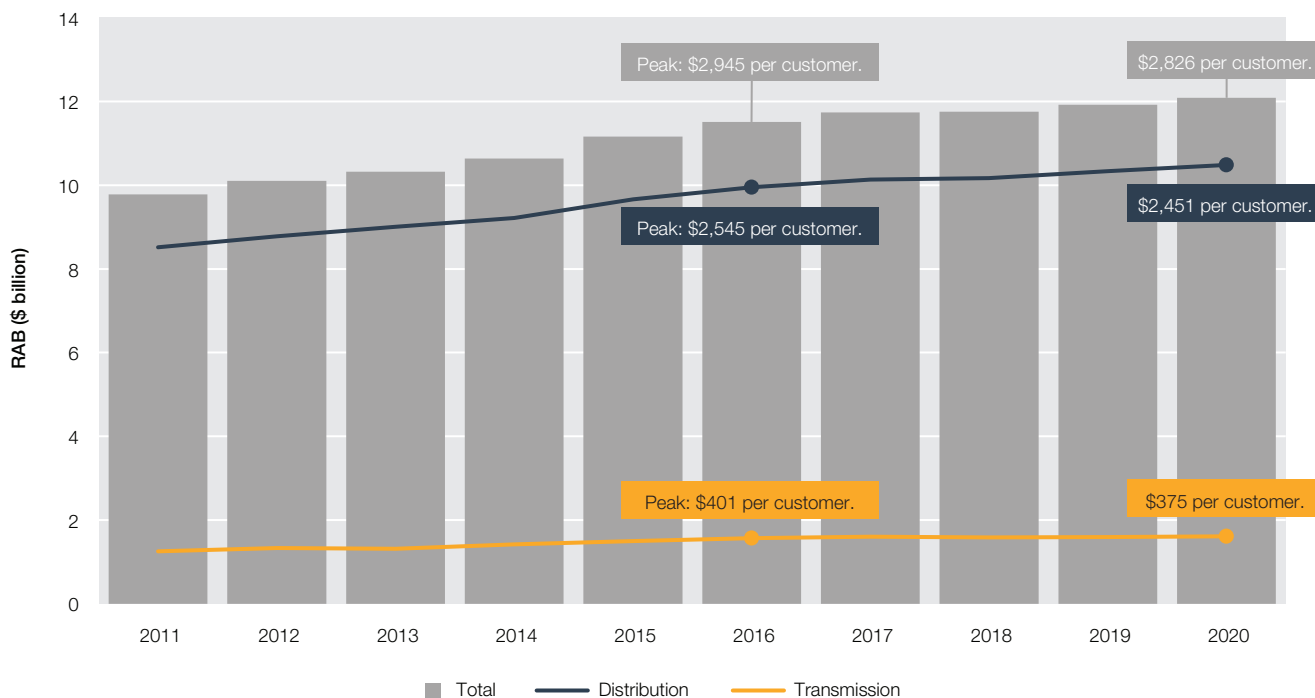
### 5.7.2 Regulatory asset base

Capital investment approved by the AER is added to a pipeline’s RAB, on which future returns are earned. Despite reduced investment since 2014–15, the total RAB for regulated gas pipelines continues to rise, reaching \$12.1 billion in 2020 (\$1.6 billion for transmission and \$10.5 billion for distribution pipelines) (figure 5.10).

<sup>24</sup> National Gas Rules, s 79(1).

<sup>25</sup> ACT Government, *Parliamentary and Governing Agreement, 10th Legislative Assembly for the Australian Capital Territory*, November 2020, p 7.

Figure 5.10 Regulatory asset base – gas pipelines



RAB: regulatory asset base.

Note: Victorian pipeline businesses report on a calendar year basis (year ending 31 December). All other pipeline businesses report on a financial year basis (year ending 30 June). The calendar years shown in the charts reflect the later of the 2 relevant years for non-Victorian pipeline businesses (for example, 2017–18 is shown as 2018).

Source: AER modelling.

## 5.8 Gas pipeline operating costs

The AER’s assessment of a gas network’s efficient operating and maintenance costs accounts for cost drivers such as forecast customer growth, expected productivity improvements, changes in labour and materials costs and changes in the regulatory environment.

Gas distribution networks are forecast to spend around \$2.7 billion on operating expenses in the current access arrangement periods – \$183 million (7%) more than the forecast in previous periods.

Gas transmission networks are forecast to spend around \$261 million on operating expenses in the current access arrangement periods – \$53 million (17%) more than the forecast in previous periods.

Figures 5.11 to 5.19 show operating expenditure trends for all pipeline networks regulated by the AER.

In recent AER decisions:

- › AGN’s (South Australia) approved operating expenditure allowance for the current access period is \$368 million – 7% higher than its estimated expenditure in the previous period.
- › The AER accepted Evoenergy’s (ACT) total operating expenditure forecast for the current access period of \$171 million – 8% higher than in the previous access period.
- › Amadeus Gas Pipeline’s (Northern Territory) operating expenditure allowance over the current access period represents a 19% decrease from its estimated expenditure and a 30% reduction from the approved forecast for the previous access period.

Figure 5.11 APA Victorian Transmission System (Transmission, Victoria)

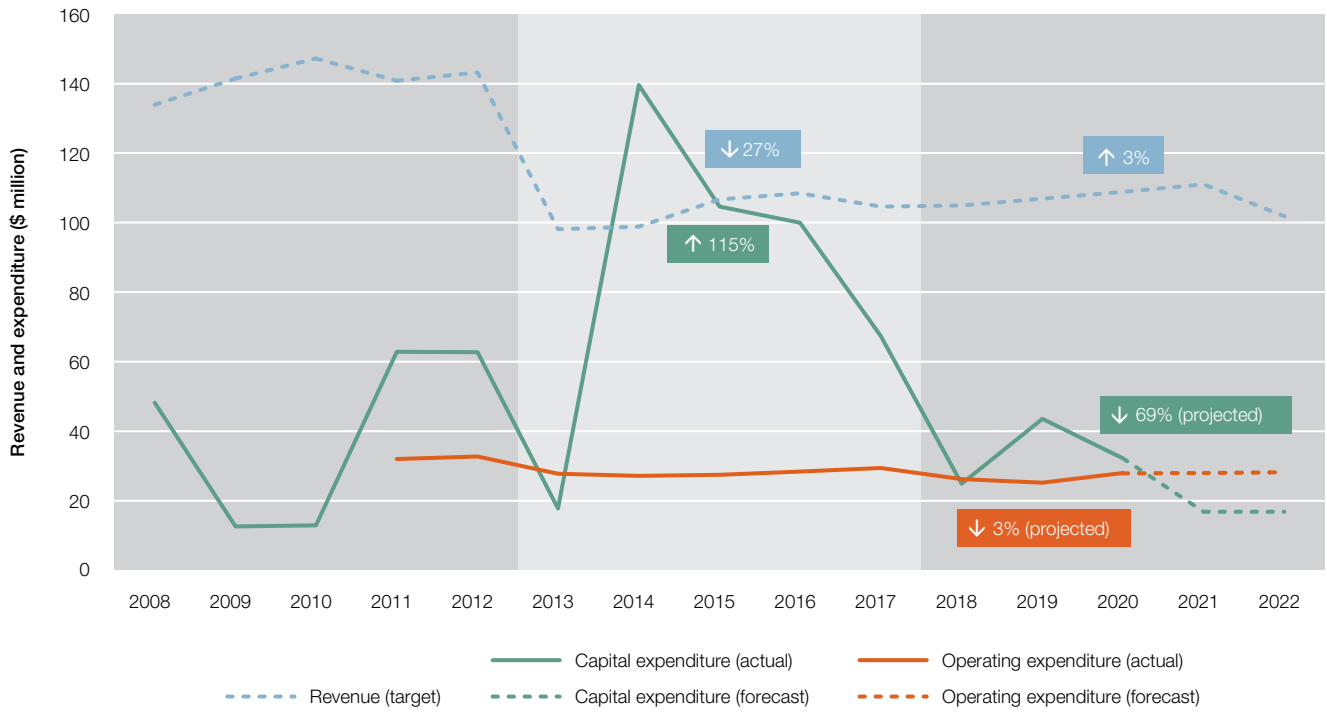


Figure 5.12 Roma to Brisbane Pipeline (Transmission, Queensland)

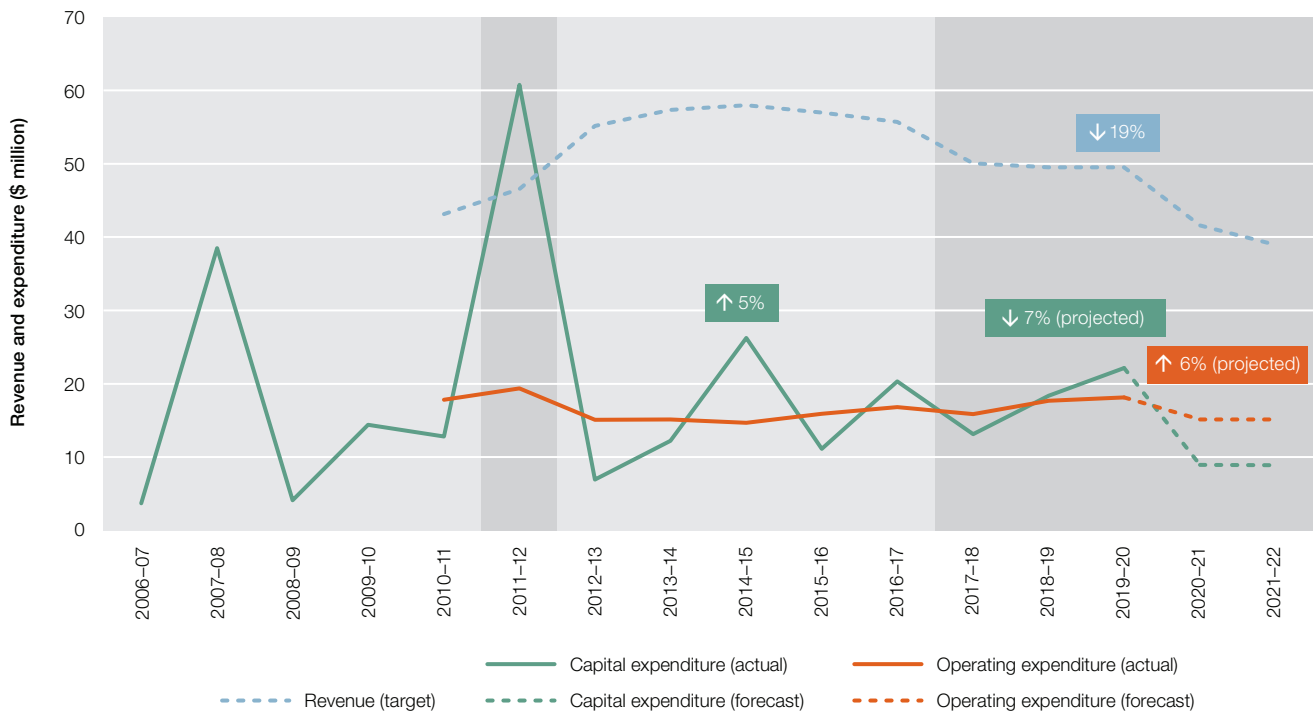




Figure 5.13 Amadeus Gas Pipeline (Transmission, Northern Territory)

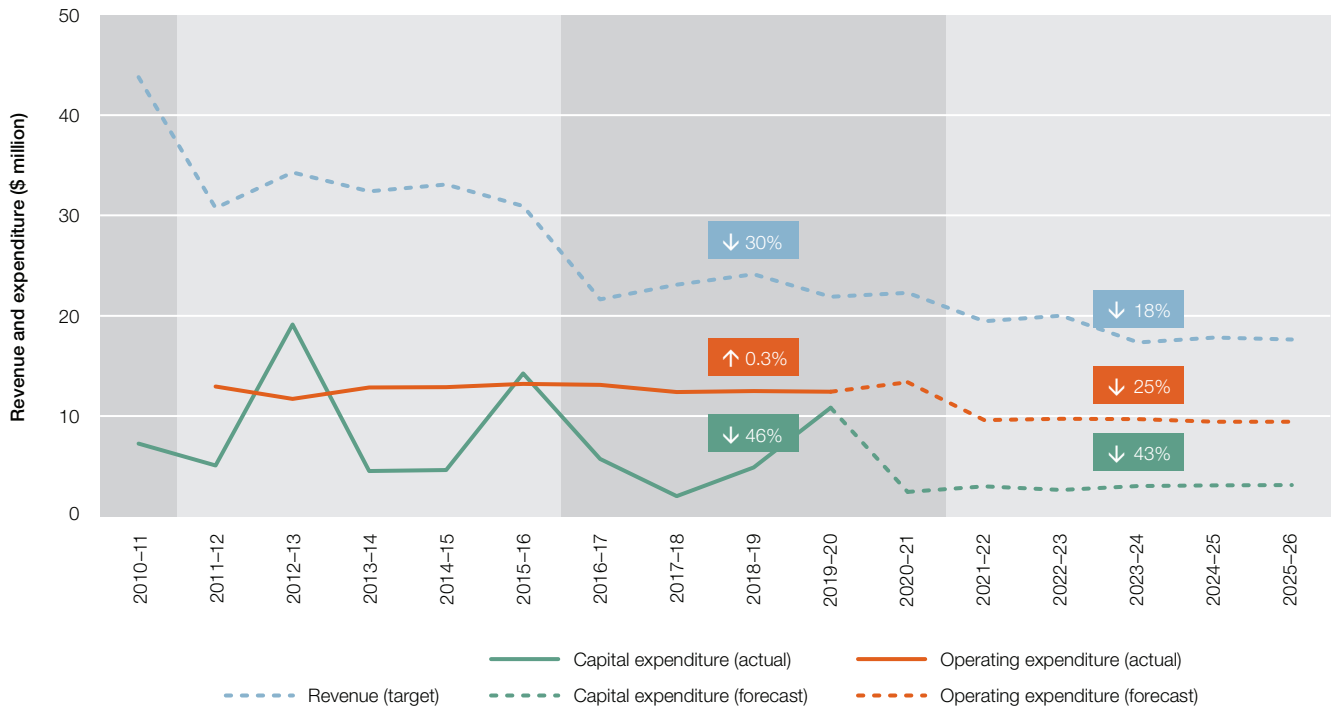


Figure 5.14 Jemena Gas Networks (Distribution, NSW)

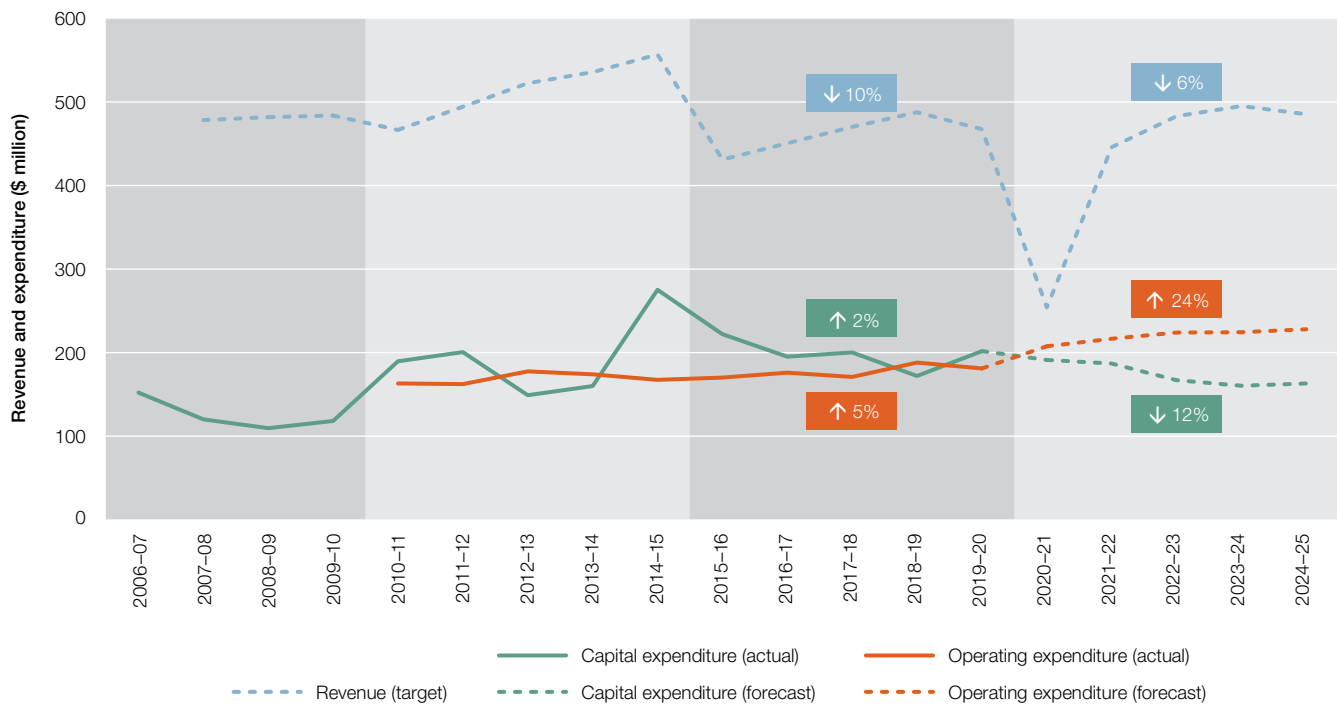


Figure 5.15 Australian Gas Networks (Distribution, Victoria)

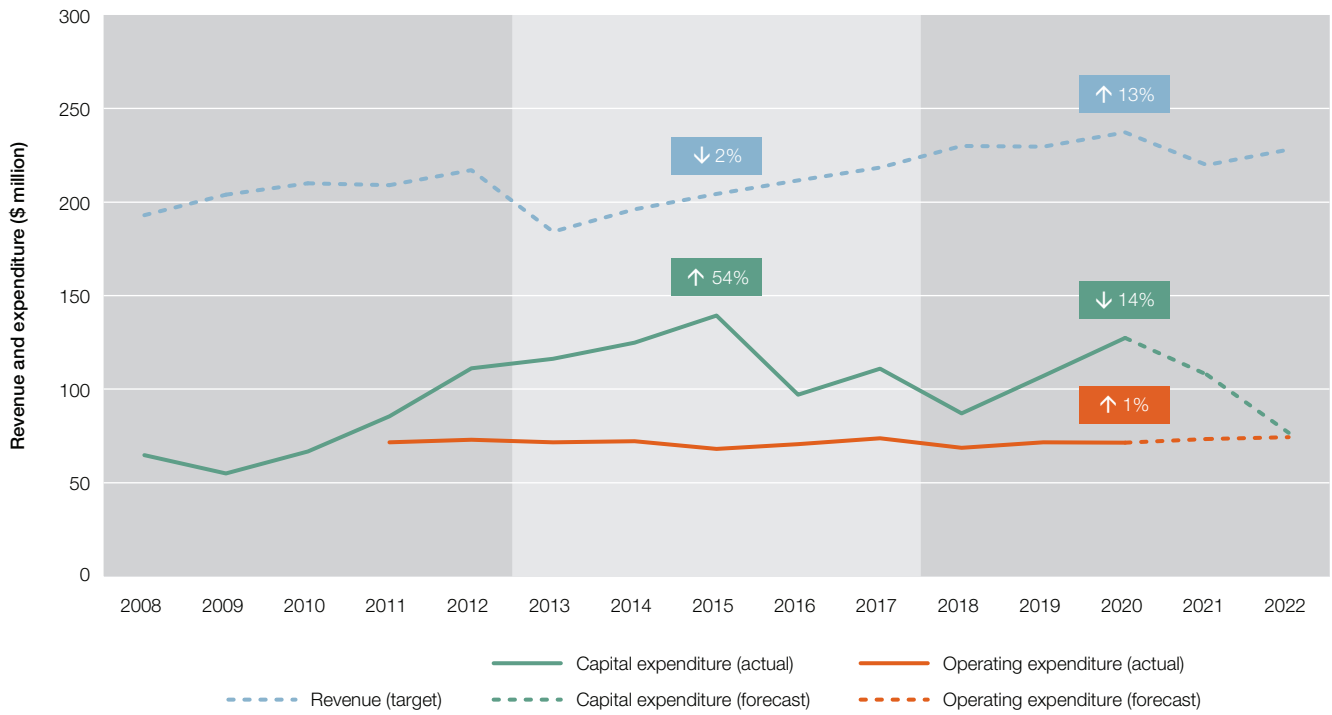


Figure 5.16 Multinet (Distribution, Victoria)

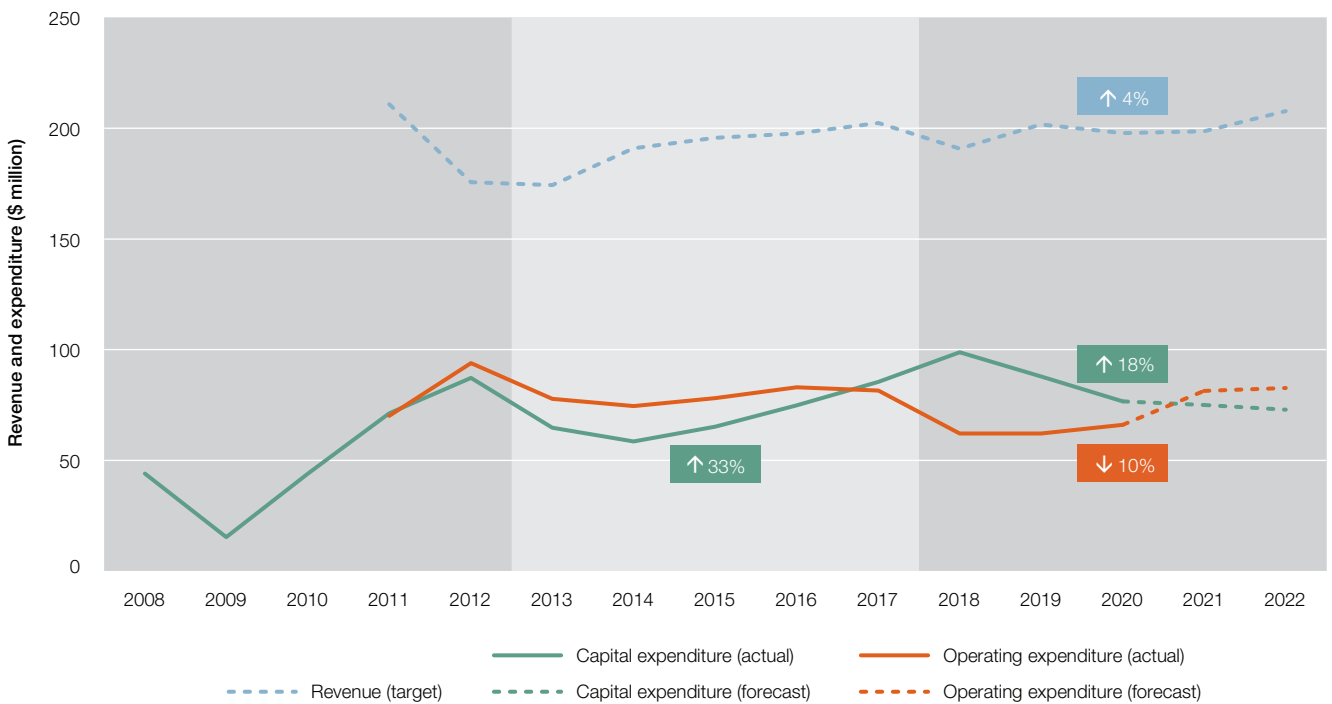


Figure 5.17 AusNet Services (Distribution, Victoria)

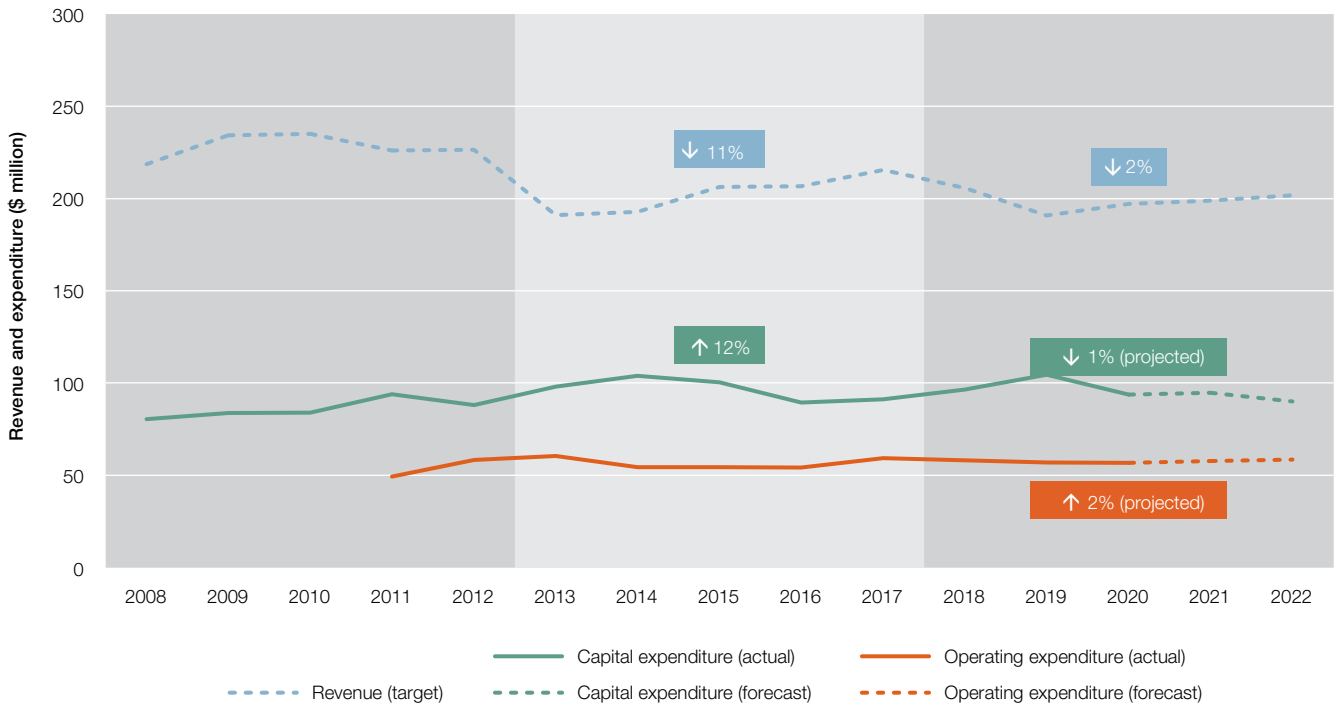


Figure 5.18 Australian Gas Networks (Distribution, South Australia)

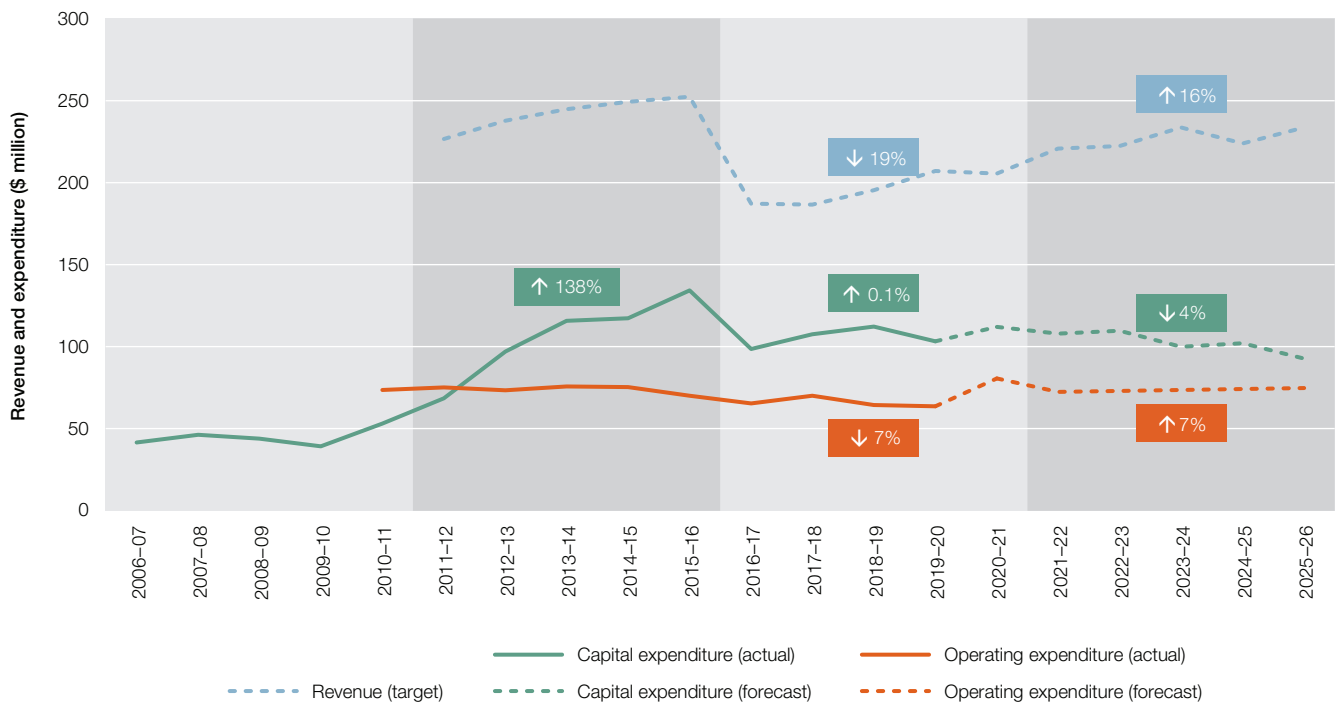
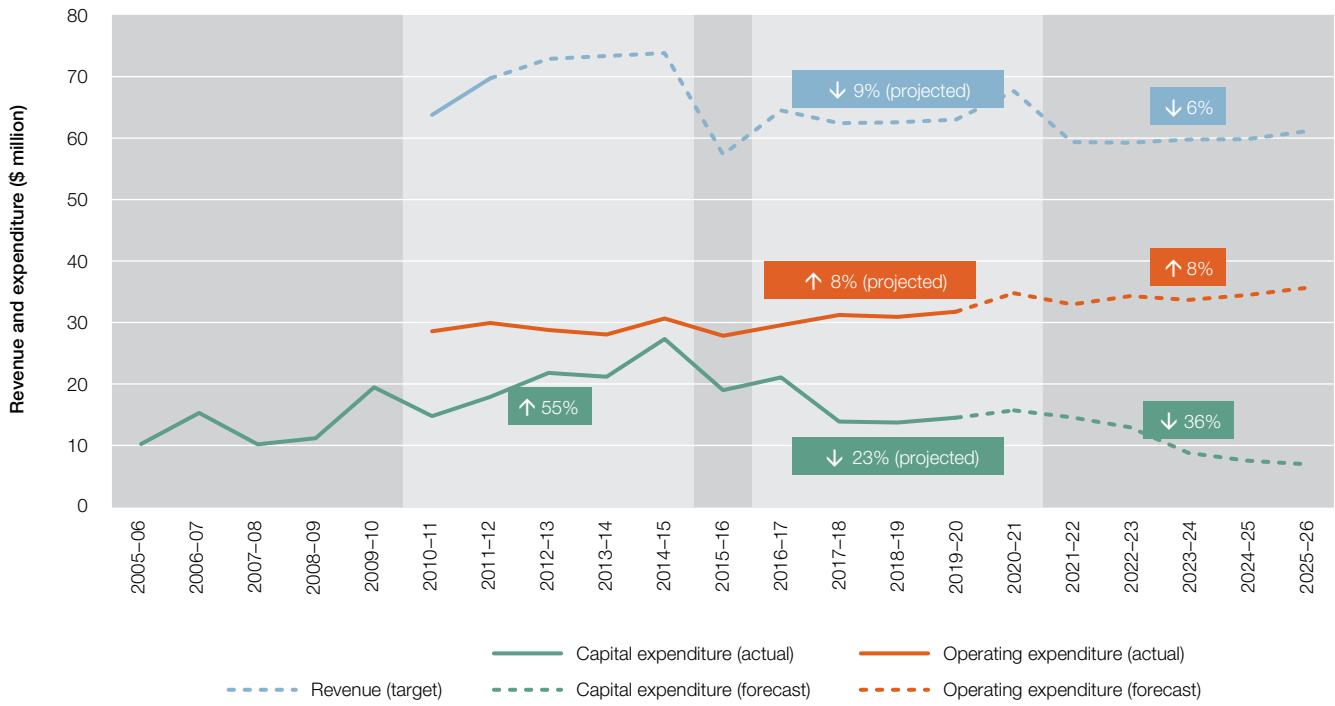


Figure 5.19 Evoenergy (Distribution, ACT)



Note: (figures 5.11 to 5.19): Actual revenue is shown as a solid line; forecast revenue and expenditure is shown as a broken line. Percentages represent the change between periods. Forecasting updates may result in some outcomes varying from those previously reported. Victorian pipeline businesses report on a calendar year basis (year ending 31 December). All other pipeline businesses report on a financial year basis (year ending 30 June).

Source: (figures 5.11 to 5.19): AER.