5 Gas pipelines in eastern Australia

Australia's gas pipeline infrastructure consists of transmission and distribution pipelines. The role of the transmission pipelines is to transport gas from upstream producing basins to major population centres, power stations, and large industrial and commercial plants. Smaller urban and regional distribution pipelines transport gas to customers in local communities.

The focus of this chapter is the 9 scheme pipelines regulated by the Australian Energy Regulator (AER), which is the regulator in all states and territories except Tasmania and Western Australia.[481] Scheme pipelines are subject to more intensive regulation than other pipelines, including access arrangements that set reference prices and other terms and conditions of access to certain services on the pipeline. The rest of the gas pipeline infrastructure in eastern Australia are non-scheme pipelines, which are subject to access negotiation and dispute resolution frameworks and ring-fencing requirements, as well as specified monitoring and reporting obligations (section 5.4).

5.1 Snapshot

In May 2025, the AER finalised its access arrangement determination for distribution pipeline service provider Jemena Gas Networks (NSW). This determination sets the maximum amount of revenue Jemena Gas Networks can earn from customers through to 30 June 2030. The AER also released a final decision to not accept the 2023–28 gas access arrangement variation proposal from AusNet Services (Victoria).[482]

Across the 3 transmission scheme pipeline service providers for which the AER determines access prices, over the 12-month period to 30 June 2024:

- $103 million was invested in capital projects, $113 million (52%) less than in the previous year but $49 million (90%) more than was forecast (section 5.10)
- $87 million was spent on operating costs, $10 million (10%) less than in the previous year but $13 million (17%) more than was forecast (section 5.11).

481 The Economic Regulation Authority (ERA) administers separate regulatory arrangements in Western Australia. The Office of the Tasmanian Economic Regulator (OTTER) administers separate regulatory arrangements in Tasmania.

482 AER, AusNet Gas Services 2023–28 Access arrangement variation proposal – Final decision, Australian Energy Regulator, 14 May 2025.

Across the 6 distribution scheme pipeline service providers for which the AER determines access prices, over the 12-month period to 30 June 2024:

- $1.6 billion in revenue was collected for providing access (selling capacity) to parties needing to transport gas, $90 million (6%) more than in the previous year (section 5.6)
- $555 million was invested in capital projects, $59 million (10%) less than in the previous year (the least in any year since we started collecting this data in 2011), and $121 million (18%) less than was forecast (section 5.10)
- $588 million was spent on operating costs, $40 million (7%) more than in the previous year and the most in any year since we started collecting this data in 2011 (section 5.11).

The AER decided not to make a scheme pipeline determination for the South West Queensland pipeline, noting that the benefits of scheme regulation do not currently outweigh the potential costs. This means that the South West Queensland pipeline will remain subject to non-scheme regulation.

The AER's inaugural *Gas pipeline monitoring and transparency report* indicated that non-scheme service providers are still adapting to the requirements under the new gas pipeline reforms.

5.2 Gas pipeline characteristics

Pipeline service providers earn revenue by providing access (selling capacity) to parties needing to transport gas. These parties include:

- energy retailers seeking to buy natural gas in large volumes, then sell it to consumers
- commercial and industrial users
- liquefied natural gas (LNG) exporters that buy gas directly from producers and contract with a pipeline service provider to transport it to export terminals.

The most common service provided by transmission pipelines is haulage – that is, transporting (or 'shipping') gas 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 transporting gas in the opposite direction to the main flow of the pipeline, or pay for gas to be stored (parked) in a pipeline or stored in a connected storage facility, also 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 with other customers.

The combined value of the capital bases for scheme pipelines for which the AER sets access prices is around $14 billion. This comprises 3 transmission pipelines valued at $2.2 billion and 6 distribution pipelines valued at $11.8 billion.

Transmission pipelines typically have wide diameters and operate under high pressure to optimise shipping capacity. An interconnected transmission grid links gas basins and retail markets in all states and territories other than Western Australia (Figure 5.1).

Distribution pipelines are installed underground and operate under high, medium or low pressure. The high and medium-pressure pipes 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.

Distribution pipeline service providers transport gas to consumers, but they do not sell gas. Energy retailers purchase gas from sellers and pipeline services (which includes transportation) from pipeline service providers.[483] This combination of gas and pipeline services is sold as a packaged retail product to customers. Many retailers offer both gas and electricity products.

The services provided by transmission pipelines continue to evolve to meet changing market needs, but distribution pipelines tend to offer fairly standard transport services – namely, allowing gas injections into a pipeline, conveying gas to supply points and allowing gas to be withdrawn.

Gas is distributed to most Australian capital cities, major regional areas and towns. Queensland and Victoria each have multiple distribution pipeline service providers, while New South Wales (NSW), South Australia, Tasmania and the Australian Capital Territory (ACT) are each served by a single regulated service provider.[484] Gas is also distributed to export terminals in Queensland, where it is converted to LNG before being transported overseas via cargo ship.

In 2024, residential customers accounted for more than 97% of the total number of distribution customers, but only consumed around 46% of the total gas delivered within Australia. The other 3% of customers were either industrial or commercial customers and consumed the balance (54%) of the total gas delivered.

The combined value of the capital bases for scheme pipelines for which the AER sets access prices is around $14 billion.[485] This comprises 3 transmission pipelines valued at $2.2 billion and 6 distribution pipelines valued at $11.8 billion. In total, the networks consist of around 80,000 kilometres of pipe and supply natural gas to more than 4.3 million residential customers and around 110,000 commercial and industrial customers (Figure 5.2 and Figure 5.3).[486]

Box 5.1 How the AER regulates scheme and non-scheme pipelines

Gas pipeline service providers are regulated under the National Gas Law and National Gas Rules. In March 2023, several significant changes were made to improve and simplify the regulatory framework to support the safe, reliable and efficient use of and investment in gas pipelines. Transitional arrangements implementing the new framework are ongoing (section 5.4).

Prior to the reforms, the National Gas Law provided for the following forms of regulation:

- full regulation for some scheme pipelines
- light regulation for other scheme pipelines
- Part 23 (National Gas Rules) regulation for non-scheme pipelines that provided third party access to pipeline services.

Under the reforms, gas pipelines are now only classified as either:

- scheme pipelines, or
- non-scheme pipelines (section 5.4).

In March 2025, the AER published its first *Gas pipeline monitoring and transparency report*,[487] in line with the AER's new monitoring and reporting powers covering the behaviour and compliance of non-scheme gas pipeline service providers. A summary of our findings from this report are set out in Box 5.2.

483 For some transmission routes, retailers may also purchase gas through contracts that include transport costs, if not buying gas directly from a gas producer.

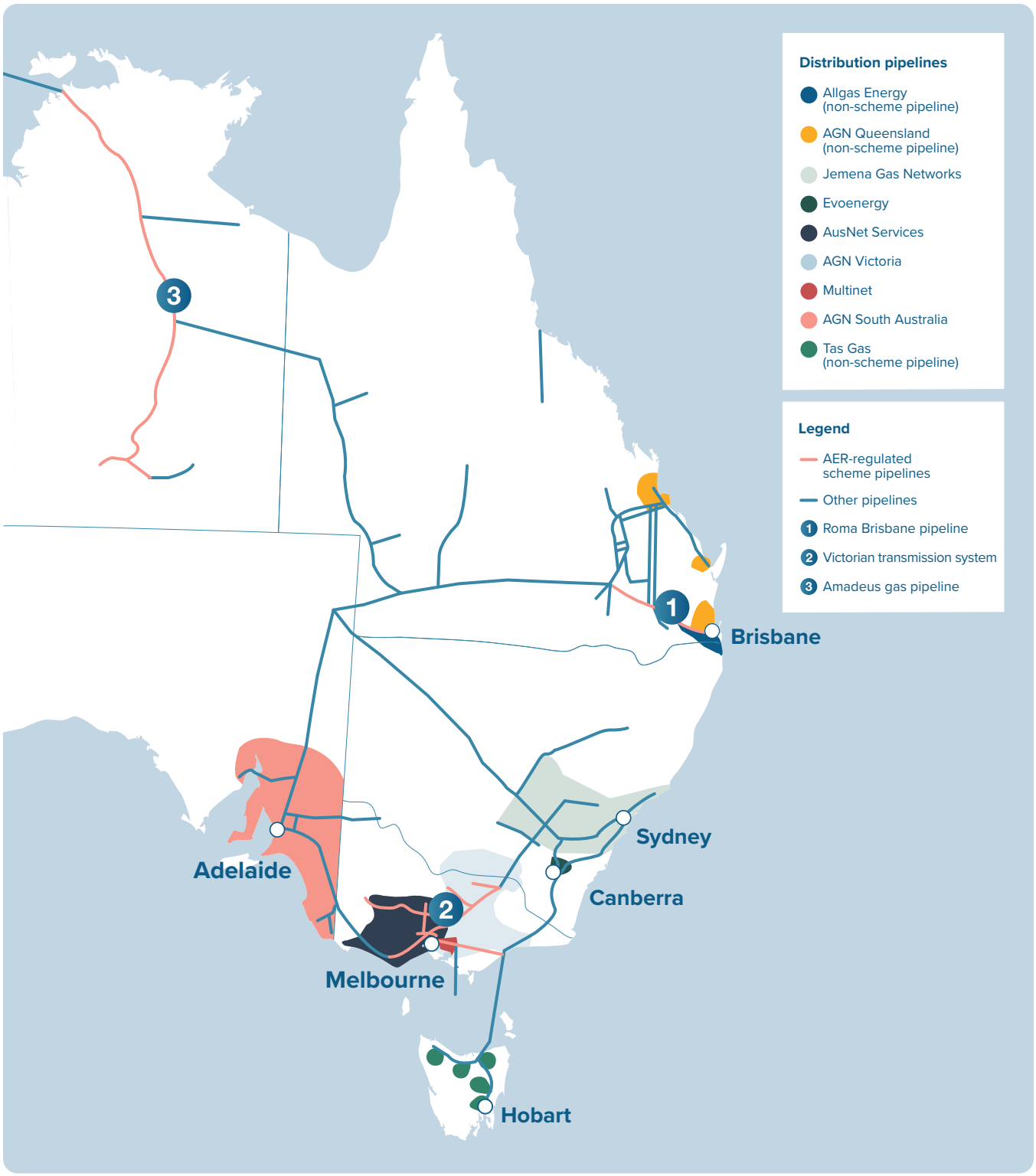
484 Some pipelines cross state or territory boundaries. For example, Australian Gas Network's Victorian pipeline and Evoenergy's ACT pipeline both extend into NSW. Some jurisdictions also have smaller unregulated regional pipelines, such as the Wagga Wagga pipeline in NSW.

485 Capital bases capture the total economic value of assets that are providing pipeline services to customers. These assets have been accumulated over time and are at various stages of their economic lives.

486 The AER does not set access prices for the 3 non-scheme pipelines (GLNG, APLNG, QCLNG) that deliver gas from the Roma region, including from the Roma Brisbane scheme pipeline directly to Queensland's LNG export terminals.

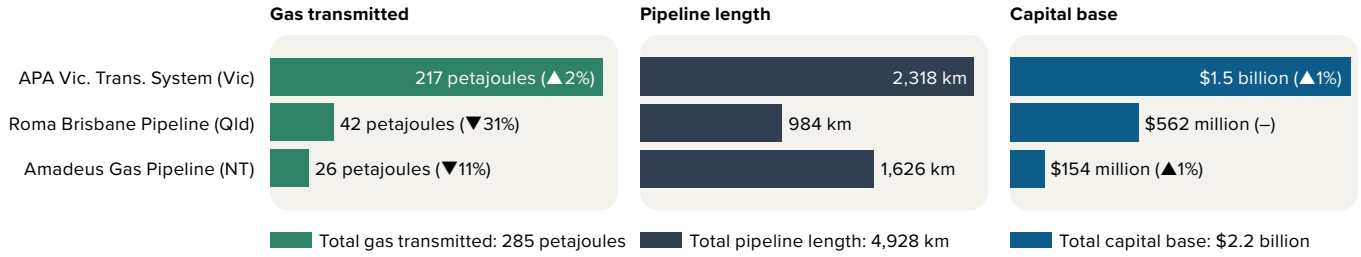
487 AER, Gas pipeline monitoring and transparency report, Australian Energy Regulator, 26 March 2025, accessed 9 April 2025.

Figure 5.1 Major gas transmission and distribution pipelines



Source: AER.

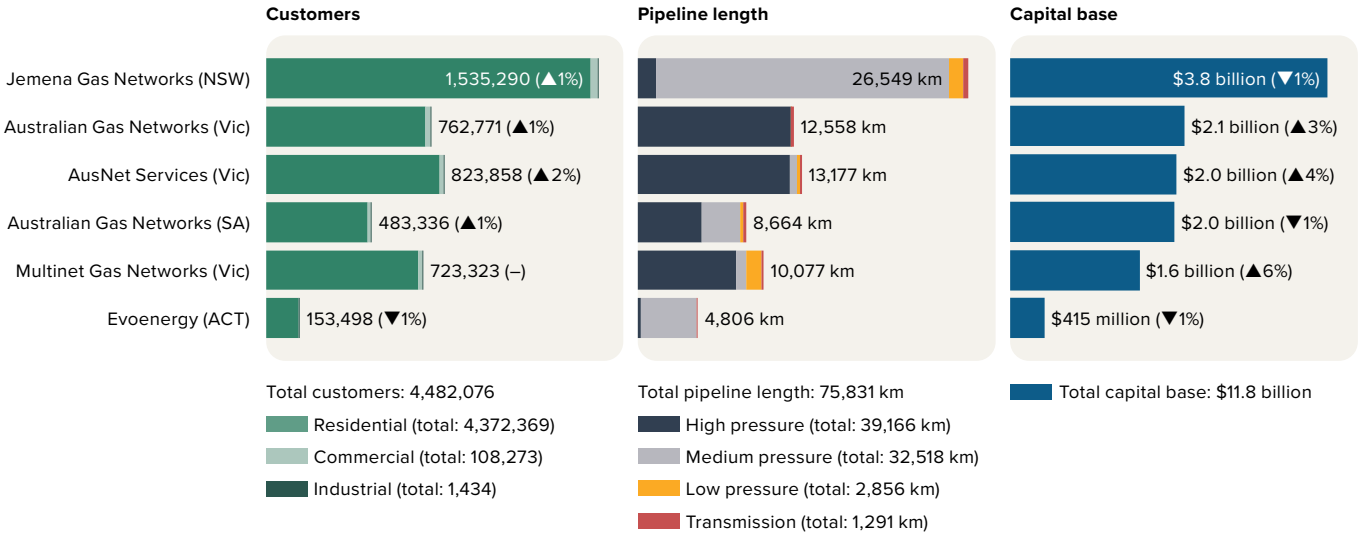
Figure 5.2 Gas transmission pipelines regulated by the AER



Note: Capital base is adjusted to June 2024 dollars. The capital base is the forecast value of pipeline assets based on the closing capital base at 30 June 2024, except for APA Victorian Transmission System (31 March 2024). Pipeline length includes looping where applicable. Looping refers to 2 or more lengths of pipeline along a route – for example, where the existing pipeline has been duplicated.

Source: AER access arrangement decisions and annual regulatory information notices (RINs).

Figure 5.3 Gas distribution pipelines regulated by the AER



Note: Capital base is adjusted to June 2024 dollars. The capital base is the forecast value of pipeline assets based on the closing capital base at 30 June 2024, except for the Victorian distribution pipelines (31 December 2024).

Source: AER access arrangement decisions and annual regulatory information notices (RINs).

5.3 Gas pipeline ownership

Australia's gas pipelines are generally privately owned. The ASX-listed APA Group is Australia's largest pipeline service provider, 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 Australian Gas Networks (owned by Cheung Kong Infrastructure Holdings Limited). State Grid Corporation of China and Singapore Power International also have interests in the publicly listed AusNet Services (Victoria).

Table 5.1 summarises the ownership structure and characteristics of key gas transmission pipelines.

Table 5.1 Ownership structure and characteristics of key gas transmission pipelines

Pipeline service provider	Location	Capacity (TJ/day)	Regulatory status	Owner
Roma Brisbane Pipeline	Qld	167 (125)	Scheme pipeline	APA Group
Victorian Transmission System (GasNet)	Vic	1,160	Scheme pipeline	APA Group
Amadeus Gas Pipeline	NT	165	Scheme pipeline	APA Group
South West Queensland Pipeline (Wallumbilla to Moomba)	Qld–SA	512 (340)	Non-scheme pipeline	APA Group
Queensland Gas Pipeline (Wallumbilla to Gladstone)	Qld	148 (37)	Non-scheme pipeline	Jemena (State Grid Corporation of China 60%, Singapore Power 40%)
Carpentaria Pipeline (South West Qld to Mount Isa)	Qld	119 (65)	Scheme pipeline	APA Group
GLNG Pipeline (Surat–Bowen Basin to Gladstone)	Qld	1,497	Non-scheme pipeline/ 15-year no coverage	Santos 30%, PETRONAS 27.5%, Total 27.5%, KOGAS 15%
Wallumbilla Gladstone Pipeline	Qld	1,598	Non-scheme pipeline/ 15-year no coverage	APA Group
APLNG Pipeline (Surat–Bowen Basin to Gladstone)	Qld	1,760	Non-scheme pipeline/ 15-year no coverage	Origin Energy 37.5%, ConocoPhillips 37.5%, Sinopec 25%
Moomba to Sydney Pipeline	SA–NSW	565 (193)	Non-scheme pipeline	APA Group
Moomba to Adelaide Pipeline	SA	249 (85)	Non-scheme pipeline	QIC Global Infrastructure
Eastern Gas Pipeline (Longford to Sydney)	Vic–NSW	349	Non-scheme pipeline	Jemena (State Grid Corporation of China 60%, Singapore Power 40%)
Vic–NSW Interconnect	Vic–NSW	224 (218)	Non-scheme pipeline	Jemena (State Grid Corporation of China 60%, Singapore Power 40%)
SEA Gas Pipeline (Port Campbell to Adelaide)	Vic–SA	254	Non-scheme pipeline	APA Group 50%, Retail Employees Superannuation Trust 50%
Tasmanian Gas Pipeline (Longford to Hobart)	Vic–Tas	129	Non-scheme pipeline	Palisade Investment Partners
Northern Gas Pipeline (Tennant Creek to Mount Isa)	NT–Qld	90 (60)	Non-scheme pipeline	Jemena (State Grid Corporation of China 60%, Singapore Power 40%)
Bonaparte Pipeline	NT	108	Non-scheme pipeline	Energy Infrastructure Investments (Marubeni 49.9%, Osaka Gas 30.2%, APA Group 19.9%)

Note: TJ/day: terajoules per day. For bidirectional pipelines, reverse capacity is shown in brackets. The Victoria Northern Interconnect is part of the Victorian Transmission System.

Source: AER; ACCC, interim reports of gas inquiry 2017–2025; corporate websites; Gas Bulletin Board.

Table 5.2 summarises the ownership structure of key gas distribution pipelines.

Table 5.2 Ownership of key gas distribution pipelines

Pipeline service provider	Location	Owner
Jemena Gas Networks	NSW	Jemena (State Grid Corporation of China 60%, Singapore Power 40%)
AusNet Services	Vic	Australian Energy Holdings No 4 Pty Limited
Multinet Gas Networks	Vic	CK Infrastructure Holdings
Australian Gas Networks	Vic	CK Infrastructure Holdings
Australian Gas Networks	SA	CK Infrastructure Holdings
Evoenergy	ACT	ICONWater (ACT Government), 50%; Jemena, 50%
Allgas Energy	Qld	Marubeni, 40%, SAS Trustee Corp, 40%; APA Group, 20%
Australian Gas Networks	Qld	CK Infrastructure Holdings

Source: Corporate websites.

5.4 Regulatory objective and approach

For gas pipelines, the AER's key objective is to deliver efficient regulation of monopoly electricity and gas infrastructure while incentivising networks to become platforms for energy services.[488] The National Gas Law and National Gas Rules set out the regulatory framework for gas pipelines to support the achievement of the National Gas Objective.

In May 2023, Energy Ministers agreed to amend the national energy laws to incorporate an emissions reduction objective into the National Gas Objective.[489] The amended Objective seeks to promote efficient investment in, and efficient operation and use of, covered gas services for the long-term interests of consumers of covered gas with respect to:

- price, quality, safety, reliability and security of supply of covered gas
- the achievement of targets set by a participating jurisdiction
  - for reducing Australia's greenhouse gas emissions, or
  - that are likely to contribute to reducing Australia's greenhouse gas emissions.

In February 2024, the National Gas Rules were amended to enable pipeline service providers to include expenditure that contributes to achieving emissions reduction targets in their access arrangement proposals. This amendment to the National Gas Rules provides greater clarity to Australia's energy market bodies[490] for transitioning Australia's energy system to net zero by 2050.

The regulation of gas infrastructure in eastern Australia allows for the AER (and previously, the National Competition Council) to determine if a gas pipeline should be economically regulated as a scheme pipeline or subject to market-based regulation (non-scheme pipelines). Following an extensive stakeholder consultation process, reforms were introduced to the National Gas Law and National Gas Rules in March 2023. The reforms have significantly changed the way non-scheme gas pipelines are regulated, aiming to:

- implement stronger constraints on how non-scheme pipeline service providers can exercise their market power
- facilitate better access to pipeline services
- enhance support for commercial negotiations between service providers and parties needing to transport gas (generally referred to as shippers or gas users)
- streamline governance arrangements.

488 AER, Strategic plan 2020–25, Australian Energy Regulator, 14 December 2020, accessed 21 May 2025.

489 The National Electricity Objective (NEO), National Energy Retail Objective (NERO) and the National Gas Objective (NGO) govern and guide the Australian Energy Market Commission (AEMC) in all its activities under the relevant national energy legislation.

490 The Australian Energy Market Commission (AEMC), the Australian Energy Market Operator (AEMO), the Australian Energy Regulator (AER) and Western Australia's Economic Regulation Authority (ERA).

The AER is now responsible for determining the form of regulation that applies to a gas pipeline, as well as monitoring and reporting on the compliance of gas pipelines with the regulatory framework (section 5.4.1).

Other recent reforms to gas pipeline regulation

In May 2024, the Essential Services Commission (Victoria) released its final decision on the Gas Distribution Code of Practice, which sets out the minimum standards for the operation and use of the Victorian gas distribution system.[491] The new code, which took effect on 1 October 2024:

- enables the Essential Services Commission to use its enforcement powers to effectively monitor and enforce the rules on distribution pipeline service providers, including through civil penalty provisions
- requires distribution pipeline service providers to provide clear information to customers on their websites, including how customers can disconnect or permanently abolish their gas connections
- removes duplication with other regulations to streamline the regulatory framework.

The new code also removes inefficient incentives for new gas connections. Since 1 January 2025, customers in Victoria who seek to establish a new gas connection must pay up-front installation costs, consistent with the current practice for new electricity and water connections.

In February 2025, the Essential Services Commission of South Australia (ESCOSA) made its final decision on the protections that Australian Gas Networks (South Australia) must deliver for consumers during its forthcoming (1 July 2026 to 30 June 2031) access arrangement period.[492] The final decision was to:

- extend the application of the Australian Gas Networks (South Australia) distribution licence so it also applies to distribution of hydrogen and other renewable gases
- continue monitoring network reliability and create service standards if required
- require that Australian Gas Networks (South Australia) reports directly to the public on new aspects of its operational performance
- begin monitoring the timely provision of disconnection and permanent abolishment services
- ensure that consumers receive information about how to disconnect from the gas network
- ensure that customers are notified when customer-requested disconnection services will be provided and when they have been delivered
- require Australian Gas Networks (South Australia) to seek ESCOSA's approval if it proposes to disable any part of the gas distribution network in the future
- create specific timeframes for reconnecting customers after de-energisation where Australian Gas Networks (South Australia) is obliged to do so by the National Energy Retail Rules
- ensure that customers are provided with notice before a different meter (like a digital smart meter) is installed and are provided with information about the impact of that change
- make a series of changes to the Gas Metering Code to improve consistency with other regulatory instruments, provide for changes in the composition of gas and accommodate possible expanded use of digital meters.

491 Essential Services Commission, New code of practice for gas distributors to apply from 1 October 2024, media release, Essential Services Commission, 9 May 2024.

492 ESCOSA, Australian Gas Networks regulatory framework review 2026–2031, Essential Services Commission of South Australia, 2 February 2025, accessed 9 March 2025.

5.4.1 Forms of regulation

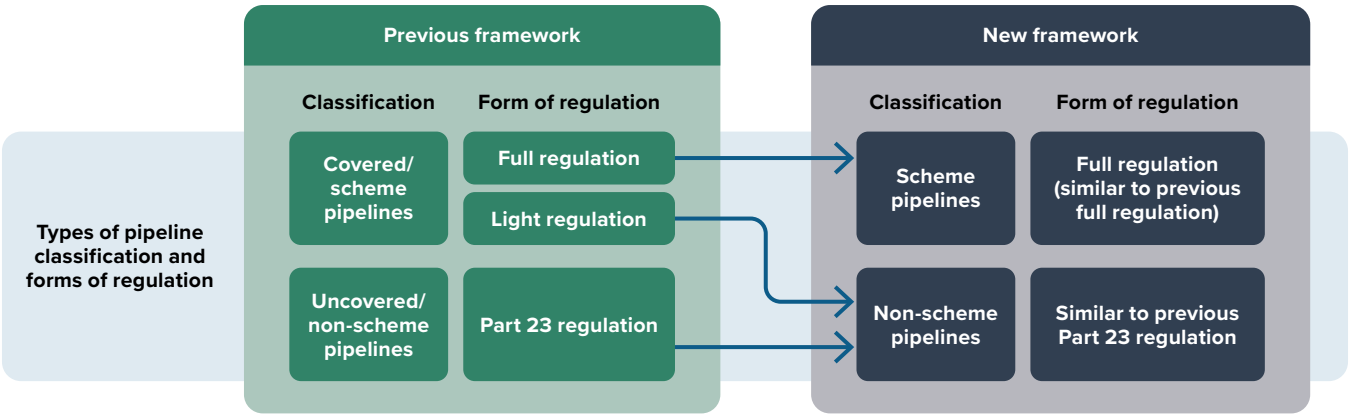
The March 2023 reforms (Box 5.1) updated how different forms of regulation could be applied to different gas pipeline infrastructure to deliver a simpler regulatory framework, increased market transparency and improved access to pipelines on fair terms. The reforms:

- require all transmission and distribution pipeline service providers to provide third party access where it is sought, subject to available exemptions
- ensure all pipelines are subject to the same access negotiation and dispute resolution frameworks and ring-fencing requirements
- make the AER responsible for overseeing a new dispute resolution mechanism that includes mediation as an option for small gas shippers to use in pipeline access disputes
- require all pipeline service providers to publish prescribed transparency information under a unified information disclosure framework unless they hold an exemption
- require standalone compression and storage facilities to publish standing terms and price information.

The AER is now responsible for determining the form of regulation for a pipeline by applying a regulatory determination test. Under the current regulatory framework, the form of regulation of a scheme or non-scheme pipeline can change if:

- the AER makes a determination that a scheme pipeline should become a non-scheme pipeline (a scheme pipeline revocation determination) or a non-scheme pipeline should become a scheme pipeline (a scheme pipeline determination) – the determination can follow a review initiated by the AER or after the AER receives an application from any person
- a non-scheme pipeline service provider elects for a pipeline to become a scheme pipeline (a scheme pipeline election).[493]

Figure 5.4 Summary of changes to pipeline regulatory framework



The AER is also responsible for determining the level of regulation for new pipelines after they are commissioned, unless greenfield determinations apply (all new pipelines will be non-scheme pipelines when they are commissioned), as well as the classification and reclassification of pipelines. This role was previously fulfilled by the National Competition Council and the jurisdictional minister.

493 AER, Pipeline regulatory determinations and elections guide, Australian Energy Regulator, 30 July 2024, accessed 20 May 2025.

While all pipelines are now subject to a range of uniform access, transparency and ring-fencing requirements, service providers operating scheme pipelines are subject to more comprehensive regulatory obligations, including:

- a regulatory-oriented access dispute process
- periodically submitting an access arrangement revisions proposal to the AER for approval[494]
- submitting a reference service proposal to the AER 12-months before submitting the relevant access arrangement revisions proposal, with reference services being subject to price regulation by the AER.[495]

Determining a service to be a reference service or non-reference service makes a significant difference to how the service is regulated. For reference services, the AER sets maximum prices, or price caps, that gas network pipeline service providers may charge network users for reference services. Gas network pipeline service providers may choose to charge network users less than the price caps we determine but they may not charge more. Services the AER determines to be non-reference services are not subject to price regulation. This means gas pipeline service providers set their own charges for non-reference services.

South West Queensland Pipeline form of regulation decision

In December 2024, the AER published its final decision for the South West Queensland Pipeline (SWQP)[496] form of regulation review.[497] The AER's final decision was that the SWQP, owned and operated by APA Group, should remain a non-scheme pipeline, subject to non-scheme regulation.

The AER considered the benefits of scheme regulation did not appear to outweigh the potential costs for SWQP. For example, the direct costs associated with scheme regulation, such as regulatory, transaction and administrative costs, would be higher than those incurred under non-scheme regulation. The indirect costs associated with delayed or foregone efficient investment could also be higher due to the processes associated with the implementation of scheme regulation. In particular, there would be uncertainty around how the initial capital base would be determined and how the AER would treat any major new investment until the first access arrangement was approved.

The AER's final decision was that the South West Queensland Pipeline should remain a non-scheme pipeline, subject to non-scheme regulation. The AER considered that the benefits of scheme regulation did not appear to outweigh the potential costs.

494 A pipeline is a scheme pipeline if it was a covered pipeline (other than a light regulation pipeline) immediately before 2 March 2023.

495 In deciding whether a pipeline service should be specified as a reference service, the AER must have regard to the reference service factors specified in the National Gas Rules. Services that the AER determines meet the reference service factors will be determined to be reference services. Services that the AER determines do not meet the reference service factors will be treated as non-reference services.

496 The South West Queensland Pipeline is a bidirectional transmission pipeline consisting of 2 parallel pipelines, linking Wallumbilla in South East Queensland to Moomba in South Australia.

497 AER, South West Queensland Pipeline form of regulation review, Australian Energy Regulator, 2 December 2024, accessed 9 March 2025.

While this is a transitory and relatively short-term effect, it could have broader implications for the east coast gas market. The Australian Competition and Consumer Commission (ACCC) and the Australian Energy Market Operator (AEMO) predict possible supply shortfalls in southern states could occur as early as 2027 or 2028 unless additional sources of supply are developed.[498] One potential source is additional capacity being made available on pipelines used to transport gas from Queensland.

The AER found APA Group likely has market power in the supply of services on the SWQP and is able to exercise that market power to some extent. However, the AER also considered there are currently some constraints on APA Group's ability to do so in negotiations with larger shippers – gas customers that purchase capacity on a pipeline to deliver gas – and that the emergence of substitutes could constrain APA Group further in the future.

At the same time, the AER considered the largest pipeline users have a degree of countervailing market power that likely constrains APA Group to some extent. The majority of pipeline capacity on the SWQP is used by a small number of large shippers. These shippers rely on the SWQP because it is essential to transport gas from Queensland to the southern states, and from the southern states into Queensland and onto LNG export terminals. However, the volume of capacity these shippers purchase likely means that APA Group is also reliant, to some extent, on these shippers to maintain its revenue on the SWQP.

Further, recently introduced improvements to the non-scheme regulatory regime may improve shippers' ability to negotiate access to the SWQP. Very few stakeholders that participated in the AER's consultation process, including shippers on the SWQP, were in favour of scheme regulation. The AER's final decision foreshadowed its intention to closely monitor prices, terms and conditions on the SWQP as capacity becomes available for contracting.

The review of the SWQP was the first AER-initiated form of regulation review and the pipeline was chosen due to its importance to the east coast gas system. Outcomes of the AER's monitoring and compliance activities will be used to identify future pipelines for review, with a particular emphasis on indicators of market power and access concerns.[499]

5.4.2 Pipeline classification and reclassification

In July 2024, the AER published a new version of the *Pipeline regulatory determinations and elections guide* outlining its functions and powers under Chapter 3 of the National Gas Law and Part 4 of the National Gas Rules. The guide outlines how the AER approaches regulatory determinations and how stakeholders can make applications about the regulatory treatment of a pipeline.[500]

Under the reforms, the default position is that a pipeline is a distribution pipeline if it is classified as a distribution pipeline under its jurisdictional licence or authorisation. Similarly, a pipeline is a transmission pipeline if it is classified as a transmission pipeline under its licence or authorisation. For new pipelines, if the jurisdictional licence contains no classification, the pipeline service provider must apply to the AER for a classification decision.[501] A service provider may apply to the AER for reclassification if it considers it has been wrongly classified. The AER may also, on its own initiative, decide that a pipeline should be reclassified.

Transmission and distribution pipelines have similar regulatory obligations under the National Gas Law and National Gas Rules. However, a transmission pipeline classification means that the pipeline must also report information on AEMO's Gas Bulletin Board and the Short Term Trading Market, a wholesale gas market operated by AEMO. Distribution pipelines are not required to report this information.

498 ACCC, Gas Inquiry 2017–2030 Interim update on east coast gas market, Australian Competition and Consumer Commission, June 2024, pp 34–39; AEMO, 2024 Gas Statement of Opportunities, Australian Energy Market Operator, 21 March 2024.

499 AER, Gas pipeline monitoring and transparency report, Australian Energy Regulator, 26 March 2025, accessed 9 April 2025.

500 AER, Pipeline regulatory determinations and elections guide, Australian Energy Regulator, 30 July 2024, accessed 9 March 2025.

501 AGS, Legal briefing – Gas pipeline reforms, 17 March 2023, accessed 9 March 2025.

The AER's decision to classify the Kurri Kurri Lateral Pipeline as a transmission pipeline in May 2025 was the AER's first pipeline classification decision since the 2023 reforms. The decision reflects consideration of the pipeline's characteristics, stakeholder feedback, the National Gas Objective and the pipeline classification criteria set out in section 13 of the National Gas Law.

On 27 June 2025, the AER published its draft decision to classify the Atlas to Reedy Creek Pipeline (ARCP) – a new pipeline in the Surat Basin in Queensland – as a transmission pipeline.[502] The AER considered the ARCP's characteristics were consistent with that of a transmission pipeline and that its primary function is to convey gas to a market.

5.4.3 Greenfields pipeline projects

Greenfields determinations are intended to ensure that the threat of regulation does not disincentivise new pipeline development. A pipeline that has a greenfields incentives determination is effectively protected from being regulated as a scheme pipeline for the duration of the determination (up to a maximum of 15 years).

Under the reforms, a service provider for a greenfields pipeline project – being a new pipeline or a major extension to an existing pipeline – may apply to the AER for a greenfields incentive determination before the pipeline is commissioned.[503] They may also apply for a greenfields price protection determination,[504] either as part of the greenfields incentive determination application process or later if they obtain a greenfields incentive determination.[505]

In assessing whether to make a greenfields determination, the AER must:

- apply the regulatory determination test under section 112 of the National Gas Law, including the costs to be incurred by the service provider, users of the pipeline services and end users
- consider the extent to which the form of regulation factors or competition to develop the pipeline between 2 or more unrelated prospective service providers will, or is likely to, pose an effective constraint on the exercise of market power.[506]

In May 2025, the AER received its first greenfields determination application from APA Group for the Bulloo Interlink (chapter 4, section 4.8.3), which forms part of its stage 3 east coast grid expansion. The Bulloo Interlink is designed to transport new gas from northern basins such as the Surat in Queensland and the Beetaloo in the Northern Territory, among others. Engineering design and planning, along with long lead item procurement, is progressing as part of committed early works funding.[507]

5.4.4 Part 10 Prescribed transparency information for pipelines

Part 10 of the National Gas Rules prescribes the information that all scheme and non-scheme pipeline service providers must make publicly available on their websites, including pricing, pipeline and financial information. This assists pipeline users in negotiations with pipeline service providers.[508]

Exemptions from certain information disclosure requirements are available for pipeline service providers that have no third-party access in place or only provide services to a single shipper.[509]

502 AER, Draft decision – Atlas to Reedy Creek Pipeline classification, Australian Energy Regulator, 27 June 2025.

503 Prior to March 2023, '15-year no coverage' determinations were made by the relevant minister on the recommendation of the National Competition Council. The minister was required to make the determination if the coverage criteria was satisfied. The former coverage criteria included increased competition and public interest criteria.

504 A greenfields price protection determination is only available to greenfields pipeline projects that have a greenfields incentive determination. This price protection determination 'protects' certain terms and conditions in the case that there is an access dispute in relation to the pipeline.

505 AGS, Legal briefing – Gas pipeline reforms, 17 March 2023, accessed 9 March 2025.

506 National Gas Law, section 112(3).

507 APA, East Coast Gas Grid Expansion Plan, accessed 2 July 2025.

508 Previously, service providers of light regulation pipelines and non-scheme pipelines were required to prepare similar prescribed transparency information under Parts 7 and 23 of the National Gas Rules, respectively. These Parts are repealed and have been replaced by Part 10.

509 The requirements to prepare, publish and maintain the information set out in the National Gas Rules and the pipeline information disclosure guidelines are classified as 'tier 1' civil penalty provisions under the National Gas (South Australia) Regulations.

The prescribed information must be published on the service provider's website, and in some cases, copies must also be provided to the AER. The information to be provided is set out in the AER's Pipeline information disclosure guidelines and Price reporting guidelines, and includes:

- financial and historical demand information
- standing prices and the methodology used to calculate them
- information on actual prices paid by contracted users of the pipeline (under the previous requirements in Part 23, only weighted-average prices were required to be disclosed).[510]

The AER is required to systematically monitor and report on the above transparency information (section 5.4.6).

5.4.5 Ring-fencing requirements

Under the reforms, all pipelines are subject to a set of requirements that previously only applied to some pipelines.[511] Pipeline service providers must comply with ring-fencing provisions regarding related businesses and provisions regarding associate contracts. The requirement is classified as a conduct provision and tier 2 civil penalty provision under the National Gas (South Australia) Regulations.[512]

The National Gas Rules provide for a service provider to apply to the AER for an exemption from the ring-fencing requirements. As at 23 May 2025, the following 4 exemptions were in place:

- APT Pipelines (Northern Territory)[513]
- Meridian SeamGas Joint Venture and WestSide Corporation Limited[514]
- Power and Water (McArthur River Mining Pipeline)[515]
- Jemena (Northern Gas Pipeline/ Phillip Creek Compressor Station).[516]

In all 4 of these cases, the AER considered that the costs of complying with the ring-fencing obligations outweigh any associated public benefit.

5.4.6 Monitoring and surveillance

Under the reforms, the AER is required to monitor the behaviour of pipeline service providers, including the prices charged for pipeline services, the information published by pipeline service providers, outcomes of access negotiations, dealings with associates and compliance with ring-fencing requirements (Box 5.2).

In addition to these recently assigned monitoring and surveillance responsibilities, the AER already publishes an annual electricity and gas networks performance report.[517] The report provides an in-depth analysis of key outcomes and trends in the operational and financial performance of the transmission and distribution pipelines that, under the new framework, are classified as scheme pipelines.

510 AER, Pipeline information disclosure guidelines and Price reporting guidelines for Part 18A facilities Explanatory note, Australian Energy Regulator, October 2023, accessed 21 May 2025.

511 AGS, Legal briefing – Gas pipeline reforms, 17 March 2023, accessed 9 March 2025.

512 Government of South Australia, National Gas (South Australia) Regulations, accessed 9 March 2025.

513 AER, Final decision on APTNT's ring fencing exemption application, Australian Energy Regulator, 17 August 2011. Note: APT Pipelines (Northern Territory) has applied for a revocation of its exemption. The AER is due to make its final decision in mid-June 2025.

514 AER, Final decision on ring fencing exemption application for Meridian SeamGas Joint Venture and WestSide Corporation, Australian Energy Regulator, 25 July 2012.

515 AER, Power and Water Corporation – Ring Fencing Decision – McArthur River Mining Pipeline, Australian Energy Regulator, 29 November 2024.

516 AER, Jemena – Ring Fencing Decision – Phillip Creek Compressor Station, Australian Energy Regulator, 5 March 2025.

517 AER, Electricity and gas networks performance report, Australian Energy Regulator, 20 September 2024.

Box 5.2 Insights from our report on the behaviour and compliance of selected gas pipeline service providers

Gas is a critical source of energy on Australia's east coast and will remain a key input in some industrial sectors for the foreseeable future (section 5.5.7). Gas pipeline regulations were reformed in March 2023[518] to address broad concerns of under-regulation and more effectively restrict the market power of service providers by building greater support for shippers – gas customers that purchase capacity on a pipeline to deliver gas – negotiating access to pipelines.

The reforms require us to monitor and report on the behaviour of service providers to:

- promote transparency that helps shippers in their negotiations with service providers
- keep policymakers and the public informed about gas pipelines and the extent and impact of market power on the wholesale gas market
- support our role in determining which form of regulation should apply to a gas pipeline.

The 2023 regulations are still being implemented and new financial reporting requirements will be published by 31 December 2025. This additional information is expected to deliver improved transparency by providing pipeline users with cost-based pricing benchmarks.

In March 2025, we published our *Gas pipeline monitoring and transparency report*[519]– our first report as part of our new reporting responsibilities. Our next gas pipeline monitoring and transparency report will be published in 2026 after the transitional arrangements have concluded and will draw on all information provided under the reforms.

Financial information currently available indicates:

- Pipelines are capital-intensive assets with large initial capital bases (section 5.8). These capital bases depreciate over the life span of the pipeline. A pipeline service provider's primary capital cost is the pipeline itself, as opposed to other assets, such as compressors or easements. The incorporation of 'other non-depreciable pipeline assets', which may include intangible assets such as goodwill and which do not reflect the pipeline service provider's debt and equity costs, have likely inflated capital bases and reduce the transparency of the Part 23 information.
- Pipeline service providers tend to make most of their revenue from firm forward transportation services. As such, a pipeline service provider's revenue is highly dependent on the demand for the pipeline services (how much capacity it can contract out) and the price set for those services.
- As pipelines are capital intensive (section 5.10), operational expenses (section 5.11) tend to be relatively low. The largest expense a pipeline incurs is generally the depreciation of its capital base.
- Pipelines typically generate more revenue than is required to cover costs. A pipeline's profitability is measured via a calculation of return on assets, which is influenced by the pipeline's capital base, revenue and expenses.

Prices paid by shippers

Different shippers reported different experiences and bargaining power to negotiate terms and conditions for pipeline services. This was supported by our own analysis, which indicated that some users may have limited ability to negotiate across pipelines.

While compliance with the publishing of the actual prices payable information needs improvement, there were only a few instances among service providers of non-compliance with their other obligations. These instances of non-compliance were self-reported and were primarily due to a lack of understanding of the new regulatory obligations.

518 National Gas Rules (Gas Pipelines) Amendment Rules 2023 was made on 10 March 2023 and the making of the rule was published in the South Australian Government Gazette on 16 March 2023. It was consolidated into version 66 of the National Gas Rules.

519 AER, Gas pipeline monitoring and transparency report, Australian Energy Regulator, 26 March 2025, accessed 9 April 2025.

5.5 How gas access prices are set

Pipeline service providers earn revenue by selling capacity to customers needing to transport gas. A customer purchases access to capacity under terms and conditions that include an access price. The AER sets access prices for gas pipelines in eastern Australia and the Northern Territory under broadly similar rules to those applied to electricity networks (chapter 4). There are currently 9 gas pipelines that have their access prices set by the AER.

As with electricity, the AER uses a building block approach to assess a gas pipeline service provider's revenue needs (section 5.5.1). The AER draws on a range of inputs to assess efficient costs, including cost and demand forecasts and revealed costs from previous experience. Unlike electricity, the approach is not formalised in published guidelines; it is described in the AER's final decisions on access arrangements. An exception is the allowed rate of return assessment, for which a common AER guideline applies to both electricity and gas.

Gas pipelines are capital intensive and require significant investment to install, operate and maintain the necessary infrastructure. This gives rise to a natural monopoly industry structure, where it is more efficient to have a single pipeline service provider than to have multiple providers offering the same service.

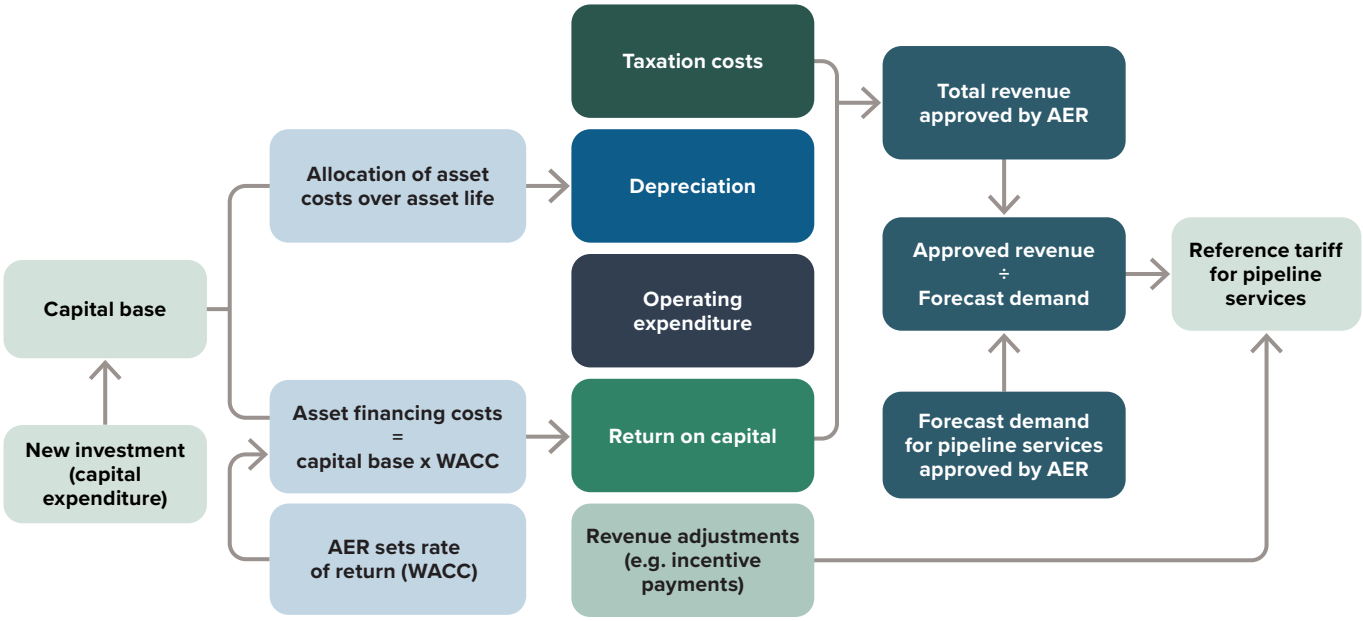
Because monopolies face little competitive pressure, they have opportunities and incentives to charge higher prices than they could charge in a competitive market. This monopolistic environment poses risks to consumers because pipeline charges make up around 40% of a residential customer's gas bill (Figure 6.3 in chapter 6). To counter these risks, the AER's role as the economic regulator of scheme pipelines is to administer the regulatory framework effectively by replicating the incentives that pipeline service providers would face in a competitive market (that is, to control costs, invest efficiently and not overcharge consumers).

5.5.1 Building blocks of gas pipeline revenue

The AER's building block approach forecasts how much revenue the service provider will need to cover:

- a return to investors that funds the pipeline service provider's assets and operations
- efficient operating and maintenance costs
- asset depreciation costs
- taxation costs.

Figure 5.5 How gas pipeline revenue and charges are set



Note: WACC: weighted average cost of capital. Revenue adjustments from incentive schemes encourage pipeline businesses to manage their operating and capital expenditure efficiently and to innovate.

Source: AER.

Operating and maintenance costs are forecast to account for around 38% of revenue requirements in the current access periods.

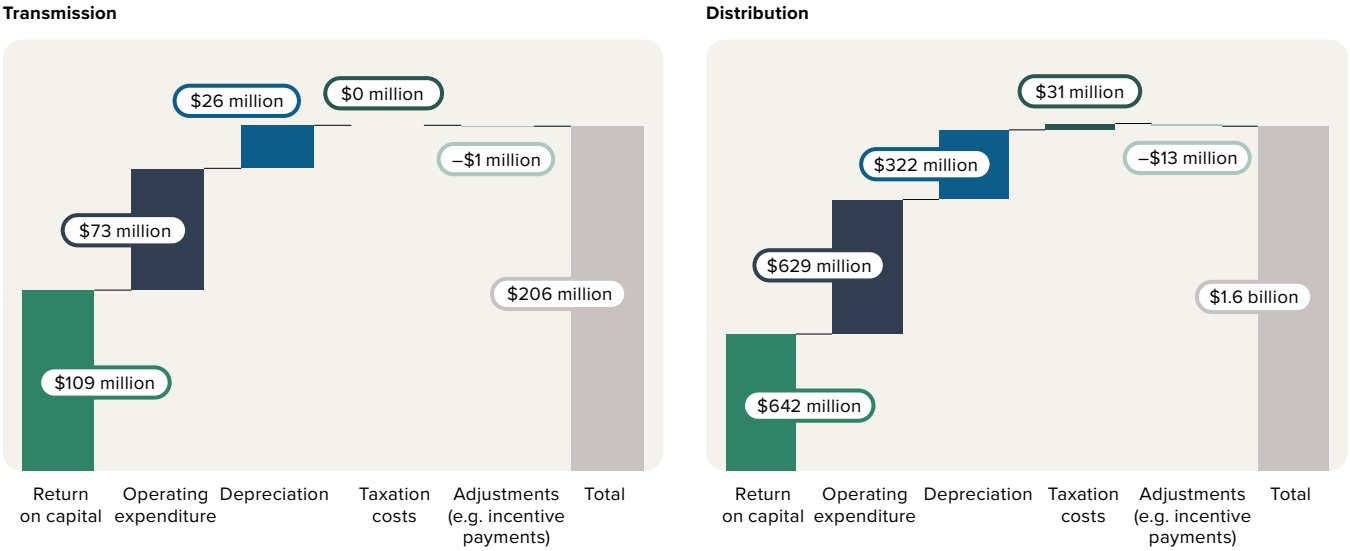
Pipeline assets generally have long lives, and investment costs are recovered over the economic life of the assets. The amount recovered each year is called depreciation and reflects the lost value of pipeline assets each year through wear and tear and technical obsolescence.

Additionally, the shareholders and lenders that fund these assets must be paid a commercial return on their investment. Those returns are forecast to absorb around 41% of revenues (52% for transmission and 39% for distribution) in the current access arrangements. The returns are calculated by multiplying the value of the pipeline service provider's capital base by the rate of return that the AER allows based on the forecast cost of funding those assets through equity and debt.[520]

Overheads, taxation and other costs account for the remainder of a pipeline service provider's revenue.

520 The return on equity is the return that shareholders of the business will require for them to continue to invest. The return on debt is the interest rate that the pipeline service provider business pays when it borrows money to invest.

Figure 5.6 Composition of average annual gas pipeline revenue



Note: Composition of average annual gas pipeline revenue – current periods as at 1 July 2025. All data are adjusted to June 2024 dollars.
Source: Post tax revenue modelling used in AER determination process.

5.5.2 Incentive schemes

The National Gas Rules provide scope for pipeline service providers to earn financial rewards by outperforming efficiency targets (and incur financial penalties for underperformance). An efficiency carryover mechanism allows service providers to retain, for up to 6 years, efficiency savings in managing their operating expenditure. In the longer term, service providers 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 (chapter 3, Box 3.4). The difference is that if the proposed application of the scheme is accepted by the AER, it is written into the service provider's access arrangement rather than being set out in a general guideline.

Several pipeline service providers proposed the application of a capital expenditure sharing scheme (CESS) in their most recent access arrangement. The National Gas Rules do not mandate such schemes, but they do allow the AER to approve their use to incentivise service providers to efficiently maintain and operate their pipelines.

The Victorian distribution pipeline service providers were the first to propose and implement a CESS approved by the AER as part of their 2018–22 access arrangements. The AER subsequently approved Jemena Gas Networks' (NSW) request for a CESS for its 2020–25 access arrangement and requests by Australian Gas Networks (South Australia) and Evoenergy (ACT) for their 2021–26 access arrangements. To date, no transmission service providers have sought to participate in a CESS.

The CESS for gas pipeline service providers operates in a similar way to the CESS for electricity networks (chapter 3, Box 3.3). It allows a service provider to earn financial rewards by keeping new investment spending below forecast levels (and incur financial penalties for investing above forecast). In later access arrangements, the service providers must pass on 70% of savings to customers through lower charges.

The CESS carries a risk of encouraging service providers 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 service providers are not incentivised to defer critical investment needed for safe and reliable pipeline operation. A network health index ensures that rewards depend on the service provider maintaining current service standards.

Other incentive schemes applied to electricity networks – such as those relating to service performance and demand management – are not available to gas pipeline service providers.

5.5.3 Timelines and processes

Once a pipeline service provider 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 the access arrangement. The assessment period can be extended by up to 2 months, with a maximum of 13 months to render a decision.

The AER consults with pipeline customers and other stakeholders during the assessment 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 a final access arrangement decision that sets the reference tariff that a pipeline service provider can charge its customers. The AER annually reviews pipeline tariff variations to ensure they are consistent with its decision.

The AER assesses access arrangements on a rolling cycle. The (typically) 5-year review cycle helps create a stable investment environment but also risks locking in inaccurate forecasts. Countering this risk, the National Gas Rules include ways of managing uncertainties. The AER can approve cost pass-throughs if a specified event (such as a regulatory change or natural disaster) imposes significant costs on the pipeline service provider that were not forecast. A pipeline service provider may also approach the AER to pre-approve a contingent investment project if the need to do so was uncertain at the time of the access arrangement decision. A pre-approval allows a service provider to roll the project into the capital base in the forthcoming access arrangement if pre-determined conditions are met.

In October 2020, the Victorian Government changed the timing of the Victorian distribution pipeline service providers' access arrangements from calendar to financial regulatory years.[521] To implement the change, the 1 January 2018 to 31 December 2022 access arrangement period was extended to include a 6-month transition period. The current access arrangement periods began on 1 July 2023.

5.5.4 Consumer engagement

An important focus of gas pipeline regulation is how constructively a pipeline service provider engages with its consumers in developing an access arrangement proposal. Although not mandated in the National Gas Rules, evidence of constructive engagement can give the AER confidence that the service provider is genuinely committed to meeting its consumers' needs and preferences. Robust consumer engagement can lay the foundation for the AER to accept elements of an access arrangement proposal, including capital and operating expenditure forecasts.

The AER's framework for considering consumer engagement in pipeline access arrangement determinations is set out in the *Better Resets Handbook*.[522]

The AER acknowledged that Jemena Gas Networks (NSW) undertook and delivered a well-planned, comprehensive and high-quality consumer engagement program, which delivered transparent and sincere engagement with its customers and stakeholders as part of its 2025–30 access arrangement proposal.[523]

521 Victorian legislation, National Energy Legislation Amendment Act 2020, 20 October 2020, accessed 12 October 2024.
522 AER, Better Resets Handbook – Towards consumer-centric network proposals, Australian Energy Regulator, 18 November 2022, accessed 12 March 2025.
523 AER, Final decision – Jemena Gas Networks (NSW) access arrangement 2025 to 2030 – Overview, Australian Energy Regulator, 14 May 2025.

5.5.5 Road to net zero by 2050

Australia now has a legislated carbon emissions target of net zero greenhouse gas emissions by 2050 and a National Gas Objective that includes achievement of emissions reductions targets. The Future Gas Strategy maps the Australian Government's plan for how gas will support our economy's transition to net zero in partnership with the world.[524]

The objectives of the strategy are to:

- support decarbonisation of the Australian economy
- safeguard energy security and affordability
- entrench Australia's reputation as an attractive trade and investment destination
- help our trade partners on their own paths to net zero.

State and territory governments are already taking measures to reduce residential and small commercial consumers' reliance on gas.

The NSW Government has committed to deliver a NSW gas decarbonisation roadmap by late 2026. This roadmap is intended to provide clarity to communities and industry on fossil gas decarbonisation and the role of gas in the future of the energy system. It follows the November 2020 release of the NSW Government's Electricity Infrastructure Roadmap – a 20-year plan to transform the state's electricity system into one that is affordable, clean and reliable for everyone.[525]

In June 2025, the City of Sydney made the decision to ban gas appliances in new homes. Coming into effect from 1 January 2026, under the proposed reforms developers will be required to equip new homes with electric cooktops, ovens, and indoor heating and cooling systems while phasing out gas appliances to reduce the city's greenhouse gas emissions.[526]

In October 2022 the Victorian Government released its Gas Substitution Roadmap – a plan to help Victoria reduce the cost of energy bills and cut carbon emissions.[527] Victoria is taking steps to speed up the transition to renewable energy with the goal of achieving a 45–50% reduction in emissions by 2030, 75–80% reduction by 2035 and net zero by 2045. To achieve its targets, Victoria must cut emissions across the entire economy, including the gas sector, which contributes around 17% of the state's net greenhouse gas emissions.

The Gas Substitution Roadmap offers options and support for Victorian residential and small commercial consumers who are interested in switching from gas to solar or electricity. Switching from gas to efficient electric appliances will help households to save money on their energy bills. The Gas Substitution Roadmap indicates that converting an existing home with solar panels from dual-fuel to all-electric can save around $1,700 per year on energy bills, in addition to the approximately $1,000 of savings per year generated by the solar PV system.[528]

The pace of change in Victoria has continued to accelerate with the introduction of rule changes to reduce new and existing gas connections. Since 1 January 2024, new gas connections have been phased out for new dwellings, apartment buildings and residential subdivisions requiring planning permits. This rule does not apply to new dwellings that do not require a planning permit, existing homes with existing gas connections, or renovations and extensions to existing houses.

On 24 June 2025, the Victorian Government announced reforms to:

- secure Victoria's gas supply
- drive down energy bills
- make rental homes more comfortable and affordable
- back local manufacturing.[529]

524 Australian Government, Future gas strategy, Department of Industry, Science and Resources, 25 June 2024, accessed 12 March 2025.
525 NSW Government, Electricity infrastructure roadmap, 20 November 2020, accessed 12 March 2025.
526 City of Sydney, All electric buildings in city's future, 24 June 2025, accessed 2 July 2025.
527 Victorian Government, Victoria's Gas Substitution Roadmap, Department of Energy, Environment and Climate Action, accessed 12 March 2025.
528 Assuming a 6.6 kilowatt solar PV system.
529 Victorian Government, Securing Victoria's gas supply while slashing energy bills, media release, 24 June 2025.

The Victorian Government's *Gas Security Statement*[530] outlines the steps it is taking to avoid the gas shortfalls forecast by AEMO for south-eastern states by 2029. The Statement confirms that the government's reforms will deliver major gas savings, supported by more Victorians switching to efficient electric appliances thereby reducing household demand and reserve gas for industry. From 1 January 2027, all new homes and new commercial buildings (other than industrial, manufacturing and agricultural buildings) will be built all electric. This will save homeowners around $880 per year or $1,820 if they have solar.

The Victorian Government estimates by 2029 the reforms will unlock just under 12 petajoules (PJ) of gas every year and by 2035 they will deliver 44 PJ annually – enough to meet 85% of Victoria's forecast industrial demand.

From 1 March 2027, when a gas hot water system in Victoria reaches the end of its life, it must be replaced with an efficient electric alternative like a heat pump. Electric hot water systems will save households around $330 a year or $520 with solar.[531] Electric hot water systems are also often cheaper up-front than gas systems, with rebates available from the government's Victorian Energy Upgrades[532] and Solar Victoria programs[533] of up to $1,400. Also from 1 March 2027, new minimum energy efficiency standards will apply to rental properties and public housing, saving renters potentially thousands of dollars a year.[534]

The Victorian Government has also committed to investing $9.5 million towards an Industry Diversification Program to making sure Victoria's appliance manufacturing industry is ready to meet the demand for energy efficient hot water appliances.[535]

The ACT Government's Climate Change and Greenhouse Gas Reduction (Natural Gas Transition) Amendment Bill 2022 established the legal framework to end new fossil fuel gas connections in the ACT.[536] In June 2024, the ACT Government announced its intention to invest in an all-electric, zero emissions future for Canberra with the release of a new Integrated Energy Plan (IEP). The IEP sets out the next stage of work for the ACT's transition over the next 20 years, including a range of government commitments to support consumers through the transition.[537]

The future role of Australia's existing pipeline infrastructure will depend on the broader role of gas, both domestically and abroad. Gas underpins a wide range of economic activity in Australia and globally, with secure gas supplies being a core component of energy security for many economies. Australia's domestic climate action is progressing against a backdrop of growing global momentum to deliver the goals of the Paris Agreement. Therefore, emissions from gas must reduce significantly.[538]

Australian contracts for LNG exports will begin to expire around the mid-2030s and these will likely be replaced with a combination of new contracts for fixed LNG volumes over fixed periods and LNG sales through the international spot market. Within the Asian region to which Australia currently exports LNG, demand for LNG is expected to continue to 2050 and beyond and consultation indicates continued demand for secure exports from Australia.[539]

530 Victorian Government, Gas Security Statement, Department of Energy, Environment and Climate Action, 24 June 2025, accessed 2 July 2025.
531 Victorian Government, Securing Victoria's gas supply while slashing energy bills, media release, 24 June 2025.
532 Victorian Government, Victorian Energy Upgrades for homes, Department of Energy, Environment and Climate Action, 19 August 2024, accessed 2 July 2025.
533 Victorian Government, Solar Victoria programs, Solar Victoria, 9 April 2025, accessed 2 July 2025.
534 Victorian Government, Securing Victoria's gas supply while slashing energy bills, media release, 24 June 2025.
535 Victorian Government, Securing Victoria's gas supply while slashing energy bills, media release, 24 June 2025.
536 ACT Government, ACT reaches milestone preventing new fossil fuel gas connections, media release, 8 June 2023.
537 ACT Government, Electrifying Canberra, media release, 19 June 2024.
538 Australian Government, Future Gas Strategy Analytical Report, Department of Industry, Science and Resources, 9 May 2024, accessed 12 March 2025, p. 3.
539 ACCC, Gas Inquiry 2017–2030, Interim update on east coast gas market, Australian Competition and Consumer Commission, June 2024,

5.5.6 Regulating gas pipelines under uncertainty

In November 2021, the AER published an information paper, *Regulating gas pipelines under uncertainty*, which discussed the potential implications of a decarbonised future energy mix on the long-term gas demand forecast and the expected economic lives of gas pipeline assets.[540]

The paper explained how these potential implications may affect the AER's regulatory approaches when undertaking access arrangement reviews for service providers operating scheme pipelines now and in the future. It canvassed a range of potential options, including their costs and benefits, for managing the pricing risk and stranded asset risk that may arise from a potential material decline in gas demand in the future. These options included:

- accelerating asset depreciation (section 5.8.1)
- providing ex-ante risk compensation
- removing redundant assets from capital base
- removing capital base indexation
- revaluating capital base
- introducing exit fees
- increasing fixed charges.

The paper also discussed how the uncertainty in future gas demand (section 5.5.7) can affect specific aspects of the AER's regulatory decisions, such as:

- the assumed payback period of pipeline investment in expenditure assessments
- the incentives that regulated service providers may have in substituting capital and operating expenditure
- whether it is in the long-term interests of gas consumers to preserve optionality when evaluating capital investments that are for repurposing gas networks[541]
- the increased demand risk that regulated service providers may face under price cap regulation if gas demand falls persistently.

In its 2023–28 access arrangements for the Victorian gas transmission and distribution pipelines and its 2025–30 access arrangement for distribution pipeline Jemena Gas Networks (NSW), the AER:

- changed the way costs are recovered for gas disconnections to encourage consumers to disconnect safely through permanent abolishment of their gas connection instead of the cheaper temporary disconnection option
- allowed for some accelerated depreciation of assets, noting that bringing forward the recovery of assets while pipeline use remains relatively high spreads the increased costs among a larger pool of customers.

The AER noted that these were interim measures and may not be suitable for greater rates of declining demand for gas. Addressing the broader issues in the gas sector requires a holistic policy response. While accelerated depreciation can be used as a tool for reducing asset stranding risk, it has limitations and on its own cannot resolve the issues faced by the gas networks and customers from anticipated declining demand. Declining demand is ultimately the key driver of rising future network prices. As long as demand continues to decline, no affordable amount of accelerated depreciation will achieve long-term price stability. The AER continues to encourage an open discussion between consumers, pipeline service providers and governments about who should pay for the costs of stranded assets associated with past and future capital investments, and when and how these costs should be shared. Abolition of gas connections and accelerated depreciation are discussed in section 5.8.1 and Box 5.4.

540 AER, AER tackles gas pipeline regulation in an uncertain future, Australian Energy Regulator, November 2021.

541 Future hydrogen users are not currently considered as gas consumers under the National Gas Law or National Gas Rules.

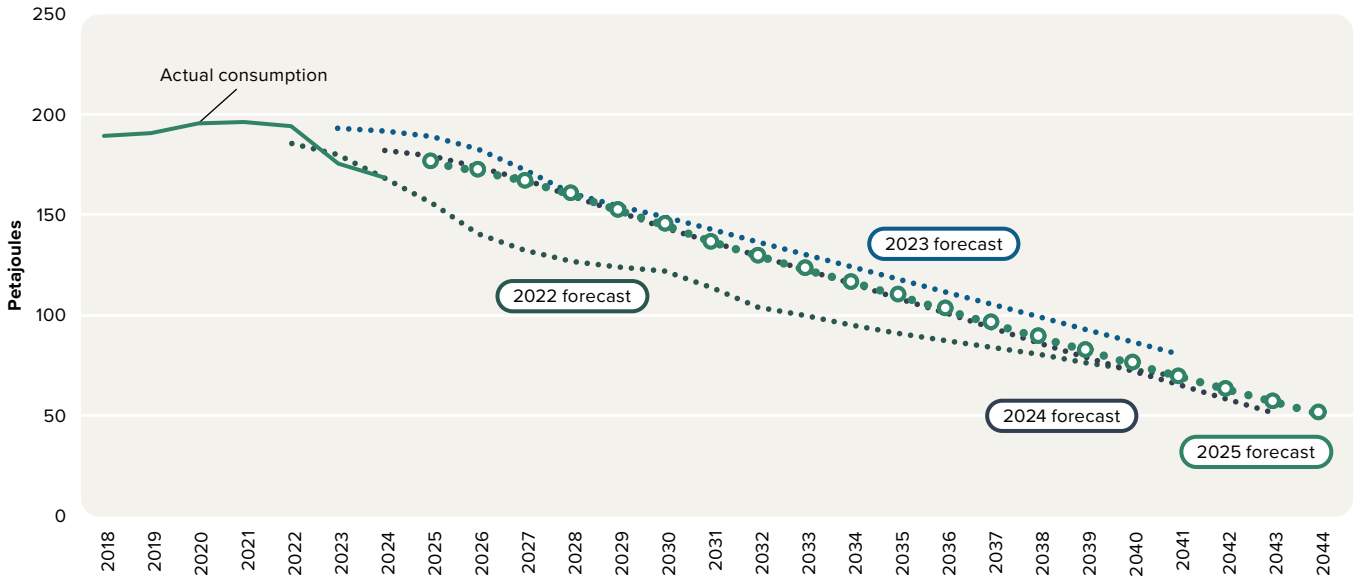
5.5.7 Gas consumption and demand forecasts

AEMO, through its *Gas Statement of Opportunities*,[542] forecasts the adequacy of gas supplies to meet the needs of consumers in central and eastern Australia using different scenarios. The 'step change' scenario is now considered the most likely scenario, forecasting a scale of energy transformation that supports Australia's contribution to limiting global temperature rise and sees consumer investment in the energy transition remain strong, with households valuing the benefits of consumer energy resources.

AEMO's forecasts reflect assumptions about connections and population growth and the impacts of energy efficiency investments, gas fuel-switching such as electrification, gas prices and climate change. In the most recent *Gas Statement of Opportunities*, residential and commercial consumption is forecast to decline over the forecast period, while industrial consumption is expected to remain relatively stable after some initial plant closures.

Electrification remains the most significant driver of forecast declining residential/commercial consumption, with a total anticipated demand reduction of around 25 PJ by 2030 and a total anticipated demand reduction of 120 PJ by the end of the outlook period (2044). As new homes in all jurisdictions are increasingly likely to be built without a gas connection, demand may fall even further (Figure 5.7).

Figure 5.7 AEMO's forecast gas consumption – residential/commercial customers



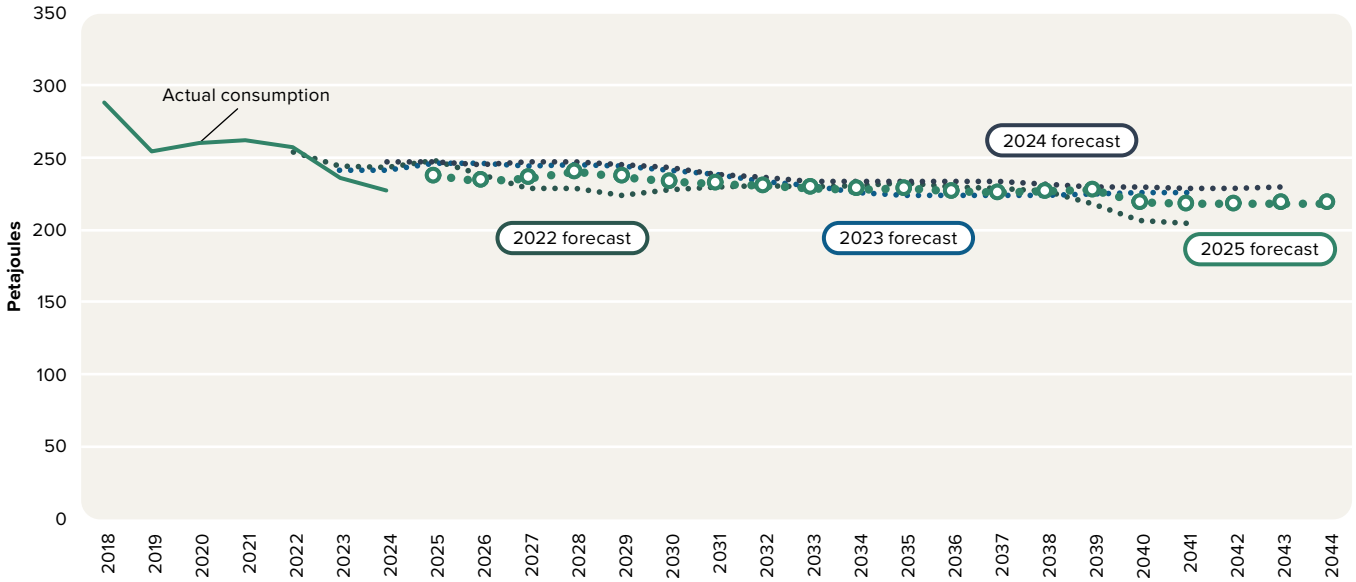
Note: Residential and commercial customers include consumers on volume-based tariffs. Forecasts represent the most likely scenario in AEMO's Gas Statement of Opportunities: 2022 step change scenario, 2023 orchestrated step change (1.8°C) scenario, 2024 step change scenario and 2025 step change scenario.

Source: AEMO, Gas Statement of Opportunities, March 2025.

542 AEMO, Gas Statement of Opportunities, Australian Energy Market Operator, 20 March 2025, accessed 24 March 2025.

Industrial consumption has declined in recent years, with plant disruptions affecting gas consumption – several facilities have closed or are expecting to close in the near future. Reductions of gas consumption due to electrification investments in the industrial sector are more modest than those in the residential/commercial sectors, given the technical and operating challenges of replacing high temperature and process-specific production steps in operating facilities with alternative energy sources. The Australian Government's Safeguard Mechanism,[543] which requires certain industrial facilities[544] to limit their emissions below a declining baseline, may encourage some fuel substitution, particularly in low-temperature process alternatives. However, many processes have limited electric alternatives that are currently technically or commercially available. Apart from retrofitting site equipment, the increased power requirements could also call for electricity network upgrades to support increased local demand for electricity. Additionally, a significant share of natural gas usage in industry is for chemical feedstock, for which electricity is not a substitute without additional changes in technology and processes (Figure 5.8).

Figure 5.8 AEMO's forecast gas consumption – industrial customers



Note: Industrial customers include large customers such as fertiliser producers, mineral processing, primary metal, paper and chemical producers, oil refineries, large food processors and mining. Any onsite electricity generation that consumes gas is also included. Forecasts represent the most likely scenario in AEMO's Gas Statement of Opportunities: 2022 step change scenario, 2023 orchestrated step change (1.8°C) scenario, 2024 step change scenario and 2025 step change scenario.

Source: AEMO, Gas Statement of Opportunities, March 2025.

Transformation in the energy system and the explicit policy goal of reaching net zero emissions by 2050 create considerable uncertainties in forecasting gas demand. While the decline in the demand for gas is expected to accelerate, there is considerable uncertainty as to how quickly the acceleration will happen, what the path to small customer 'electrification' will look like and whether existing gas pipelines will have an ongoing role in transporting hydrogen or biogas.

Declining use of pipeline infrastructure will put upwards pressure on the price of gas haulage. If this eventuates, it will likely encourage further decline in demand and an increase in customers leaving the network, causing self-reinforcing upwards pressure on tariffs for remaining customers. In a report for Energy Consumers Australia, CSIRO and Dynamic Analysis undertook modelling of how this scenario may arise under AEMO's 'step change' scenario.[545]

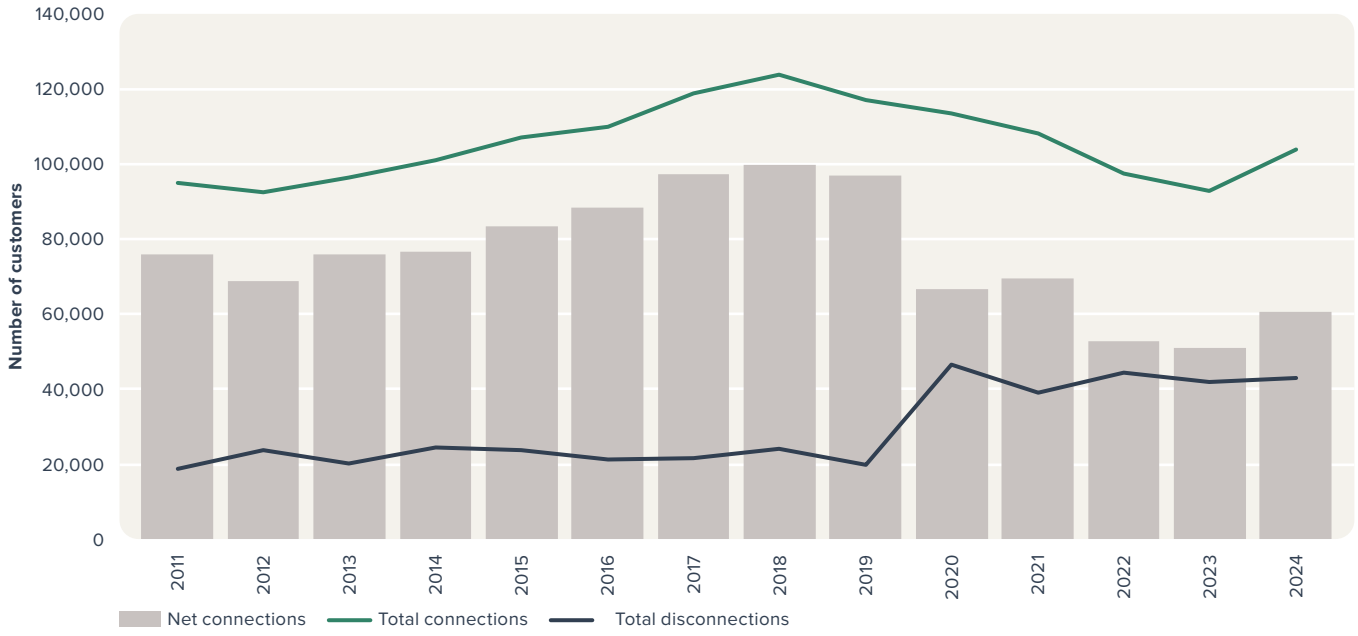
543 Australian Government, Safeguard Mechanism, Department of Climate Change, Energy, the Environment and Water, accessed 24 March 2025.

544 The Safeguard Mechanism applies to industrial facilities emitting more than 100,000 tonnes of carbon dioxide equivalent (CO_2-e) per year.

545 CSIRO and Dynamic Analysis, Consumer impacts of the energy transition: Modelling report, Energy Consumers Australia, July 2023, pp. 21–22, accessed 14 July 2025.

Although residential/commercial customer connections continue to outnumber disconnections, the contrast between the 2 has shifted over the past 5 years (Figure 5.9). While declining demand is already having an impact on growth-driven elements of forecast expenditure, its impact on other drivers of expenditure is expected to happen more slowly. The AER closely scrutinises proposed capital and operating expenditure to ensure that customers who are still reliant on gas are paying no more than necessary for a safe, reliable and secure supply. The obligation on pipeline service providers to continue to offer the same services while meeting the same regulated standards means many costs will not necessarily fall as demand falls. This makes it difficult to avoid increases in costs per customer due to falling demand under the current regulatory framework.

Figure 5.9 Growth in residential and commercial customers



Source: Annual reporting RIN responses.

Box 5.3 Temporary disconnection versus permanent abolishment of gas connections

Through our assessments of Victorian distribution pipeline service providers AusNet Services', Australian Gas Networks' and Multinet Gas Networks' 2023–28 access arrangements, we became aware that some customers seeking to move away from gas have sought temporary disconnection measures over the safer, permanent removal of connection assets.

Energy Safe Victoria, the regulator responsible for electricity, gas and pipelines safety, considers that when a customer chooses to stop using gas at their premises, permanent abolishment of the connection is required. Failure to do so impedes the pipeline service providers from meeting their safety obligations.

However, permanent abolishment of a gas connection (by removing the pipeline assets and closing off the connection or premises to the mains) is more costly than temporarily stopping the withdrawal of gas through the meter. This makes the cost of permanent abolishment a deterrent for customers wanting to move away from gas.

To narrow the price difference between temporary disconnection and permanent gas abolishment services, and the associated safety risks it appears to be creating, we determined an up-front cost of $220 for permanent abolishment. The remaining cost was socialised and added to the regulated revenue we use to set haulage tariffs and shared between all customers.[546]

We acknowledge this is not a long-term solution.

Energy Safe Victoria is committed to working with the distribution pipeline service providers to understand whether other methods may be more appropriate than permanent abolishment.

In our most recent access arrangement review for Jemena Gas Networks (NSW) we again sought to strike a balance between cost and safety. Our final decision was to partially socialise the cost of permanently abolishing a residential connection point across the remaining network customers, setting an up-front tariff of $250 for customers permanently leaving Jemena's gas network.

However, for customers requesting permanent abolishment with the intention of reconnecting due to renovating, rebuilding or reconstructing, a fully priced abolishment tariff of $1,200 will apply. A variable price will be available for customers in multi-tenancy properties, reflecting the more limited works required in most of those contexts.

Reducing the price gap between temporary disconnection and permanent abolishment services is aimed at addressing safety concerns consistent with the view of the NSW safety regulator.[547] Noting that Jemena Gas Networks requires time to work with retailers to establish appropriate systems and protocols to deliver these changes, we required these pricing changes to commence on 1 July 2026.

546 AER, AER decision supports Victorian gas consumers in energy transition, Australian Energy Regulator, 2 June 2023, accessed 14 July 2025.

547 NSW Government, Letter: Costings for the disconnection and abolishment to the natural gas asset for households in NSW, Department of Climate Change, Energy, the Environment and Water, 2 July 2024, pp. 1–2.

5.6 Recent AER access arrangement decisions

In May 2025, the AER finalised its access arrangement determination for distribution pipeline service provider Jemena Gas Networks (NSW). This determination sets the expected amount of revenue Jemena Gas Networks can earn from customers for the 5-year period through to 30 June 2030.

The AER did not approve Jemena Gas Networks' revised access arrangement proposal.[548] The AER instead allowed Jemena Gas Networks to set gas network charges to recover around $2.8 billion[549] in revenue over the 2025–30 access arrangement period (4.3% less than was proposed).[550]

The AER's final decision allowed for an increase of $385 million[551] (16%) in revenue compared with the previous access arrangement period (2020–25). There were several drivers of this outcome, such as increases in:

- the return on capital, primarily due to changes in market variables outside of Jemena Gas Networks' control, including a higher rate of return and higher inflation compared with the 2020–25 period
- the corporate income tax allowance, primarily due to a higher return on equity and lower tax depreciation
- revenue adjustments, primarily due to the expiry of a one-off large negative revenue adjustment for the 2015–20 remittal decision included in the 2020–25 access arrangement.

With the energy transition underway and given the Australian Government's goal of reaching net zero emissions by 2050, there are complex questions being asked about the future of gas pipelines. Uncertainty in the external environment was taken into account in the AER's consideration of several elements of its final decision. The AER did not accept Jemena Gas Networks' capital expenditure forecast for the 2025–30 period, and instead substituted an alternative estimate that was 14% lower than Jemena Gas Networks' revised proposal.

Table 5.3 and Figure 5.10 provide comparisons between the AER's revenue and expenditure allowances for Jemena Gas Networks for the current (2025–30) and previous access arrangement periods.

Table 5.3 Recent AER gas pipeline access arrangement determination

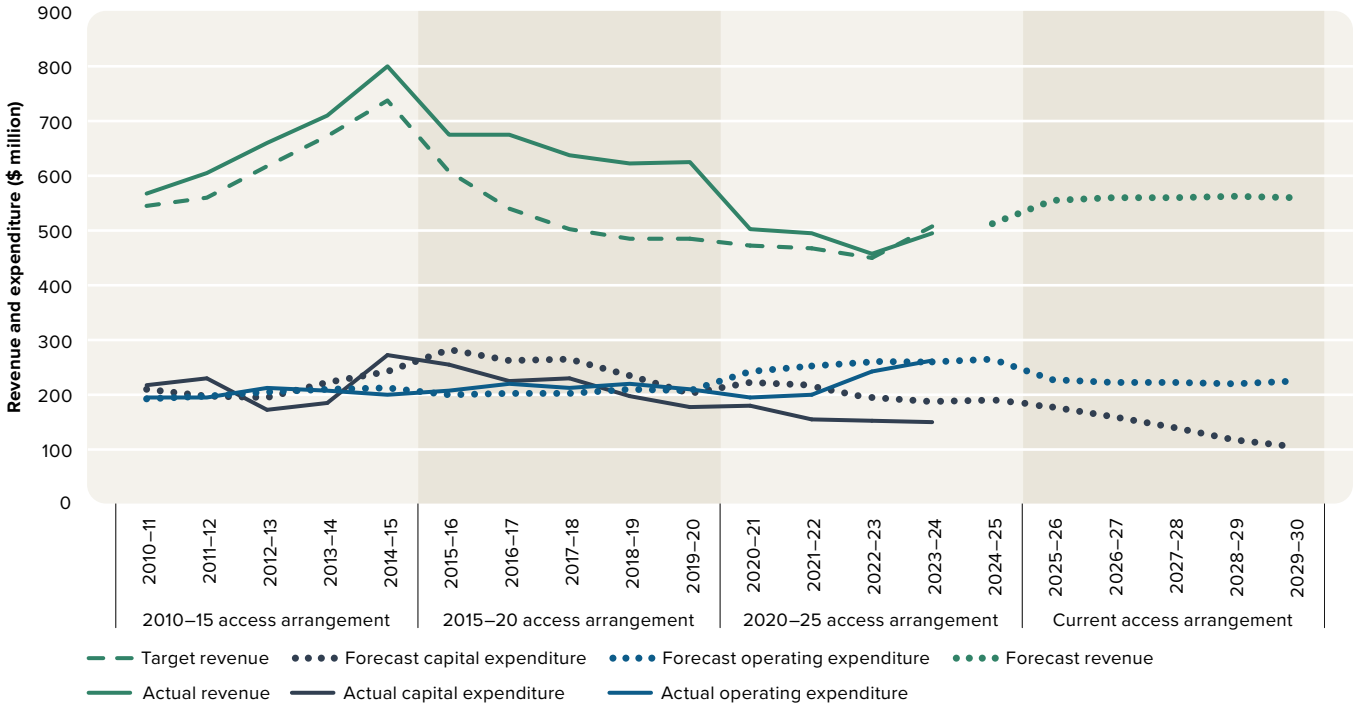
Pipeline service provider	Revenue (forecast)	Capital expenditure (forecast)	Operating expenditure (forecast)
Jemena Gas Networks (NSW)	$2.8 billion (▲16%)	$698 million (▼31%)	$1.1 billion (see note)

Note: All revenue and expenditure data are adjusted to June 2024 dollars. Changes in revenue and capital expenditure are in relation to forecasts from the previous access arrangement. Forecast operating expenditure in Jemena Gas Networks 2025–30 access arrangement cannot be directly compared with the previous access arrangement because the 2025–30 forecast relates only to gas transportation whereas the forecast for the previous access arrangement also included ancillary reference services.

Source: AER estimates.

548 AER, Jemena Gas Networks (NSW) – Access arrangement 2025–30 – Revised proposal, Australian Energy Regulator, 15 January 2025.
549 Adjusted to June 2024 dollars.
550 AER, Final decision – Jemena Gas Networks (NSW) access arrangement 2025 to 2030 – Overview, Australian Energy Regulator, 14 May 2025.
551 Adjusted to June 2024 dollars.

Figure 5.10 Revenue and key drivers – Jemena Gas Networks (NSW)



Note: All data are adjusted to June 2024 dollars.
Source: AER modelling; annual reporting RIN responses.

The AER did not accept Jemena Gas Networks' proposed meter replacement expenditure or its proposed expenditure for renewable connections to connect biomethane production facilities to its network. These decisions were partially offset by the AER's decision to increase Jemena Gas Networks' customer connections capital expenditure, reflecting a higher forecast of residential customer connection growth.

For Jemena Gas Networks' renewable connection projects, the AER accepted that, if completed and supplied as specified, these projects are likely to provide a net benefit. However, the AER remains concerned there is significant commencement and completion risk for these projects. The AER's decision reflected the significant uncertainty relating to the investments, as well as the uncertainty around who bears the risk of funding these investments.

The AER's decision does not prevent Jemena Gas Networks from undertaking the capital expenditure during the current access arrangement period (2025–30) and seeking funding once these supply arrangements are more certain.[552]

The AER approved Jemena Gas Networks' hybrid tariff variation mechanism for its gas transportation reference service, incorporating elements of both weighted average price cap and revenue cap regulation. This hybrid mechanism reduces Jemena Gas Networks' incentive to grow the volume of gas carried by its network while mitigating year-on-year tariff volatility associated with revenue caps.

552 AER, AER releases final decision for Jemena Gas Networks' gas access arrangement, Australian Energy Regulator, media release, 14 May 2025.

Table 5.4 provides a comparison between the AER's final decisions on the access arrangements in place for the current access period and those in place in the previous access period.[553]

Table 5.4 AER gas revenue determinations – current access arrangements

Service type	Revenue (forecast)	Capital expenditure (forecast)	Operating expenditure (forecast)
Transmission	$1.0 billion (–%)	$306 million (▼23%)	$363 million (▲10%)
Distribution	$8.0 billion (▲7%)	$2.9 billion (▼17%)	$3.2 billion (see note)
Total	$9.1 billion (▲6%)	$3.3 billion (▼18%)	$3.5 billion (see note)

Note: The current access arrangements are the arrangements in place at 1 July 2025. All revenue and expenditure data are adjusted to June 2024 dollars. Changes in revenue and expenditure are in relation to forecasts from the previous regulatory periods. Forecast operating expenditure in Jemena Gas Networks' current access arrangement cannot be directly compared with the previous access arrangement because the 2025–30 forecast relates only to gas transportation whereas the forecast for the previous access arrangement also included ancillary reference services.

Source: AER estimates.

The AER also released a final decision to not accept the 2023–28 gas access arrangement variation proposal from AusNet Services (Victoria). In its final decision, the AER maintained its draft decision position that AusNet Services did not justify its proposal to vary its access arrangement to recover more accelerated depreciation from customers due to the impacts of Victorian Government policy and regulatory changes. As such, the AER's original final decision (June 2023) for the 2023–28 access arrangement period has been maintained.[554]

In March 2025, AusNet Services responded to the AER's draft decision, accepting the draft decision to not accept its variation proposal. AusNet Services acknowledged the AER's draft decision reasoning that the issues raised by its proposal could be better assessed in the context of its 2028–33 access arrangement proposal. AusNet Services did not submit a revised proposal.[555]

5.7 Revenue

All gas transmission and distribution service providers operating scheme pipelines are regulated under a weighted average price cap. Pipeline service providers can earn above or below forecast revenue over time due to changes in demand. If actual demand exceeds forecast demand, the service provider benefits from additional revenue. Conversely, if actual demand is less than forecast revenue, the service provider is exposed to the shortfall.

5.7.1 Revenue in 2024

Over the 12-month period to 30 June 2024, $1.6 billion in revenue was collected by distribution scheme pipeline service providers for providing access (selling capacity) to parties needing to transport gas, $90 million (6%) more than in the previous year.[556]

Table 5.5 provides a summary of the revenue that distribution service providers' scheme pipelines earned in 2024 and how it compared with previous years.

Table 5.5 Revenue in 2024 – key outcomes

Service type	Revenue (actual) (2024)	Revenue (actual) (compared with 2023)	Revenue (actual) (compared with peak)
Distribution	$1.6 billion	▲$90 million (▲6%)	▼$395 million (▼20%) (2015)

Note: All data are adjusted to June 2024 dollars. Actual revenue collected by transmission scheme pipelines is not shown because the data contains commercially sensitive information.

Source: AER estimates.

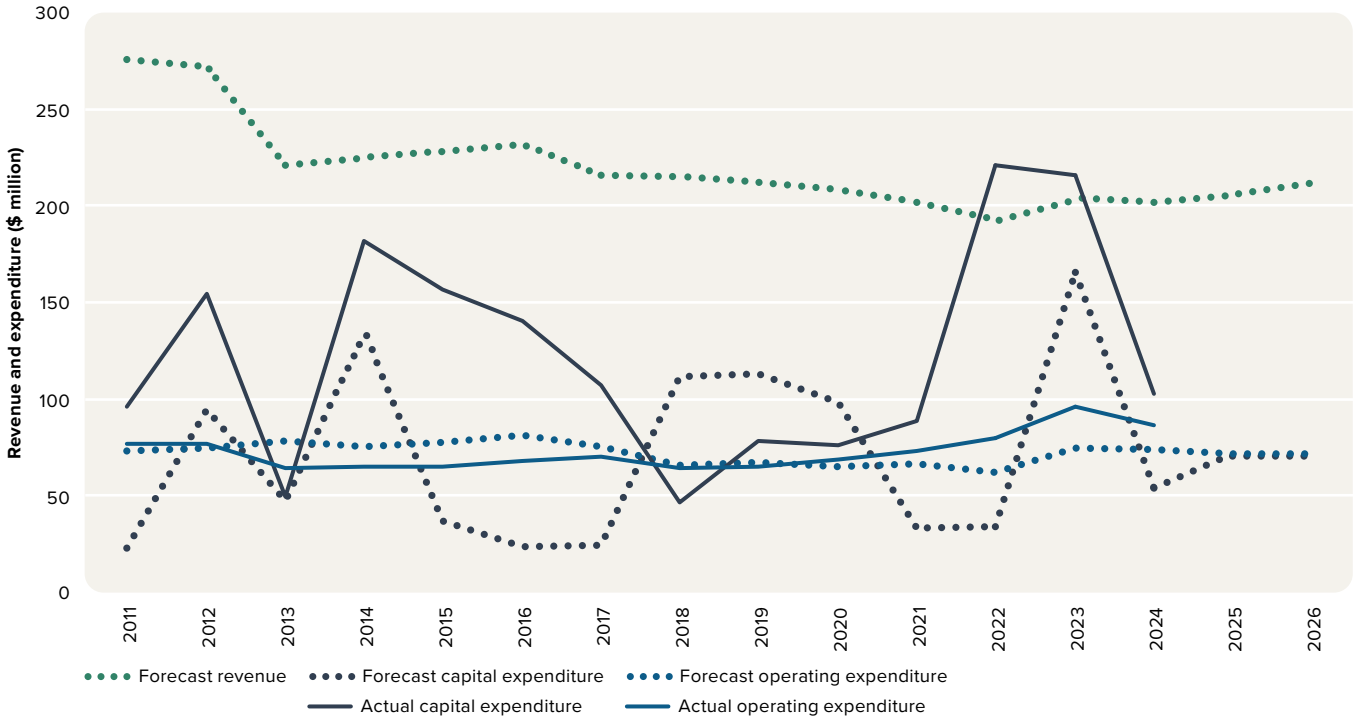
553 The current access arrangement period is the arrangement in place at 1 July 2025.

554 AER, AusNet Gas Services 2023–28 Access arrangement variation proposal – Final decision, Australian Energy Regulator, 14 May 2025.

555 AusNet Services, Response to the AER Draft decision – GAAR 2024-2028 Variation proposal, 14 March 2025.

556 Actual revenue collected by transmission scheme pipelines is not shown because the data contains commercially sensitive information.

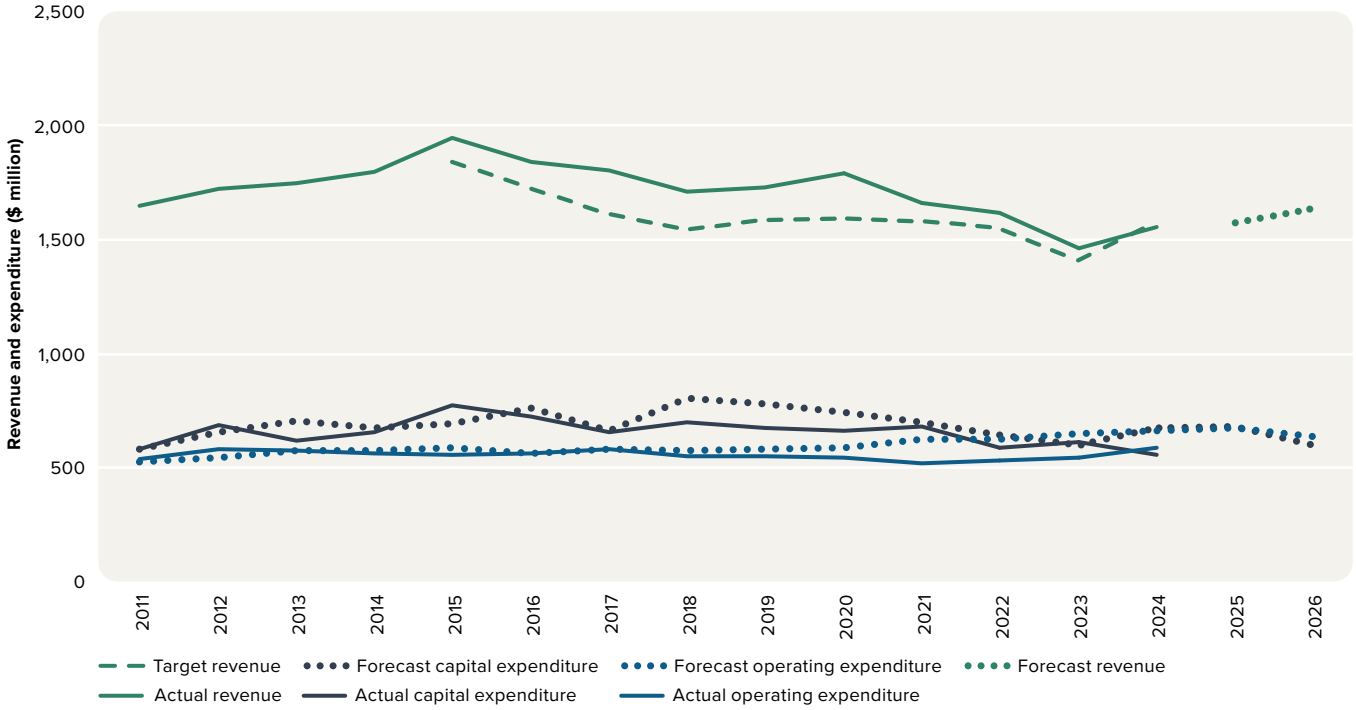
Figure 5.11 Revenue and key drivers – gas (scheme) transmission pipelines (aggregate)



Note: All data are adjusted to June 2024 dollars. APA Victorian Transmission System (Vic) reports on a calendar year basis (year ending 31 December). All other transmission scheme pipeline service providers report on a financial year basis (year ending 30 June). The data show outcomes for the reporting period ending in that year (for example, the 2017–18 reporting year is shown as 2018). Actual revenue is not shown for transmission scheme pipeline service providers as the data contains commercially sensitive information.

Source: AER modelling; annual reporting RIN responses.

Figure 5.12 Revenue and key drivers – gas (scheme) distribution pipelines (aggregate)



Note: All data are adjusted to June 2024 dollars. Up until 31 December 2022, Victorian gas pipeline service providers reported on a calendar year basis (year ending 31 December). Since 1 July 2023, Victorian distribution scheme pipeline service providers have reported on a financial year basis. No revenue forecasts were developed for the Victorian distribution scheme pipeline service providers for the 6-month transition period (1 January 2023 to 30 June 2023). All other distribution scheme pipeline service providers report on a financial year basis (year ending 30 June). The data show outcomes for the reporting period ending in that year (for example, the 2017–18 reporting year is shown as 2018).

Source: AER modelling; annual reporting RIN responses.

Costs of capital and inflation have increased in recent years, both of which put upward pressure on gas pipeline revenue (section 5.9), similar to what has occurred for electricity networks. Any increases in a pipeline service provider's allowed rate of return will be reflected in forecast revenue through the return on capital building block (section 5.5.1).

Specific investment requirements will also increase pipeline costs, so additional revenue is still needed to cover some new projects. For example, APA Victorian Transmission System justified the need for capital expenditure to finance its South West Pipeline and Western Outer Ring main projects. These projects were deemed necessary to avert shortfalls and increase capacity between existing sources of natural gas supply.[557]

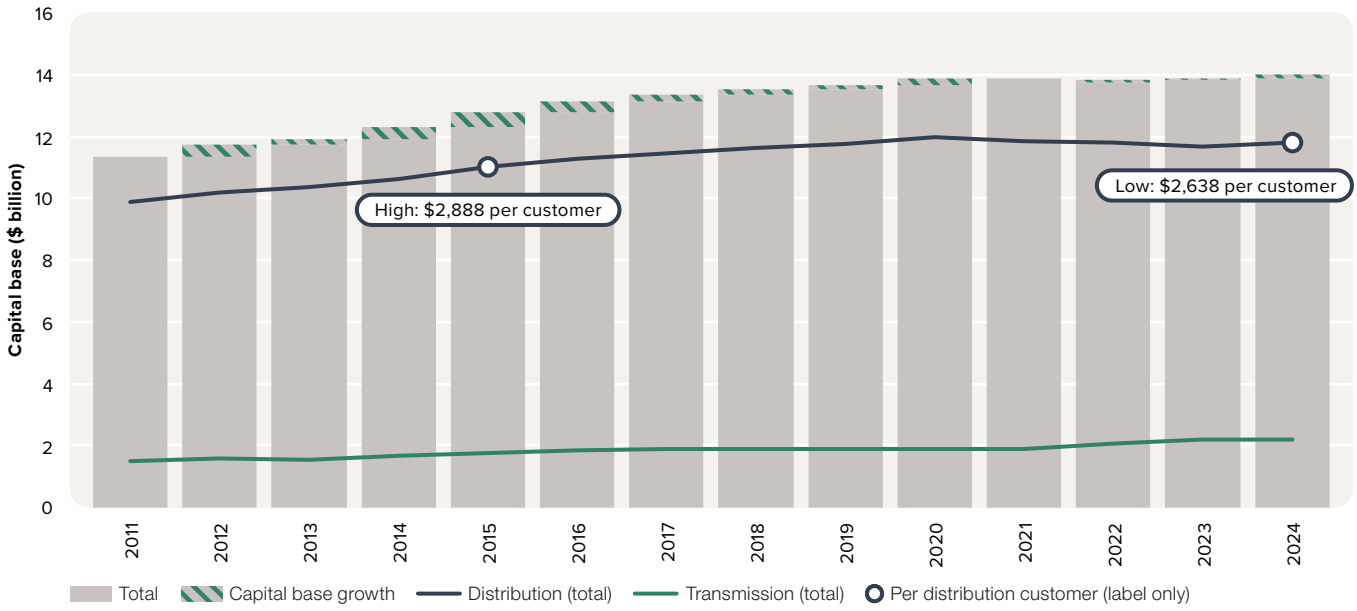
5.8 Capital base

The capital base for a gas pipeline service provider represents the total economic value of assets that provide services to customers. The value of the capital base substantially impacts a service provider's revenue requirement. Capital investment approved by the AER is added to a service provider's capital base, on which future returns are earned.

5.8.1 Capital base in 2024

As at 30 June 2024, the combined value of the capital bases for scheme pipeline service providers was $14 billion, an increase of $156 million (1.1%) from the previous year. This comprises 3 transmission pipelines valued at $2.2 billion and 6 distribution pipelines valued at $11.8 billion (Figure 5.13).

Figure 5.13 Value of gas pipelines assets (capital base)



Note: All data are adjusted to June 2024 dollars. Victorian pipeline service providers report on a calendar year basis (year ending 31 December). All other pipeline service providers report on a financial year basis (year ending 30 June). The data show outcomes for the reporting period ending in that year (for example, the 2017–18 reporting year is shown as 2018).

Source: AER modelling.

557 AER, APA Victorian Transmission System – Access arrangement 2023–27, Australian Energy Regulator, 9 December 2022, accessed 12 March 2025.

5.8.2 Accelerated depreciation of gas network assets

The national gas regime is not well equipped to deal with a network in decline and was developed at a time when the gas market was growing and was expected to continue to expand. Since then, the market has begun to evolve in ways unforeseen when the National Gas Rules were developed.

The forecast decline in demand for natural gas (section 5.5.7) will lead to higher gas network prices due to fewer customers to share the fixed costs.

This poses a number of challenges, including the cost of past investments being disproportionately borne by future gas customers along with the risk that assets may become economically stranded.

Depreciation is a method used in the AER's determination to allocate the cost of an asset over its useful life and provide an incentive for networks to invest efficiently. It is the amount provided so capital investors recover their investment over the economic life of an asset.

While accelerated depreciation can be used for reducing asset stranding risk while there is a wide customer base, it does have limitations. On its own, accelerated depreciation cannot resolve the issues faced by the gas networks and customers from the anticipated declining demand.

Declining demand is ultimately the key driver of rising future network prices. As long as demand continues to decline, no affordable amount of accelerated depreciation will achieve long-term price stability. The AER considers the appropriateness of applying accelerated depreciation on a case-by-case basis, taking into account relevant regional factors, such as state government decarbonisation policies.

Addressing the broader issues in the gas sector requires a holistic policy response. The AER continues to encourage an open discussion between consumers, pipeline service providers and governments about who should pay for the costs of stranded assets associated with past and future capital investments, and when and how these costs are shared.

In its final decision on the 2025–30 access arrangement for Jemena Gas Networks (NSW) the AER allowed for some accelerated depreciation of its assets. However, the AER did not accept Jemena Gas Networks' proposed accelerated depreciation amount of $230 million in full and instead provided a reduced amount of $115 million for the 2025–30 period.[558] The AER acknowledged Jemena Gas Networks' genuine commitment to listening to its customers and its willingness to engage on accelerated depreciation and other complex issues.

The AER's final decision for Jemena Gas Networks allowed a measured start to accelerated depreciation, rather than none, in recognition of the potential stranded asset risk. The AER considered this to be necessary to ensure that Jemena Gas Networks is not deterred from making efficient investments required to maintain safe and reliable services for an aging network, in the long-term interest of consumers.

The reduced amount of accelerated depreciation the AER approved is consistent with its forecast of declining demand, and lower alternative forecast capital expenditure, which does not contain any significant growth in capital expenditure. It considered that accelerated depreciation and minimising capital expenditure are both necessary to reduce stranded asset risk.

The AER considered the reduced amount also reflects the outlook and strength of policy signals surrounding the future role of Jemena Gas Networks at the time of its decision. Unlike Victoria and the ACT, there is no statewide ban on new gas connections or a gas substitution roadmap in NSW at the time of the AER's decision. Even after the publication of a roadmap, there may still be a period of uncertainty regarding the speed of electrification and the materialisation of this impact on gas demand.[559]

558 This amount was determined by firstly providing a base level of accelerated depreciation amount of $77 million by shortening the economic lives of multiple long-lived asset classes, and an additional accelerated depreciation amount of $38 million from the 'medium pressure services' asset class to achieve an overall 'base' real annual price increase of 0.5%.

559 AER, Final decision – Jemena Gas Networks (NSW) access arrangement 2025 to 2030 – Overview, Australian Energy Regulator, 14 May 2025.

In its final decisions on the 2023–28 access arrangements for the Victorian gas transmission and distribution pipelines, the AER also allowed for some accelerated depreciation of assets. The AER considered that accepting some accelerated depreciation supported network investment while minimising bill impacts to consumers, taking into account the Victorian Government's Gas Substitution Roadmap.

The Victorian Government's Gas Substitution Roadmap (section 5.5), which sets the strategic direction to support all Victorians to move away from gas in the long term, includes several initiatives that will reduce the role for gas in Victoria. These include incentives for residential customers to switch to electric appliances, the removal of planning provisions requiring new housing developments to connect to gas and higher energy efficiency requirements for housing and making rental homes more comfortable and affordable.[560]

Declining demand is ultimately the key driver of rising future network prices. As long as demand continues to decline, no affordable amount of accelerated depreciation will achieve long-term price stability.

On 14 February 2025, Energy Consumers Australia (ECA) submitted a request to the AEMC to amend the National Gas Rules to ensure they remain fit-for-purpose in a transitioning energy system.[561] The suite of rule changes proposed by ECA will require gas distribution pipeline service providers to proactively plan for the future of their networks and make decisions to minimise any further non-critical investment. They also aim to increase the tools and information regulators, councils, governments, electricity distribution network service providers, advocates and other stakeholders have available to them to start actively planning for how to fairly transition away from gas.

ECA noted that failing to proactively address the declining reliance on gas pipelines poses significant risk to consumers. The expected decrease in the number of customers connected to the gas network will result in fewer customers left to pay the costs of maintaining and operating the network.[562]

In making its Jemena Gas Networks' 2025–30 decision, the AER conducted modelling of what declining demand could mean for gas network prices and customer bills. The AER's long-term modelling showed that network prices and customer bills are expected to increase significantly in the medium to long term, irrespective of the depreciation profiles that were modelled. Under a future scenario of declining demand, Jemena Gas Networks' network prices and customer bills are expected to almost double by 2035 and potentially increase by 500% to 600% by 2050 compared with current levels, in nominal terms. Its long-term modelling also demonstrated the potential for accelerated depreciation to reduce the unrecovered residual capital base and, therefore, stranded asset risk.[563]

560 Victorian Government, Securing Victoria's gas supply while slashing energy bills, media release, 24 June 2025.

561 AEMC, Gas distribution networks – Depreciation, Australian Energy Market Commission, 14 February 2025, accessed 20 March 2025.

562 ECA, How to responsibly wind down the gas network?, Energy Consumers Australia, 19 March 2025, accessed 27 March 2025.

563 AER, Draft decision, Jemena Gas Networks (NSW) access arrangement 2025 to 2030 – Attachment 4 – Regulatory depreciation, Australian Energy Regulator, 29 November 2024, pp. 14–17.

Box 5.4 Accelerated depreciation – global perspective

The declining demand for gas is not unique to Australia. In July 2024, scientific journal Cell Press published a journal highlighting the issue of regulating gas transportation infrastructure in Europe. According to Cell Press:

'... the era of widespread fossil gas consumption across Europe will also come to an end as the world decarbonises it energy use.' 'At the moment, regulation in most European countries treats gas distribution broadly as if they are expected to operate in perpetuity, though there are some exceptions.' [As is the case in Australia, the declining demand for gas] 'poses a significant challenge for policy makers: if fewer customers use gas, how is the decline of the system managed and who pays for it...?'

'The Netherlands is making far-reaching changes via a combination of accelerated depreciation and local authority powers. In the current regulatory period (2022–26), distribution system operators are permitted to depreciate investments in their grids on a cost-reflective basis which recognises a shrinking grid. This is intended to align the costs with the actual use of the network, with connection points expected to decrease in the medium term. Furthermore, gas distribution system operators receive compensation for the costs of dismantling the gas distribution networks and for removing connection points. ... UK regulator Ofgem has consulted on future network regulation, which includes a proposal to accelerate financial depreciation rates and smooth their impacts in line with expected disconnection rates'.[564]

5.9 Rates of return

The shareholders and lenders that finance a gas pipeline service provider expect a return on their investment. The rate of return estimates the financial return a pipeline service provider's financiers require to justify investing in the business. It is a weighted average of the expected returns needed to attract both equity and debt funding. Equity funding is provided by shareholders in exchange for part ownership of a pipeline service provider, while debt funding is provided by an external lender such as a bank. Given this weighted approach, the rate of return is sometimes called the weighted average cost of capital (WACC).

The AER sets an allowed rate of return based on a benchmark efficient entity, but a service provider's actual returns can vary from the allowed rate. The difference can be due to several factors, such as the impact of incentive schemes, efficiency improvements, forecasting errors or the pipeline service provider adopting a different debt or tax structure to the benchmark efficient entity. Some differences may be temporary if caused by revenue over-recovery or under-recovery under a revenue cap or the revenue smoothing process. The AER calculates allowed returns each year by multiplying the capital base (section 5.8) by the allowed rate of return.[565]

Lower financing costs and updated estimates of rate of return parameters contributed to the average allowed rate of return declining from around 10% at the beginning of the 2010s, to less than 6% from 2018 (Figure 5.14). This reduction translated to significantly lower forecast pipeline revenue requirements.

Legislation introduced in 2018 provided for the AER to make binding rate of return determinations that apply to all regulated pipeline service providers.

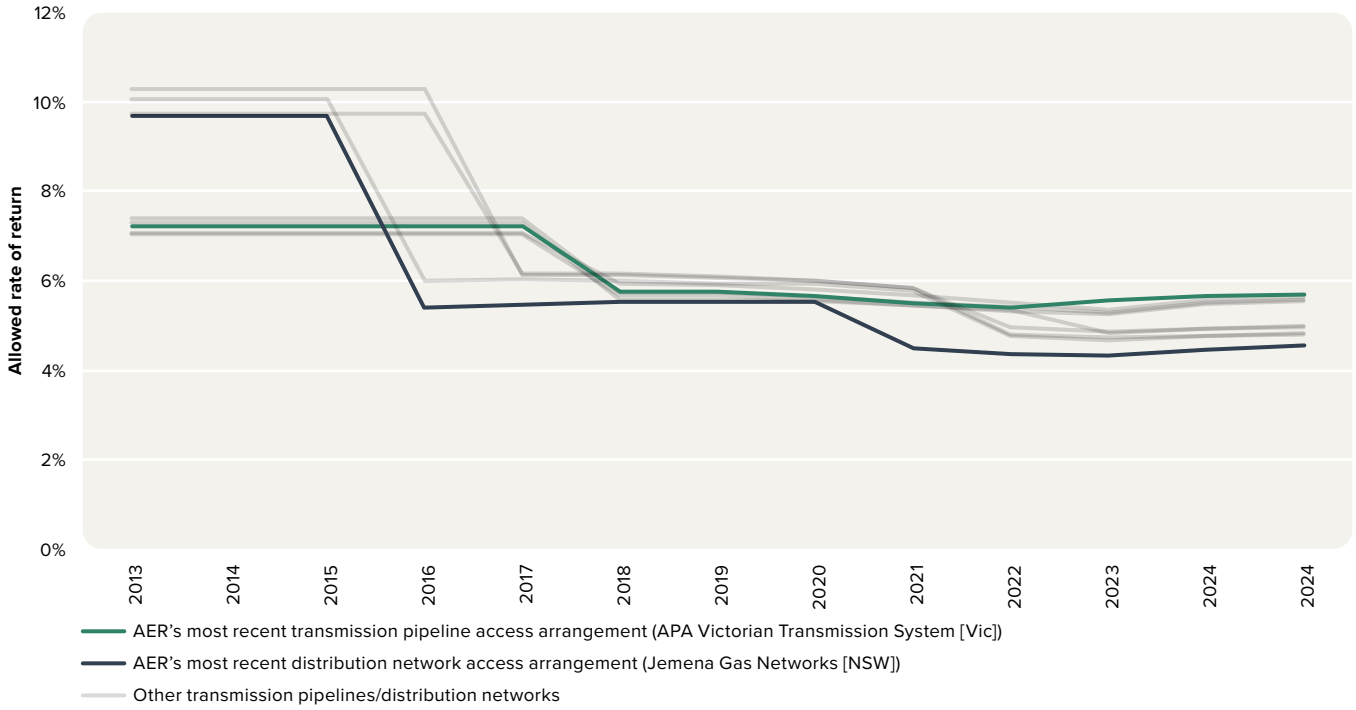
In February 2023, the AER released its latest rate of return instrument (the 2022 Instrument). The rate of return is a key component used to determine the amount of revenue network service providers can recover from customers. The AER sets the rate of return to cover the cost of capital of an efficient service provider.

564 Rosenow, et al., The elephant in the room: How do we regulate gas transportation infrastructure as gas demand declines?, One Earth, 19 July 2024 (purchased journal).

565 For example, if the rate of return is 5% and the capital base is $10 billion, then the return to investors is $500 million. This return forms part of a gas pipeline service provider's revenue needs and must be paid for by customers.

In March 2024, the AER released an updated version of the February 2023 Instrument, which binds all access arrangements from 25 February 2023 until the next revision of the Instrument.[566] In March 2025, as a first step toward making the 2026 Rate of Return Instrument, the AER published a paper setting out the high-level review process it will undertake to produce the Instrument.[567]

Figure 5.14 Allowed rate of return



Note: Allowed rate of return = nominal vanilla weighted average cost of capital (WACC).

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

Recently, a key input into rates of return has increased. The risk-free rate is an important driver of allowed returns on equity and is estimated using required returns on Commonwealth Government Securities (CGSs), also known as Australian Government bonds. Since January 2020, annual yields on 10-year CGSs have ranged from 0.61% (March 2020) to 4.94% (November 2023). Over the 12-month period to 30 June 2025, annual yields on 10-year CGSs averaged around 4.29%.[568]

5.10 Capital expenditure

Capital expenditure (i.e. investment) requirements differ between the gas transmission and distribution sectors.

Investment in gas transmission typically involves large capital projects to expand existing pipelines (through compression, looping or extension) or constructing new infrastructure. Additionally, some transmission pipelines have been re-engineered for bidirectional flows to increase flexibility of transportation on those pipelines.

Investment in gas distribution mainly comprises augmentation (expansion) of existing systems to cope with new customer connections, such as for new housing estate developments. Older pipelines also require replacement programs for deteriorating infrastructure. For regulated service providers operating scheme pipelines (Table 5.1), the AER assesses whether investments are prudent and efficient based on criteria in the National Gas Rules.

566 AER, Rate of Return Instrument 2022, Australian Energy Regulator, accessed 20 March 2025.
567 AER, Rate of Return Instrument – 2026 review process paper, Australian Energy Regulator, 28 March 2025.
568 RBA, Capital Market Yields – Government Bonds – Daily – F2, Reserve Bank of Australia, accessed 6 July 2025.

Long-term demand risk can influence the AER's regulatory decisions on pipeline investments. Demand forecasts that underpin the need for new investments are carefully scrutinised.

Regulated service providers will incur ongoing maintenance and replacement costs to maintain safe and reliable reference services for the remaining customers on the network, subject to any partial shutdowns of the network, for as long as the gas pipeline assets remain in use. The costs to maintain the gas pipeline do not decrease in proportion to the decline in gas demand, and if demand falls past a certain point, pipeline assets can become 'stranded', wherein they are prematurely written down, devalued or even reclassified as liabilities.[569]

5.10.1 Capital expenditure in 2024

Over the 12-month period to 30 June 2024, scheme pipeline service providers invested $658 million in capital projects, $172 million (21%) less than in the previous year and $72 million (10%) less than was forecast.

Table 5.6 provides a breakdown of the amount of investment that scheme pipeline service providers undertook in 2024 and how this compared with previous years' expenditure and forecasts.

Table 5.6 Capital expenditure in 2024 – key outcomes

Service type	Capital expenditure (actual) (2024)	Capital expenditure (actual) (compared with 2023)	Capital expenditure (actual) (compared with peak)
Transmission	$103 million (▲90% than forecast)	▼$113 million (▼52%)	▼$118 million (▼53%) (2022)
Distribution	$555 million (▼18% than forecast)	▼$59 million (▼10%)	▼$223 million (▼29%) (2015)
Total	$658 million (▼10% than forecast)	▼$172 million (▼21%)	▼$277 million (▼30%) (2015)

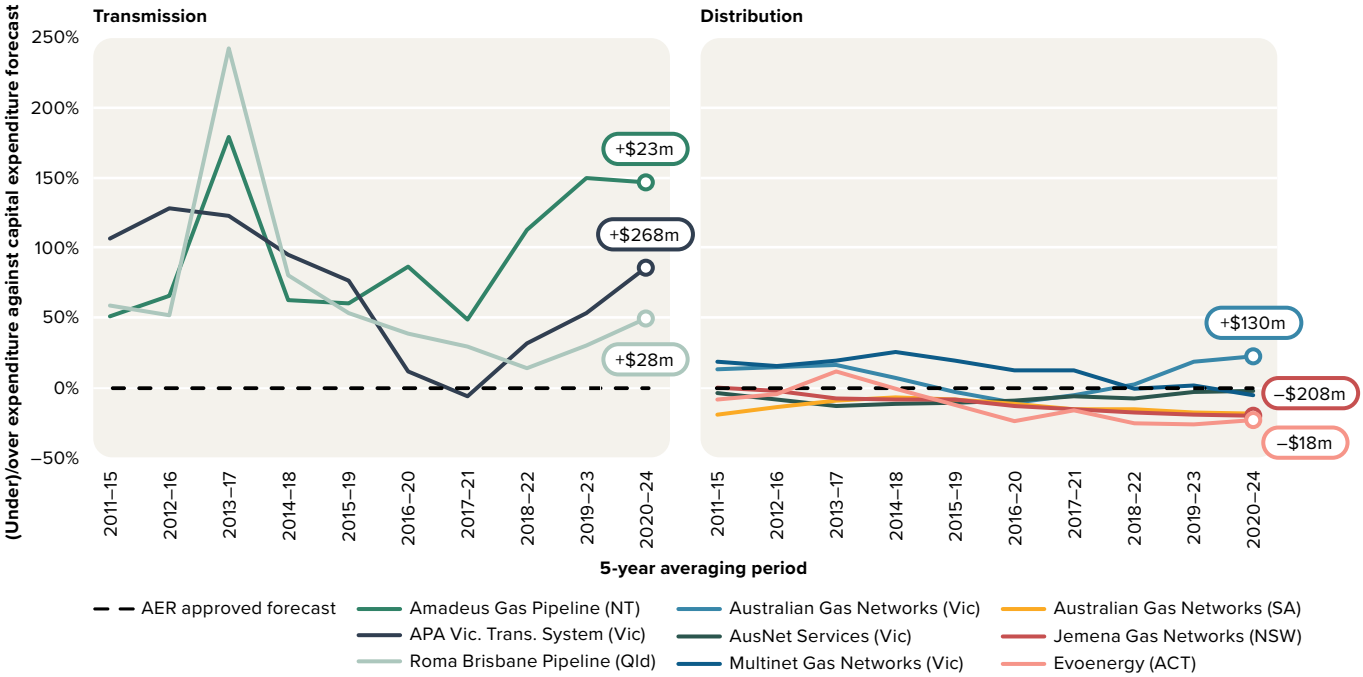
Note: All data are adjusted to June 2024 dollars.
Source: AER estimates.

APA Victorian Transmission System (Victoria) reported a significant overspend on its Western Outer Ring Main (WORM) project in 2024. This was primarily due to construction delays resulting from several compounding factors, including delays obtaining a pipeline licence, delays awarding a construction contract, wet weather, constraints obtaining First Nations resources and a large cultural heritage discovery at one of the sites leading to a redesign. Much of the WORM project was forecast to be complete prior to 2024.[570]

Figure 5.15 shows the contrasting trends in actual capital expenditure against forecast for transmission and distribution pipeline service providers. While transmission scheme service providers continue to overspend against forecast, distribution scheme service providers continue to underspend. The size of both forecast and actual capital expenditure varies greatly among the different service providers. To address this, dollar values representing the size of the under/overspends have been shown in Figure 5.15 to demonstrate the scale of the under/overspend over the past 5 years for a selection of pipeline service providers.

569 Lucas Davis, Catherin Hausman, Energy Institute at Haas, Who will pay for legacy utility costs?, March 2022, accessed 20 March 2025.
570 APA, Annual RIN reporting – VTS – RIN response and basis of preparation, APA VTS Australia (Operations), 29 April 2025.

Figure 5.15 Capital expenditure compared with AER approved forecasts



Note: The size and the scale of the forecast and actual capital expenditure differs for each transmission and distribution pipeline service provider.
Source: AER modelling; annual reporting RIN responses.

5.11 Operating expenditure

Pipeline service providers incur operating and maintenance costs that absorb around 38% of their annual revenue (35% for transmission and 38% for distribution) (Figure 5.6). When assessing the efficiency of a pipeline service provider's operating and maintenance costs, the AER considers cost drivers such as forecast customer growth, expected productivity improvements, changes in labour prices and changes in the regulatory environment. Pipeline service providers are also subject to an efficiency carryover mechanism, which incentivises them to reduce operating expenditures where efficient to do so.

5.11.1 Operating expenditure in 2024

Over the 12-month period to 30 June 2024, scheme pipeline service providers spent $674 million on operating costs, $31 million (5%) more than in the previous year, but $61 million (8%) less than was forecast.

Table 5.7 provides a breakdown of scheme pipeline service providers' operating costs in 2024 and how this compared with previous years' expenditure and forecasts.

Table 5.7 Operating expenditure in 2024 – key outcomes

Service type	Operating expenditure (actual) (2024)	Operating expenditure (actual) (compared with 2023)	Operating expenditure (actual) (compared with peak)
Transmission	$87 million (▲17% than forecast)	▼$10 million (▼10%)	▼$10 million (▼10%) (2023)
Distribution	$588 million (▼11% than forecast)	▲$40 million (▲7%)	2024 = peak
Total	$674 million (▼8% than forecast)	▲$31 million (▲5%)	2024 = peak

Note: All data are adjusted to June 2024 dollars.
Source: AER estimates.

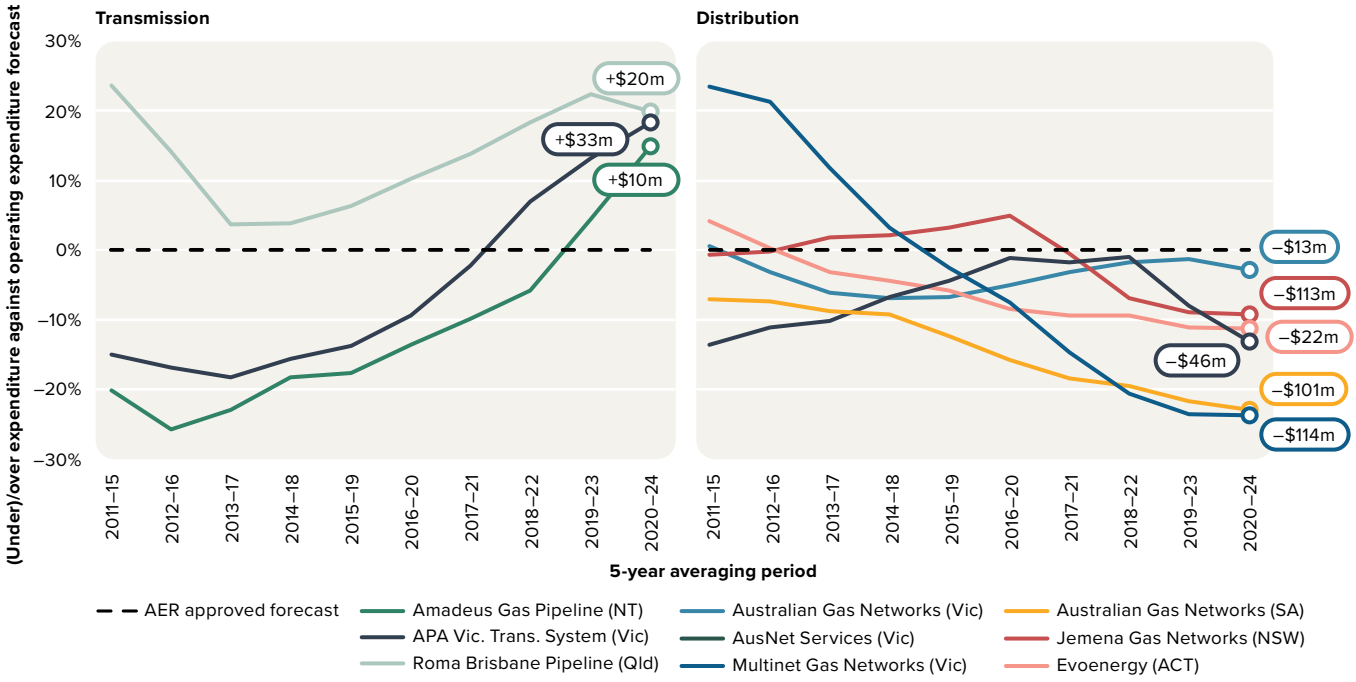
As was evident with the contrasting trends in capital expenditure against forecast, transmission and distribution pipeline service providers are also trending in different directions for their actual operating expenditure against forecast.

In each of the past 5 years, transmission service providers have collectively spent more than their approved forecasts. Conversely, distribution service providers have collectively spent less than their approved forecasts for 12 consecutive years.

In the 7 years since Multinet Gas Networks (Victoria) was purchased by CK Infrastructure Holdings, it has underspent by 23% against its operating expenditure forecast.[571] Likewise, in the 10 years since Australian Gas Networks (South Australia) was purchased by CK Infrastructure Holdings, it has underspent by 18% against its operating expenditure forecast.[572]

Unlike for capital expenditure, a pipeline service provider's operating expenditure is largely recurrent and predictable. As such, the scale of the under/overspends for operating expenditure is generally smaller than it is for capital expenditure. However, the size of both forecast and actual operating expenditure still varies greatly among the different service providers. To address this, dollar values representing the size of the under/overspends have been shown in Figure 5.16 to demonstrate the scale of the under/overspend over the past 5 years for each pipeline scheme service provider.

Figure 5.16 Operating expenditure compared with AER approved forecasts



Note: The size and the scale of the forecast and actual operating expenditure differs for each transmission and distribution pipeline service provider.
Source: AER modelling; annual reporting RIN responses.

571 Australian Financial Review, FIRB approves Cheung Kong's DUET acquisition, 20 April 2017, accessed 20 March 2025.
572 Australian Gas Networks, Australian Gas Networks – Our History, accessed 14 July 2025.