# Jemena Gas Networks (NSW) Ltd

## 2025-30 Access Arrangement Proposal

Attachment 6.2

Opex step change justification

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# Overview

Most of our operating expenditure (**opex**) is recurrent, as it funds the regular operations necessary to deliver reliable network services. For the 2025 Plan period, we anticipate some step changes in our opex due to several factors:

1. Costs for services that received strong support during customer and stakeholder engagement, which will assist customers experiencing vulnerability and reduce carbon emissions as Australia works towards achieving its net zero goals.
2. New regulatory obligations in terms of emissions measurement and reporting.
3. Major external factors beyond our control, particularly those associated with our Information and Communication Technologies (**ICT**) spend and our Pipeline Integrity Management Program, that reflects accepted good industry practice.

Our proposed opex step changes included in our 2025 Plan are:

**Table 1: Summary of proposed opex step changes over 2025-30 period ($2025 millions)**

| Step change | Description | AER category | Total 2025-30 |
|---|---|---|---|
| Support for customers experiencing vulnerability | Customers have told us how important it is to ensure the most vulnerable members of our community are supported through the energy transition – a sentiment we share. Therefore, we are proposing to spend $0.5M (2023$) per annum over the 2025-30 period to enhance our customers experiencing vulnerability program. | Reflects accepted good industry practice requested by our customers through engagement | 2.7 |
| ICT services – recurrent step opex for new projects | These costs are for ongoing operational expenses associated with a non-recurrent project or initiative for new capacity that continue beyond its initial implementation phase. In the current 2020-25 period, the AER allowance generally treated the expenses as capex. | Reflects accepted good industry practice, new regulatory obligations and external factors outside JGN's control | 15.0 |
| Emissions reduction – Climate change reporting | We have new obligations from January 2025 to disclose climate-related financial information in a general purpose financial report. | New regulatory obligation | 3.6 |
| Emissions measurement – Picarro leak detection services | Customers also told us they care deeply about the environment and want us to invest in new technologies which will contribute to Australia's efforts to mitigate climate change and achieve net-zero. We will invest in technology to help us detect gas leaks more efficiently and proactively, and prioritise which gas mains we should replace. By reducing gas leaks we will reduce our greenhouse emissions. | Reflects accepted good industry practice, and supported by our customers through engagement | 20.8 |
| Pipeline Integrity Management Program | Often referred to as 'pigs and digs', these safety and compliance activities are to avoid risk of failure in our high pressure pipelines and to comply with Australian Standard 2885 – for high pressures pipelines (> 1050 kPa). | Reflects accepted good industry practice and external factor outside JGN's control | 28.1 |
| Total | | | 70.2 |

Our meter reading services are currently outsourced, and the existing contract is set to expire on 30 June 2024. In preparation for this, we have been tendering for new arrangements which will result in increased costs - we expect to finalise the new arrangements by the end of July 2024. As the finalisation of our 2025 Plan has coincided with our ongoing contract negotiations, we have been unable to incorporate the new pricing arrangements into the 2025 Plan for our Transportation Reference Service. We will reflect the costs of the new meter reading services in our response to the AER's draft decision on our 2025 Plan.

We also note that the on 7 December 2023, the Fair Work Legislation Amendment (Closing Loopholes) Bill 2023 ('Same Job, Same Pay') passed through the Senate, containing provisions that prevent companies from undercutting Enterprise Agreements to pay labour hire workers less. Applications can be made under the new laws to the Fair Work Commission at work sites where labour hire workers are paid less than direct employees. The Fair Work Commission will then make an assessment as to whether a Same Job Same Pay order is reasonable and may make an order setting a 'Protected Rate of Pay', in line with site Enterprise Agreements rates. Pay rises due to Same Job Same Pay orders will come into effect in November 2024. We are not aware of any such orders that might impact on our or any sub-contractor labour costs which we will reassess when we submit our revised 2025 Plan in response to AER's draft decision in January 2025.

## Supporting attachments

**Table 2: List of supporting attachments**

| Attachment | Name | Author |
|---|---|---|
| 2.2 | Customer forum engagement report | BD Infrastructure |
| 4.1 | Emissions reduction program | JGN |
| 5.4 | Technology plan | JGN |
| 6.1 | Operating expenditure | JGN |
| 6.11M | Climate reporting model | JGN |
| RIN 19 | Document index | JGN |

# 1. Opex step changes

Our proposed opex step changes over the 2025 Plan period are summarised in the table below.

**Table 3: Proposed opex step changes over 2025-30 period ($2025 millions)**

| Step change | Driver | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | Total |
|---|---|---|---|---|---|---|---|
| Support for customers experiencing vulnerability | Reflects accepted good industry practice supported by engagement | 0.53 | 0.53 | 0.53 | 0.53 | 0.53 | 2.66 |
| ICT services for new recurrent projects | Reflects accepted good industry practice, new regulatory obligations and external factors outside JGN's control | 0.76 | 2.26 | 3.75 | 3.93 | 4.34 | 15.04 |
| Emissions reduction – Climate change reporting | New regulatory obligation | 0.78 | 0.71 | 0.71 | 0.71 | 0.71 | 3.61 |
| Emissions measurement – Picarro leak detection services | Reflects accepted good industry practice supported by engagement | 4.17 | 4.14 | 4.16 | 4.16 | 4.16 | 20.80 |
| Pipeline Integrity Management Program | Reflects accepted good industry practice and external factor outside JGN's control | 9.30 | 3.14 | 4.08 | 4.03 | 7.58 | 28.13 |
| **Total** | | **15.54** | **10.78** | **13.23** | **13.36** | **17.32** | **70.25** |

These opex step changes, the driver for them, and the basis of our estimate are discussed in detail in the following sections.

## 1.1 What we have heard from our customers

Customers have expressed that affordability remains a significant concern, especially in the context of rising inflation. They want us to ensure that gas remains affordable for customers in the long term.

At the same time, customers have also conveyed a concern for the environment and have encouraged us to invest in new technologies that will help lower carbon emissions as Australia works towards achieving its net zero goals:

- They support the most cost-effective and environmentally friendly renewable gas strategy moving forward.
- However, they stress the importance of balancing these investments with affordability and minimising price increases.

They also told us they care deeply about the environment and want us to invest in new technologies which will help lower carbon emissions as Australia strives towards achieving its net zero ambitions:

- Customers support the best cost-effective renewable gas strategy and environmentally friendly pathway moving forward.[1]
- They also want us to continue to invest and research in pilot studies and trials to properly study the safety of new/renewable gas networks (all aspects - from supplying, distribution, consumers, storage, etc.), but do so whilst balancing affordability and minimising price increases.[2]

In addition, customers have expressed a strong preference for JGN to provide more education and engagement activities related to renewable gases. They have requested access to quality education about alternative energy sources like biogas and hydrogen, including their potential costs for households. Additionally, customers have emphasised the need for ongoing consumer engagement, such as public education campaigns and the delivery of results to continuing forums, to maintain open communication with JGN.[3]

Some of the verbatim comments receive from customers include:

- 'Reaching larger customer base with social media for education'[4]
- 'There is a big push from 'one side' to move to electrification in the media. Where are the renewable gas people, presenting another side and being more proactive in discussion with government.'[5]

We also note that customers want us to have a more public presence and speak up in the media, which we will do within our existing resources.

Furthermore, customers have emphasised the importance of supporting vulnerable individuals and have urged us to do more to assist them.

## 1.2 Feedback on our Draft 2025 Plan

On 2 March 2024 we engaged with our Customer Forum and received the following feedback:

- **ICT customer experience (CX)** – we discussed our proposed project to uplift CX which we had included in our Draft 2025 Plan. The CX program involved introducing a range of digital services aimed at enhancing the customer experience, e.g. outage notifications and digital appointment booking capabilities. However, it became evident that the proposed initiative did not fully align with our customers' preferences and priorities. Our customers did not see the value in the CX project and thought that the services were adequately provided by retailers. As a company dedicated to maintaining a customer-centric approach, we are committed to honouring the valuable insights provided by our customers. After careful consideration and deliberation based on customer feedback, we have decided not to seek funding for the proposed Customer Experience Uplift initiative in the next 2025-30 period. Consequently, we have made the decision to not proceed with our planned initiatives of $5.7M (2023$).

[1] Recommendation 1 for Forum 7, on 9 Sep 2023, in *JGN - BD Infrastructure - Att 2.2 - Customer forum engagement report - 20240611 – Public*, page 19.

[2] Recommendation 2 for Forum 7, on 9 Sep 2023, in *JGN - BD Infrastructure - Att 2.2 - Customer forum engagement report - 20240611 – Public*, page 19.

[3] See Recommendation 1 and Recommendation 3 for Forum 7, on 9 Sep 2023, in *JGN - BD Infrastructure - Att 2.2 - Customer forum engagement report - 20240611 – Public*, page 19.

[4] See *JGN - BD Infrastructure - Att 2.2 - Customer forum engagement report - 20240611 – Public*, page 77.

[5] See JGN - BD Infrastructure - Att 2.2 - *Customer forum engagement report - 20240611 – Public*, page 79.

- **Emissions reporting – Picarro leak detection and Australian carbon credit units (ACCUs)**. We engaged with customers on Picarro, a leak detection technology previously classified under capex, and informed them about the high uncertainty surrounding ACCU costs. Customers expressed support for investing in Picarro as a proactive means to directly measure and report on emissions, contributing to achieving net zero targets. They preferred this approach over relying solely on carbon credits to manage emissions. We did not test the total compliance costs associated with the Safeguard Mechanism during these discussions, due to the high uncertainty of ACCU forecasts. Instead, we focused on how the ACCU price forecasts change over time and how this would impact our total Safeguard Mechanism costs. Customers supported investment in Picarro as a means to directly measure and report on emissions and achieve net zero, rather than solely relying on carbon credits to manage emissions.
- With regards to **Pipeline Integrity Management Program** (pigs and digs), throughout our engagement with customers they consistently expressed their desire for us to prioritise safety. Given the safety implications of the preventative measures, and potential risk to JGN of not getting the program right, we consider that it was not an appropriate activity that we would seek customer input on. Further, presenting customers with options in terms of varying levels of pigging activities would be disingenuous given that JGN would not be willing to contemplate any alternative programs. This approach would go against our engagement objectives, which includes building trust and collaboration with customers in formulating our 2025 Plan. We believe that maintaining the integrity of our pipeline system is a non-negotiable aspect of our operations, and we remain committed to upholding the highest safety standards.

# 2. Customers experiencing vulnerability – requested by our stakeholders

JGN has long been supportive of assisting customers experiencing vulnerability. As a member of the Energy Charter, we are committed to Principle 5: *We will support customers facing vulnerable circumstances*. We are currently self-assessed as rating Evolved on the maturity self-assessment and aim to reach Empowered by 2025-26.

Dimensions of vulnerability can include, but are not limited to:

- Socioeconomic (lower income, disadvantaged)
- Regional location
- First nations customers
- Culturally and linguistically diverse (**CALD**) customers
- Customers with health challenges
- Customers experiencing financial hardships.

Our vulnerable customer strategy is set out in Figure 1.

**Figure 1: JGN vulnerable customer strategy**


We currently undertake several initiatives to assist customers experiencing vulnerability including Voices for Power which trains cultural community leaders to provide tailored energy literacy programs, the Uniting Energy Assist Program which helps customers navigate the energy sector and access support, an Aboriginal Workforce

Mentoring program to advance reconciliation, and an annual Community Grants Program that has provided over $0.65M to support local groups addressing social issues.

We consulted with our customers on whether we are doing enough to support customers experiencing vulnerability. We spent time exploring the concept of vulnerability and what it means in the context of the energy sector. In doing so, we provided an overview of JGN's current approach to supporting customers experiencing vulnerability and then explored with participants whether what we do is sufficient or should we do more.

During our engagement with customers in developing our Draft 2025 Plan, stakeholders told us of their concerns about customers experiencing vulnerability and their lack of voice in navigating the changing energy system and rising bills. We asked them whether we should maintain the current level of support or do more, using a proposed spend of $0.5M per year, or an indicative bill impact of $0.30/year, as an example of what doing more could look like.

Based on customer support for us doing more to support customers experiencing vulnerability, we are proposing to enhance our vulnerable customer program by exploring ways to expand existing initiatives such as increasing our involvement in key community programs. We propose an additional $0.5M (2023$) per year, or a total of $2.7M ($2025) over the 2025 Plan period, to enhance customer support to help customers understand their bills and increase involvement in third-party community support programs like Uniting Energy Assist.

Table 4 shows how we tested the enhancement of our vulnerable customer support program with customers.

**Table 4: Customer support for our customers experiencing vulnerability support program**

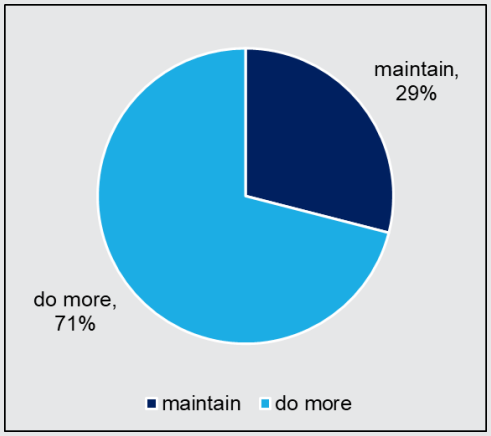
### Forum 5

At a broad level, customers believed that we should invest in initiatives to ensure that vulnerable customers are supported. We tested the step change expenditure in vulnerable customers at two Customer Forums.

In Customer Forum 5, 29% (11 customers) voted for JGN to maintain its current activities, while 71% (27 customers) voted that we should "do more".

The support for the vulnerable customer program was confirmed in Customer Forum 7, when customers were asked to review their preferences from the previous forum. Over 92% of customer voted that they could "live with", "like" or "love" the vulnerable customer program (the other options were "lament" and "loathe").

**Should we "maintain" or "do more" to enhance our vulnerable customer**

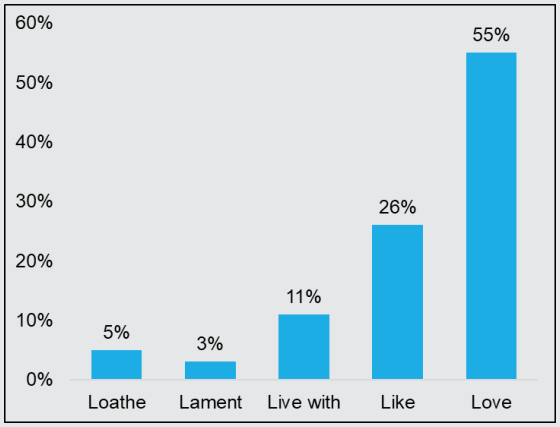



### Forum 7

In Customer Forum 7, customers recommended that JGN provides education and awareness programs for high priority vulnerable customers by understanding all levels of vulnerability, which includes clearly communicating and/or translating by letters and emails important information regarding environmental issues and financial costs (statistics/factsheets).

Customers emphasised that JGN needs to take a broad approach to communicate to all customers including CALD, elderly, and not tech savvy, noting that we must cater communications and engagement to match the diversity of our customer base.

**Support for vulnerable customer program: "Do more" (L scale rating on preferences)**




Based on customer recommendations, we propose to increase customer support to assist with bill readings and increase participation in third-party community programs like the Uniting Energy Assist Program. We also proposed to collaboratively design new initiatives with customers and community groups to identify impactful ways to better support vulnerable customers.

For the 2025 Plan period, we aim to collaboratively design initiatives with customers, representatives, and community groups to identify additional ideas that can support customers experiencing vulnerability, while avoiding duplication with retailer efforts.

On 9 April 2024, we engaged with key representatives from peak bodies[6] with the purpose to determine the direction of our additional support for customers experiencing vulnerability for our 2025 Plan. In particular, the objectives were to:

- Prioritise and refine potential initiatives and programs to support customers experiencing vulnerability for the 2025-30 period
- Discuss the dimensions of vulnerability that may be considered
- Discuss the role of a network business in supporting customers experiencing vulnerability
- Explore gaps in existing support for NSW customers and opportunities for our program
- Discuss how we should continue to co-design these initiatives with customers and get their feedback.

We discussed the following potential customers experiencing vulnerability initiatives that could result from the additional funding:

1. One Stop Shop Information Hub
    a) One Stop Shop for energy information which links to other credible information sources (e.g. Government websites)
    b) Translating critical information for CALD communities
    c) Find options to navigate energy/affordability challenges
2. Future energy
    a) Educate young people
    b) Empower with consumption and usage information (pictorial, multi-language)
3. Appliance repair and service (to be renamed Gas home audit – see below)
    a) Repair existing gas appliances to reduce costs
    b) Trade amnesty for gas appliances
    c) Gas safety check - gas appliances (e.g. heater, hot water system) to be checked
4. Appliance replacement support program - support CEV with accessing services to replace gas appliances
5. Knock to Stay Connected (**K2SC**) - network will hand-deliver advanced disconnection notice during field visit.

The feedback we received is set out in Table 5. There was clear support for us to put more resources into the One Stop Shop Information Hub, offering gas home audits and K2SC. Given that disconnections requests are initiated by retailers, and K2SC activities can be carried out by other parties, we are considering whether to offer a K2SC service to interested retailers as a non-regulated service which we will charge the retailers for.

[6] The Customer Council comprised key representatives from peak bodies, social services organisations and customer advocates including: Ethnic Communities Council of NSW, Council of the Ageing NSW, Energy and Water Ombudsman NSW, Uniting and Customer advocates from our Advisory Board and Customer Council

**Table 5:Customers experiencing vulnerability support feedback**

| Service offering | Program name and details | Engagement feedback |
|---|---|---|
| Education | Information Hub - bite-sized educational content with links to other credible information sources. Translated to support CALD communities | 1. Produce interactive content and video assets for use that are compatible with PCs and mobiles.<br>2. Consider interactive elements (e.g. help avatar) to make it more welcoming for people.<br>3. Ensure effort is spent on communicating and raising awareness of the information hub.<br>4. The hub should not replace dedicated 1:1 advice and support that is being provided by Jemena's other initiatives (e.g. Uniting Energy Assist). |
| Appliance Repair and Service (Gas home audit) | Gas safety check - support gas appliances (e.g. heater, hot water system) to be checked by a professional | 1. Broaden it to a 'home audit' that also includes information on how customers can make their homes more energy efficient as a whole.<br>2. Be up front with on the sequencing of events (from audit to repair) so it doesn't disincentivise customers to participate in the audit. For example, customers experiencing vulnerability may be afraid to participate if their appliances don't pass the check but they have no means of fixing the situation |
| | Appliance Repair - help customers repair existing appliances that may not be in working order | |
| | Appliance Replacement - support customers with accessing services to replace gas appliances | |
| Disconnection Support | Knock to Stay Connected (K2SC) - JGN will hand-deliver advanced disconnection notice during field visit. Turn the trial into a full program offered to all retailers through an opt-in mechanism | 1. While it is an important initiative and step, this is a "last mile" program. Investments should also be made earlier in the customer journey so we reduce the number of disconnections as a whole.<br>2. Important that field staff are trained to connect customers with other support avenues if they are unable to pay their bills. It may be disempowering if customers are told they will be disconnected without any solutions.<br>3. Field staff should also be mindful that some customers experiencing vulnerability may not want to be "confronted". Extra caution and processes should be implemented to ensure customer is notified via other methods (e.g. letterbox note) if they do not come to the door |

Based on the customer feedback, we have decided to proceed with:

- **Home Gas Audits and Emergency Appliance Repair** - we will provide home gas audits and possible emergency appliance repair to help improve equity and access to customers experiencing vulnerability in our network. We propose to work with a range of community service organisations and customer advocate groups to identify and refer customers experiencing vulnerability to participate in the Home Gas Audit and Emergency Appliance Repair program. The home audits will be conducted by trained energy advisors from community service organisations, who will perform an assessment on how efficiently these customers use gas and determine if any appliances need to be repaired. Based on feedback from our stakeholders, we will also offer translation services during the Home Gas Audits to cater to CALD communities. If appliances have been identified for repair during the audit based on predetermined criteria, these community service organisations will connect the customer with trade partners who will conduct the repair. There was a deliberate effort to ensure community service organisations were engaged in each step of the process so that customers experiencing vulnerability have a continuity of support and are given the appropriate level of care.
- **Information Hub** - we will create bite-sized educational content and links to other credible information sources (i.e. government websites) to ensure customers experiencing vulnerability are informed, involved and engaged on making efficient gas and energy choices for their homes. This includes an online resources hub with information in multiple languages which will enable us to reach the most customers and provide engaging educational content, specifically targeting those who experience vulnerability. Based on feedback from our stakeholders and customers, we will also invest in digital communication channels to drive awareness and uptake of the content and leverage social media as an interactive engagement channel to support two-way communication with our communities.
- **Internal resources** – we will provide the necessary staffing and internal capacities to deliver the program of work. We estimate that we will require 1 FTE to manage the implementation of, and provide ongoing support for, the initiatives to support customers experiencing vulnerability. This would involve the design of the program, establishing relationships with key community organisations, trade partners and suppliers to negotiate the development and delivery of programs. This role will also lead monitoring and evaluation of the programs, integrate customer feedback and manage continuous improvement. We will also require resources to support internal capacity training of customer service, field-crew staff and updating of internal processes and systems to create a more responsive customer environment.

## 2.1 Nature of the step change

The proposed increase in customers experiencing vulnerability spend is incremental to our existing customers experiencing vulnerability initiative spend included in our 2023-24 base year, and recurrent in nature. We consider that our proposed spend is prudent and efficient. It meets accepted good industry practice (as evidenced by other similar programs[7] approved by the AER) and the desire of our customers to provide more support to a vulnerable part of the community.

We expect that the customers experiencing vulnerability support spend will be recorded as other operating expenditure.

As mentioned, we considered the option of maintaining our current support for customers experiencing vulnerability (that is, do nothing more option). Our customers provided us with a clear preference to do more.

## 2.2 Quantification of the step change

The basis of our estimates for the additional customers experiencing vulnerability programs and associated internal resources are:

- Home Gas Audits and Emergency Appliance Repair: Cost estimates for the home audit were developed with Uniting who provided preliminary estimates for each program element:
  - Cost estimates for in-home gas audits were developed based on initial quotes from community organisations to deliver the service, including staff and travel costs for trained energy advisors.

[7] For example, see AER final decision Australian Gas Networks (Victoria & Albury) Attachment 6 - Operating Expenditure, June 2023

- Cost estimates for interpreters for in-home gas audits were develop based on initial quotes from community organisations, with the assumption that 10% of home visits will require additional translation costs.
- Cost estimates for the number emergency repairs were based on an assumed 40% conversion rate from home audits. This is in line with other industry proposals.[8]
- Cost estimates for the emergency repairs were developed based on initial quotes from trade partners to conduct the service, including labour costs, call out fee and potential spare parts required.

- Information Hub:
  - Cost estimates for building and maintaining the website are based on assumptions that we will leverage Jemena's existing website to host the information.
  - Cost estimates for bite-sized educational content are based on previous costs paid by us to develop similar content.
  - Cost estimates for translation are based on previous costs paid by us to develop content in multiple languages.
  - Cost estimates for digital channels are based on the advice from Jemena's marketing team.
- Staffing and Internal Capacities: We have assumed that 1 FTE will be required to implement the programs and included $50K to cover any internal trainings, and changes to processes/systems.

Table 6 sets out our forecast additional opex costs for how we expect to support our customers experiencing vulnerability over the 2025-30 period.

**Table 6: Customers experiencing vulnerability costs 2025-30 ($2025 millions)**

| Details | $/Units | Units | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | Total |
|---|---|---|---|---|---|---|---|---|
| **Home Gas Audits and Emergency Appliance Repair** | | | | | | | | |
| ***Home Gas Audits*** | | | | | | | | |
| In-home gas audit by trained energy advisors | $750 | 200 | $0.15 | $0.15 | $0.15 | $0.15 | $0.15 | $0.75 |
| Interpreters for in-home gas audit (10% of in-home visits) | $300 | 20 | $0.006 | $0.006 | $0.006 | $0.006 | $0.006 | $0.03 |
| Coordination of trade, follow up and additional support services from comm/orgs | $200 | 80 | $0.02 | $0.02 | $0.02 | $0.02 | $0.02 | $0.08 |
| ***Emergency Appliance Repair*** | | | | | | | | |
| Call out fee, time on site, servicing of appliances | $500 | 80 | $0.04 | $0.04 | $0.04 | $0.04 | $0.04 | $0.20 |
| Spare parts | $400 | 80 | $0.03 | $0.03 | $0.03 | $0.03 | $0.03 | $0.16 |
| **Sub-total** | | | **$0.24** | **$0.24** | **$0.24** | **$0.24** | **$0.24** | **$1.22** |

[8] See section 3 of AGN Attachment 8.2 opex business cases July 2022.

| Details | $/Units | Units | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | Total |
|---|---|---|---|---|---|---|---|---|
| **Information Hub** | | | | | | | | |
| *Hub* | | | | | | | | |
| Building and maintaining the website and webpages | $5,000 | 1 | $0.005 | $0.005 | $0.005 | $0.005 | $0.005 | $0.03 |
| Developing content and linking to credible information sources | $10,000 | 1 | $0.01 | $0.01 | $0.01 | $0.01 | $0.01 | $0.05 |
| Access in multiple languages | $10,000 | 1 | $0.01 | $0.01 | $0.01 | $0.01 | $0.01 | $0.05 |
| *Bite sized content* | | | | | | | | |
| Developing bite-sized educational videos with graphics and animation | $5,000 | 8 | $0.04 | $0.04 | $0.04 | $0.04 | $0.04 | $0.20 |
| Translation/voice over in multiple languages | $3,500 | 8 | $0.03 | $0.03 | $0.03 | $0.03 | $0.03 | $0.15 |
| Developing bite-sized information cards (graphics) | $1,000 | 8 | $0.01 | $0.01 | $0.01 | $0.01 | $0.01 | $0.05 |
| Translation in multiple languages | $10,000 | 1 | $0.01 | $0.01 | $0.01 | $0.01 | $0.01 | $0.05 |
| *Digital & Social Channels* | | | | | | | | |
| Awareness building | $39,000 | 1 | $0.04 | $0.04 | $0.04 | $0.04 | $0.04 | $0.20 |
| **Sub-total** | | | **$0.15** | **$0.15** | **$0.15** | **$0.15** | **$0.15** | **$0.75** |
| **Staff and Internal Capacities** | | | | | | | | |
| FTE | 1 | $0.10 | $0.10 | $0.10 | $0.10 | $0.10 | $0.10 | $0.50 |
| Empathy training, updating internal processes and systems | 1 | $0.05 | $0.05 | $0.05 | $0.05 | $0.05 | $0.05 | $0.25 |
| **Sub-total** | | | **$0.15** | **$0.15** | **$0.15** | **$0.15** | **$0.15** | **$0.75** |
| **Total costs** | | | **$0.54** | **$0.54** | **$0.54** | **$0.54** | **$0.54** | **$2.72** |

Totals might not add due to rounding

# 3. ICT Services – recurrent opex for new projects

We note in section 2.2 of *JGN-Att 5.4-Technology plan* that during the 2020 Plan period there have been several significant changes to the way we capture and record ICT related expenditure, including the requirement to report ICT services not controlled by us as opex rather than capex, and industry trends towards cloud based services and pay-as-you-go services. As set out in chapter 4 of *JGN-Att 5.4-Technology plan*, these changes have resulted in a noticeable decrease in capex, while opex has seen a marked increase, outpacing this decline over the 2015-25 period.

In the current 2020 Plan period, the AER's ICT allowance captured a lot of our ICT costs as capex reflecting the nature of our ICT services and reporting requirements at that time. However, under IFRS Accounting Standards Update No.2018-15, the Financial Accounting Standards Board requires that cloud services / usage and other ICT services not controlled by us are to be recorded as opex from the first financial reporting period beginning after 15 December 2020 (1 January 2021 for JGN). Therefore, in the current 2020 Plan period we commenced recording these expenses in our financial reporting as opex even though generally the AER had assumed they were part of our capex allowance for regulatory purposes.

Further, we note in section 3.1 of *JGN-Att 5.4-Technology plan* the industry changes and trends impacting the technological landscape. In particular, we note the significant shift by users and vendors away from on-premises to cloud computing services to remain efficient, meet customer expectations and unlock new opportunities for innovation and growth. This comes with increased pay-as-you-go subscription models. There is also an increasing vendor dominance of technology services which is resulting in increased charges for pay-as-you-go subscription services.

For the 2025 Plan period we will continue the transition to cloud services, including shifting to cloud-based subscription services away from the on premise technology that we historically relied on. We expect this will continue to put upward pressure on our ICT costs. We note however, that where feasible we aim to reduce our ICT costs, for example, by reducing dependency on one vendor and when feasible, seeking multiple quotes for services.

Further, we expect that a large portion of the ICT services costs must be recorded as opex rather than capex. Whilst our opex base year includes costs for recurrent ICT commitments, we need to consider whether we need any additional ICT recurrent opex for ongoing operational expenses associated with a new project or initiative for new capacity undertaken over the 2025-30 period that continues beyond the initial implementation phase.

## 3.1 Nature of the step change

ICT recurrent opex caused by non-recurrent projects reflects the incremental costs associated with new systems that are deployed for new capacity that are not reflected in our base year opex. The incremental expenses may include costs related to maintenance, licensing fees, support, and ongoing operational activities required to sustain the benefits or functionality delivered by the project. They reflect accepted good industry practice, new regulatory obligations and external factors outside JGN's control.

We are forecasting that our ICT opex spend will increase by 34% over the 2025 Plan period compared with the current 2020 Plan period. This compares with an expected increase of 2.3% for the trend allowances under the AER's base-step-trend model.

We expect that the ICT recurrent opex will be recorded as other operating expenditure.

## 3.2 Quantification of the step change

Table 7 sets out our estimated ICT recurrent opex for the non-recurrent ICT projects that we plan to undertake over the 2025-30 period. We have prepared Investment Briefs for each proposed program of work which establishes and summarises the overarching objective and problem statements that will be addressed, as well as

the high-level scope, and what options have been considered to deliver the most prudent and efficient technology solution. The options analysis provides a preliminary assessment of the options to implement an effective solution to achieve the objective of the Investment Brief. *JGN-Att 5.4-Technology plan* provides more details on our proposed non-recurrent ICT projects over the 2025-30 period.

**Table 7: Forecast ICT recurrent opex step change for the 2025 Plan ($2025 millions)**

| Non-recurrent ICT sub-categorisation | Initiative Name | Recurrent-step opex |
|---|---|---|
| Maintaining existing services, functionalities, capability, and/or market benefits | Gas Retail Market Settlement – Major Application Lifecycle | 0.09 |
| | Geospatial systems lifecycle management | 0.59 |
| | Cloud Capacity Growth | 3.48 |
| Complying with new/altered regulatory obligations / requirements | Enterprise Content Management | 0.82 |
| | Data Foundations and Governance | 0.83 |
| | Cybersecurity Program | 2.95 |
| | Contract Lifecycle Management | 0.73 |
| New or expanded ICT capability, functions, and services | Asset Investment Optimisation | 2.98 |
| | Network Management Advanced Analytics | 2.19 |
| | Chronic No Access Digital Metering pilot | 0.38 |
| **Total** | | **15.04** |

Totals might not add due to rounding

We have demonstrated in the Investment Briefs the need to incur the expenditure and that we are adopting the most efficient option in accordance with accepted good industry practice. We consider that the above non-recurrent programs will help us deliver services to our customers consistent with the achievement of the National Gas Objective. Each non-recurrent project is necessary to ensure that our systems remain fit for purpose in a constantly changing technology and network environment where our customers' requirements and expectations continue to evolve.

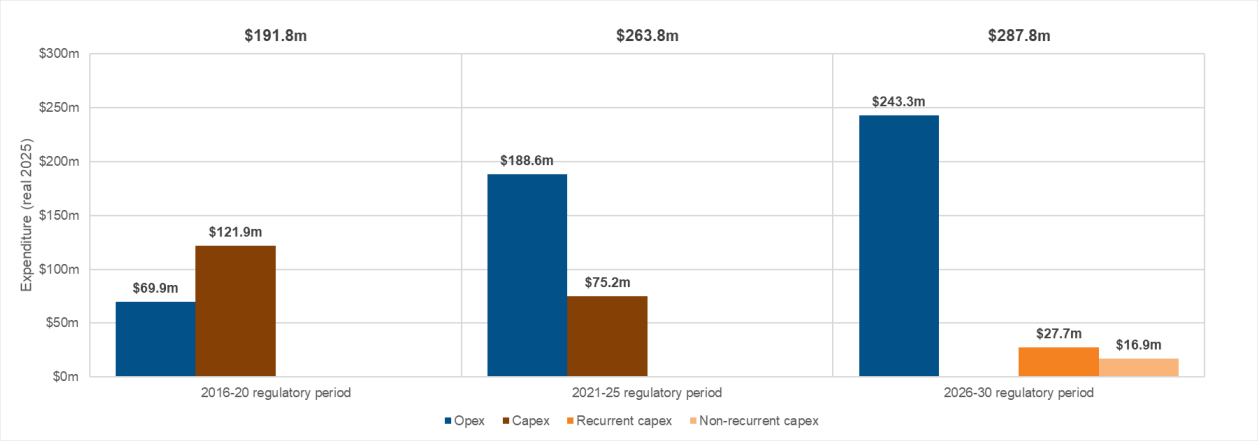
Table 8 shows the above forecast recurrent ICT opex step changes profiled over the 2025 Plan period consistent with profiling set out in the Investment Briefs.

**Table 8: Proposed recurrent ICT opex step changes over 2025-30 period ($2025 millions)**

| Step change | Driver | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | Total |
|---|---|---|---|---|---|---|---|
| ICT services | Reflects accepted good industry practice, new regulatory obligations and external factors outside JGN's control | 0.76 | 2.26 | 3.75 | 3.93 | 4.34 | 15.04 |

As set out in section 7.4 of *JGN-Att 5.4-Technology plan* and Figure 2 below, whilst opex is forecast to increase there is a forecast decrease in capex, partially offsetting total capex and opex (**totex**).

**Figure 2: ICT totex over 20016-30 ($2025 millions)**




The movement in totex is due to:

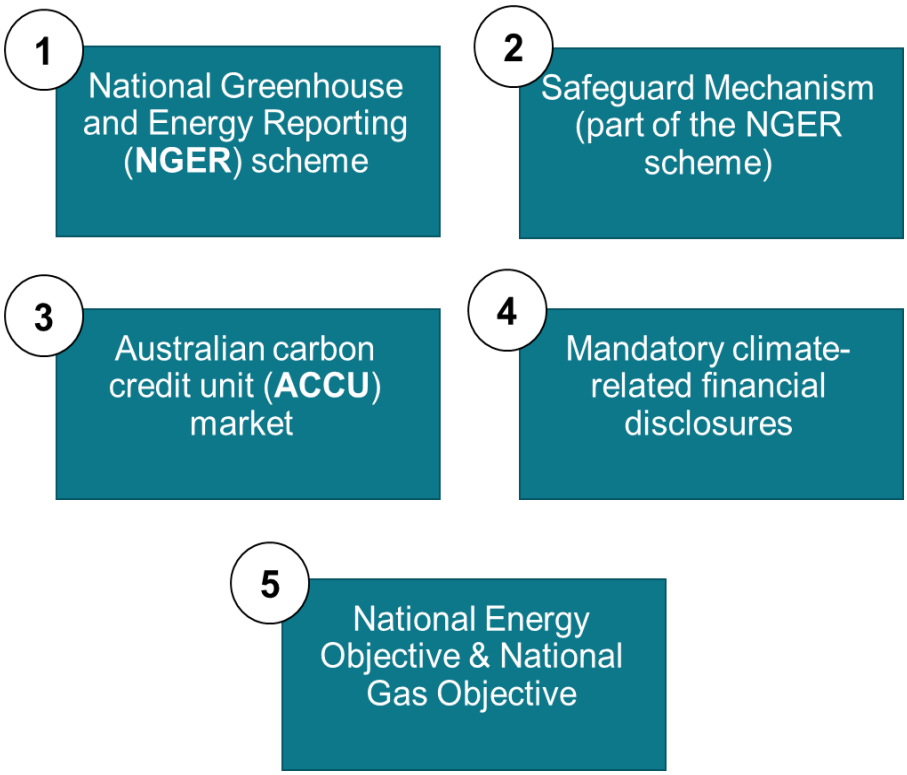
- Over the 2020-25 period, in addition to the re-allocation of SCADA costs to ICT, we have bolstered cybersecurity measures, optimised data management practices, and enhanced cloud engineering capabilities, which has resulted in the need for increased ICT spend (mainly classified as opex) in these critical areas to safeguard operations. This shift underscores a strategic realignment towards operational efficiency and resilience in the face of evolving technological and regulatory landscapes. There has also been rising licensing fees from key vendors such as SAP, Microsoft, and Optus which have contributed to the escalating opex reflecting the ongoing reliance on proprietary software solutions.
- Over the 2025-30 period, we are forecasting an increase in opex and overall totex compared to the 2020-25 period. The increase in opex reflects the continuing shift away from capex to opex. Our increase in totex reflects to the need to ensure the sustainability and resilience of our infrastructure and operations, and to meet the evolving needs and priorities of the regulatory environment.

# 4. Emissions reduction

Customers, communities, and investors are increasingly demanding swift and substantial action while both the Australian and New South Wales (**NSW**) governments have set targets for reducing greenhouse gas emissions.

As part of government decarbonisation policy, we now have several regulatory obligations to achieve government targets on reaching net zero carbon emissions as shown in Figure 3.

**Figure 3: The legislative landscape around net zero**




These regulation obligations are:

1. **The National Greenhouse and Energy Reporting (NGER)** scheme which is a national framework in Australia for reporting and distributing company information about greenhouse gas emissions, energy production, and energy consumption. The NGER scheme was established in 2007 under national legislation. It requires companies over certain threshold sizes to report their emissions and energy data each year. The data is collected by the Clean Energy Regulator. The main objectives of NGER are to:

   a) Provide transparent emissions and energy data to inform government policy and programs

   b) Help meet international reporting obligations on national emissions

   c) Support emissions reduction initiatives and clean energy uptake

   d) Inform business and public understanding of greenhouse emission sources.

2. **The Safeguard Mechanism** is a key component of Australia's NGER scheme, aimed at limiting greenhouse gas emissions from Australia's largest emitters. It establishes emissions baselines for facilities emitting more than 100,000 tonnes of CO2-equivalent greenhouse gases per year. Facilities must keep their emissions within these baselines or take remedial actions such as acquiring and surrendering carbon credits (ACCUs) to offset excess emissions. The mechanism is designed to support Australia's overall emissions reduction

targets, and we are required to commence reporting from July 2024. We have included the forecast cost associated with complying with the Safeguard Mechanism as a category specific forecast in *JGN-Att 6.1-Operating expenditure*.

3. **ACCUs** are tradable units that represent one ton of carbon dioxide equivalent stored or avoided by a project. They are issued under the Emissions Reduction Fund to projects that create carbon abatement, such as reforestation efforts, energy efficiency upgrades, and waste diversion from landfills. Many companies purchase and surrender ACCUs to help offset their carbon emissions and meet sustainability objectives.

4. **Mandatory climate related financial disclosures** – new legislation for climate reporting is likely to commence from 1 January 2025, and our new reporting obligations are expected to start on that date. We have set out in sections 2.1 and 3.1.4 of *JGN-Att 5.4-Technology plan* our ICT system requirements for climate change reporting. Please refer to *JGN - Att 6.11M - Climate reporting model* for calculations behind the costs required to comply with the climate related financial disclosures.

5. The **National Gas Objective** as stated in the National Gas Law (**NGL**) has been recently amended '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:

    a) price, quality, safety, reliability and security of supply of covered gas; and

    b) the achievement of targets set by a participating jurisdiction—

        i) for reducing Australia's greenhouse gas emissions; or

        ii) that are likely to contribute to reducing Australia's greenhouse gas emissions.

In addition, both Houses of NSW Parliament with multi-party support, passed the Climate Change (Net Zero Future) Act 2023 on 30 November 2023. It sets a clear path to 2050 with emissions reduction targets, with an initial 50% reduction target on 2005 levels by 2030. It also provides for the establishment of the Net Zero Commission to monitor, review, report on and advise on progress towards the specified emission reduction targets.

We provide further details on the above regulatory obligations and policy initiatives in chapter 1 of *JGN-Att 4.1-Emissions reduction program*.

Our opex step changes associated with our new obligations and achieving emissions reduction targets, which we discuss below, are:

1. Improving emissions measurement utilising leak detection services through Picarro technology

2. Climate change reporting.

## 4.1 Emissions measurement – Picarro technology

As of July 2024, under the Safeguard Mechanism of the National Greenhouse and Energy Reporting (NGER) scheme, JGN is required to report its annual carbon emissions and achieve a 4.9% reduction in emissions each year (see *JGN-Att 4.1-Emissions reduction program* for how JGN proposes to meet this target*)*. A significant portion of JGN's emissions comes from fugitive emissions caused by leaks in the gas network, highlighting the need for more robust surveying measures to identify and address these leaks. Moreover, the Australian Government has committed to the Global Methane Pledge, which aims to reduce methane emissions across various sectors, including energy, resources, agriculture, and waste.[9]

As set out in section 9.4 of *JGN-Att 6.1-Operating expenditure*, the Safeguard Mechanism requires JGN to calculate the site-specific emission intensity value which will be used to establish the hybrid emissions baseline for JGN. The hybrid emissions baseline will be used to compare the JGN's reported emissions; if JGN's reported

[9] See 'Australia joins Global Methane Pledge', 23 Oct 2022, at https://minister.dcceew.gov.au/bowen/media-releases/australia-joins-global-methane-pledge

emissions (using benchmark unaccounted for gas (**UAG**)) are higher than the hybrid baseline, then JGN is required to purchase Safeguard Mechanism Credits (**SMCs**) or ACCUs.

JGN faces significant challenges in accurately measuring and reporting fugitive methane emissions from its gas distribution network. Currently, we use a standardised formula to estimate emissions, which may be inaccurate and underestimate the true extent of leakages. This limits JGN's understanding of the actual emissions from its network annually. Additionally, relying on our current walking surveys to detect leaks across our 26,000km network is insufficient and labour-intensive, taking five years to complete. This process involves maintenance teams walking along gas main routes with gas detectors, recording leaks on paper maps, and transferring the data to spreadsheets. Undetected and underestimated methane leakages pose environmental, safety, and regulatory risks.

To address these challenges and align with local and international best industry practice, JGN needs to invest in advanced technology to detect and report emissions accurately. As a major polluter, JGN has a responsibility to contribute to the government's net-zero emissions target by 2050.[10] JGN considers that accurately measuring its UAG is consistent with the intent of the NGER scheme, and in helping New South Wales achieve its target of a 50% reduction in emissions compared to 2005 levels by 2030.

JGN plans to move to a higher-order emissions calculation method. To achieve this, JGN will make an application to the Clean Energy Regulator towards the end of 2024. Additionally, JGN is engaging with the Clean Energy Regulator to establish a new method based on more accurate reported emissions as measured by Picarro, a leading provider of greenhouse gas measurement solutions. Further, at a roundtable with industry and the Department of Climate Change, Energy, the Environment and Water (**DCCEEW**),[11] it was noted that moving away from Method 1 is a priority for the industry, and higher order methods are necessary for reducing emissions. Method 1 is not fit for purpose for driving down emissions, and Method 3 offers only marginal improvements. It was also emphasised that the regulatory environment must be flexible to accommodate this approach.

Picarro, a global leader in gas concentration monitoring technology, provides a solution to directly and efficiently measure fugitive emissions across JGN’s network. Picarro’s advanced leakage detection surveys are used worldwide to help network operators reduce emissions and improve infrastructure safety. Its technology is more accurate than our traditional survey methods, which can understate leaks on the network.

In August 2023, JGN began trialling Picarro's new leakage detection and survey technology subscription service to enhance our ability to detect gas leaks in our network. As part of the trial, we acquired two gas leakage survey vehicles and associated support from Picarro. These vehicles were successfully tested in our Dubbo network. In April 2024, we acquired a third vehicle, which has commenced operations.

We have sought customers views on how we should approach our mains replacement program, in the context of the energy transition, and uncertainty surrounding the future role of gas networks. Figure 4 below sets out the customer feedback which has led to us including an opex step change for leak detection services.

10 Climate Change (Net Zero Future) Act 2023 No 48, https://legislation.nsw.gov.au/view/html/2023-12-11/act-2023-048.

11 APGA Roundtable with DCCEEW: fugitive emissions, 2 May 2024.

**Figure 4: Customer views on leak-detection technology vehicles**

### Customer Forum 5

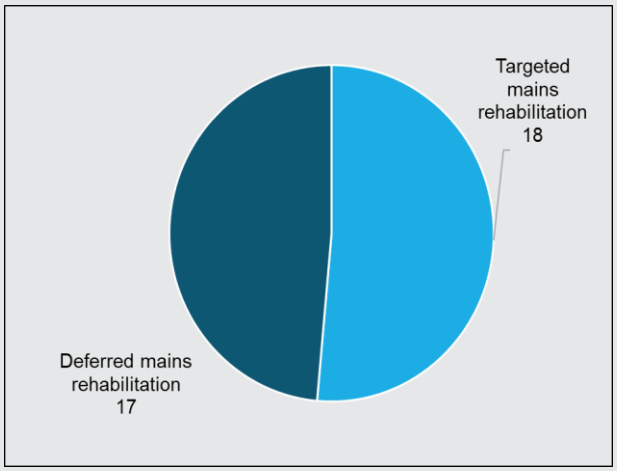
Throughout our engagement our customers told us that they care deeply about the environment and want us to invest in new technologies which will help lower carbon emissions as Australia strives towards achieving its net-zero ambitions.

We engaged with customers over three customer forums on how we should approach our mains replacement program, in the context of the energy transition, and uncertainty surrounding the future role of gas networks.

Customer Forum participants were provided a range of mains rehabilitation options to consider for the next five year period.

In Customer Forum 5, we tested three mains replacement approaches. There was an almost even split of votes between a *deferred* and *targeted* approach to mains rehabilitation.

**How should we change the way we replace our mains?**

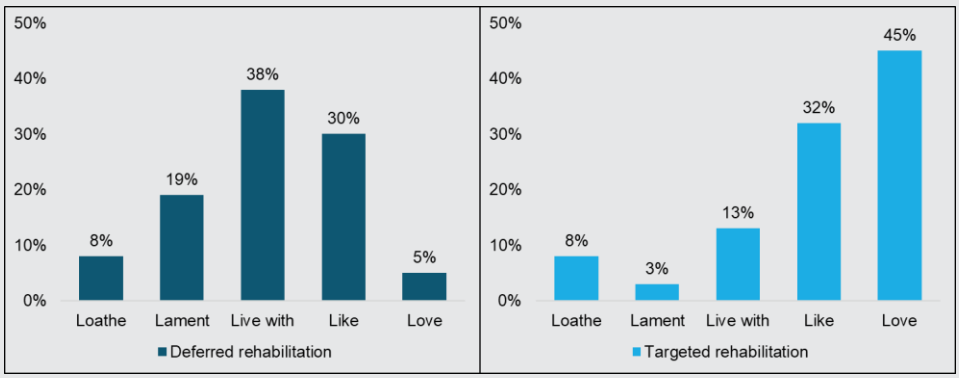



### Customer Forum 7

In Customer Forum 7, we tested both the deferred and targeted approaches again, using a different scale. For the targeted approach, 90% of customers voted that they could ‘live with’, ‘like’ or ‘love’. For the deferred approach, this figure was at 73%.

The deferred approach involves using digital technologies to identify gas leaks, which allows us to take a targeted (as opposed to broad) approach to replacing our mains.

**Support for each mains rehabilitation option (L scale rating on preferences)**




### Customer Forum 8 – Recall Session

As part of the Early Signal Pathway process, the AER suggested that we test customers’ support for Picarro with customers, noting that this would require an operating expenditure step change.

In Customer Forum 8, in addition to reminding participants of Picarro’s role in supporting a targeted approach to mains replacement, we also discussed its potential role in helping us reduce carbon emissions. Two options, with

indicative bills impacts, were presented with Option 1 relying on carbon credits to offset emissions; and option 2 entailing the investment in technology (Picarro) to identity leaks that enables us to take a more proactive approach to asset management and support a reduction in actual emissions from the network .

Customer Forum participants expressed strong support (based on results of L-scale voting) for us investing in Picarro to enable us to reduce network emissions rather than relying on the purchase of carbon credits - 94% of the Customer Forum supported the proposal.

**Support for Picarro to identify leaks and reduce network emissions (L scale rating on preferences)**

| Scale | Votes | % |
|---|---|---|
| **Carbon reduction approach (Forum 8)** | | |
| **Love** | 7.5 | 21% |
| **Like** | 17.5 | 49% |
| **Live with** | 9 | 25% |
| **Lament** | 1 | 3% |
| Loathe | **1** | 3% |
| Total votes | 36 | **100%** |
| **Total > live with** | **34** | **94%** |

**Small business**

As part of our 2025 Plan consultation process we hosted small business focus groups to understand small business customers needs and expectations of the services we provide, and their views on how we should best plan for, and respond to, the energy transition in the face of uncertainty. We examined trade-offs, and the long term implications of the initiatives we might adopt during the 2025 Plan. These initiatives were the same ones as considered by the Customer Forum.

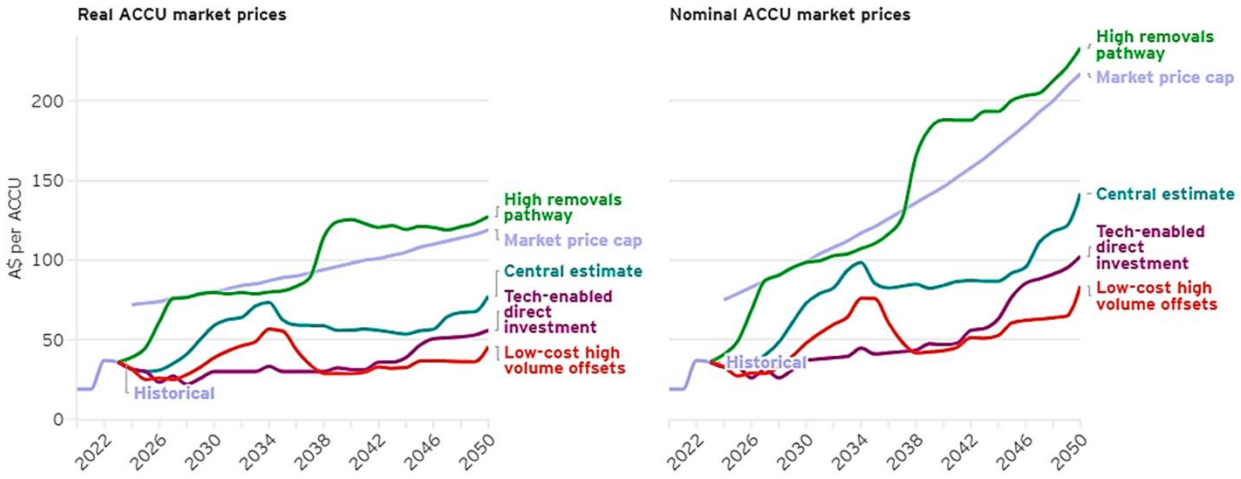
Overall small business customers shared similar sentiments to the Customer Forum with all participants preferring we take a more targeted approach to our gas main replacement program using technology to identify gas leaks.

The Picarro survey units will help us to more accurately detect gas leaks from the network, reinforcing our safety measures, and enable us to take a more proactive approach in selecting which assets we need to repair or replace. The data obtained from Picarro will help identify and measure the benefits achieved by:

1. Prioritising targeted areas for remediation and to identify areas that can be clustered for targeted repairs.
2. Providing greater visibility of JGN's network integrity.
3. Determining areas where the pressure can be reduced to minimise leakage, particularly when the cost-benefit analysis does not stack up for asset replacement.

In addition, by reducing our gas leakage, we expect that we will reduce the need for ACCUs as part of Safeguard Mechanism compliance (see section 9.4 of *JGN-Att 6.1-Operating expenditure*), which are a pass through cost. Figure 5 shows that as the price of carbon increases, it becomes more cost-effective to invest in clean technology and reduce emissions cost-effectively, rather than purchase carbon credits. Please refer to *JGN - RIN - 4.4 - Emissions monitoring – Picarro - CBAM* for the calculations behind the Picarro leak-detection technology and *JGN - RIN - 4.4 - Emissions monitoring – Picarro – BC* for the business case.

**Figure 5: How can Australia's market for ACCUs facilitate decarbonisation?**




Source: EY estimates, available here

We believe that using Picarro's technology reflects accepted good industry practice and will help us achieve the lowest sustainable cost of delivering pipeline services while aligning with the national gas objective.

### 4.1.1 Nature of the step change

We currently have Picarro costs associated with 2.25 cars in our 2023/24 base year and plan to increase to 8 cars and associated costs by 30 June 2025. This means that we expect to incur recurrent costs based on 8 cars using the Picarro technology, requiring an opex step change of 5.75 units of incremental licensing and associated vehicle and people costs.

We expect that the Picarro related costs will be repairs and maintenance.

### 4.1.2 Quantification of the step change

Our proposed opex step change of $21M over the 2025 Plan period will fund the support and subscription of eight Picarro survey units (5 new cars and 5.75 units of incremental licensing and associated vehicle and people costs given the commencement date of April 2024 for our third car, meaning that only 25% of the costs are reflected in the 2023/24 base year).

The cost-benefit analysis in our business case of three options of the number of Picarro cars (see *JGN–RIN – 4.4 – Emissions Monitoring – Picarro – CBAM*) demonstrates that a fleet of 8 cars is necessary to achieve all objectives that we are seeking to address in the accurate measuring and reporting of methane emissions, including regulatory leakage surveillance and the measurement of fugitive emissions, enabling reporting against jurisdictional targets for emissions reduction. While we will still be able to comply with our leakage surveillance requirements, reducing the fleet to fewer than 8 cars would compromise our ability to meet net-zero objectives and fully achieve our objectives for the accurate measuring and reporting of methane emissions.

Our methodology for estimating the cost of Picarro over the 2025 Plan period is:

- Picarro-fitted vehicles – we currently have 3 cars utilising the Picarro technology (with our most recent vehicle commencing in April 2024, reflecting 0.25 costs in base year), and plan for 5 new cars post 30 June 2025 (resulting in 5.75 incremental units for cost estimation). The car costs are included in capex.

- Picarro technology and software subscription reflect the expenses related to subscription of Picarro devices and software. The cost over the 2025-30 period is based on 5.75 units of Picarro devices and software at US$300,000 per unit, multiplied by Bloomberg forecast AUD/USD exchange rates.
- Personnel costs for 5.75 FTEs for driver compensation, accommodation, allowances, training, and management to ensure that drivers are supported, trained, and effectively managed to carry out their technical duties in the field.
- Vehicle costs – we have estimated the expenses for operating and maintaining the vehicle fleet including annual registration fees, monthly fuel and toll charges, regular servicing, and tyre replacements.
- Administrative, Operational and Analytical costs – we have allowed for expenses for managing and analysing network leak data, as well as equipping Picarro car drivers with necessary tools and communication devices to effectively identify, monitor, and measure fugitive emissions.

Table 9 sets out our estimate of the costs of $19.9M ($2023), or $20.8M ($2025), for our emissions measurement over the 2025 Plan period.

**Table 9: Emissions measurement – Picarro technology costs 2025-30 ($2023 millions)**

| Details | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | Total |
|---|---|---|---|---|---|---|
| Picarro technology and software subscription | 2.57 | 2.57 | 2.59 | 2.59 | 2.59 | 12.93 |
| Personnel costs | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 5.46 |
| Vehicle costs | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.52 |
| Administrative, operational and analytical costs | 0.21 | 0.18 | 0.18 | 0.18 | 0.18 | 0.94 |
| **Total costs** | **3.98** | **3.95** | **3.97** | **3.97** | **3.97** | **19.85** |

The business case (*JGN – RIN – 4.4 – Emissions Monitoring – Picarro – BC*) presents a cost-benefit analysis of three options: do nothing (option 1: three cars), enhanced coverage (option 2: five cars), and advanced measurement (option 3: eight cars). For option 3, a sensitivity analysis was conducted considering three emissions scenarios (high, medium, and low) to account for the uncertainty in the difference between actual and reported emissions.

In each scenario, the reduction in emissions is quantified, and its value is calculated by multiplying the amount of reduced emissions by the dollar value per tonne of avoided greenhouse gas emissions (**VER**) and ACCUs. To avoid double counting the value of ACCUs and the VER, the ACCU cost has been netted off the VER. The economic analysis incorporates the cost of ACCUs as an opex line item, while the value of avoided greenhouse gas emissions are treated as a negative economic benefit to be minimised. The value of ACCUs and the VER in each option are estimated relative to the base case (option 1) scenario.

Table 10 shows the summary of the cost-benefit analysis for the four options considered.

**Table 10: Summary of cost-benefit analysis of options**

| | Option 1 Do nothing | Option 2 Enhanced coverage | Option 3 – Advanced measurement | | |
|---|---|---|---|---|---|
| | | | High emissions | Medium emissions | Low emissions |
| No. of Picarro cars | 3 cars | 5 cars | 8 cars | 8 cars | 8 cars |
| Methane emissions % | 37.3% constant over time | 37.3% constant over time | 55%, reduces over time | 37.3%, reduces over time | 28%, reduces over time |
| % reduction in emissions, p.a. | 0% | 0% | 10% | 10% | 10% |
| Emissions reduced (MtCo2e)* | 0 | 0 | 1.20 | 3.76 | 5.18 |
| **NPV net economic benefits ($M)** | **0** | **0** | **635.0** | **815.6** | **915.5** |
| NPV economic benefits ($M) | 0 | 0 | 615.3 | 745.3 | 817.2 |
| NPV costs | 0 | 0 | -19.7 | -70.3 | -98.3 |

*Note: emissions reduced are an aggregate from 2027 to 2030.

We consider that our proposed use of Picarro technology for leak detection services reflects a prudent and efficient approach, and reflects accepted good industry practice. Further, our customers support more accurate measurement of emissions (as evidenced through our engagement) which we expect ultimately will lead to a reduction in our emissions, consistent with the achievement of the National Gas Objective.

## 4.2 Climate change reporting – new regulatory obligation

The introduction of the International Sustainability Standards Board (**ISSB**) under the International Financial Reporting Standards (**IFRS**) is setting a global benchmark for sustainability reporting on business performance in terms of emissions reduction. This standard has been adopted by the Australian Government which means that we will need to comply with these standards. However, because ISSB do not refer explicitly to climate-related matters, and material information about climate-related matters often falls outside the scope of general purpose financial statements (**GPFS**), there has been a demand for the Australian Accounting Standards Board (**AASB**) to expand the scope of its work to develop additional guidance or requirements to promote consistent and comparable reporting of climate-related financial information.

The AASB[12] has released a draft Exposure Draft SR1 Australian Sustainability Reporting Standards – Disclosure of Climate-related Financial Information which proposes Australian climate-related financial disclosure requirements, using IFRS S1 and IFRS S2 as the baseline. The proposals would require an entity to disclose climate-related financial information in a general purpose financial reports (e.g. as part of its annual report). The new legislation for emissions reporting is expected to commence from 1 January 2025 which will take effect from our 1 January 2025 reporting period.

Based on the exposure draft, the new climate-related financial reporting requirements in Australia would include:

1. Disclosures aligned with the Task Force on Climate-related Financial Disclosures (**TCFD**) recommendations, covering governance, strategy, risk management, and metrics and targets.
2. Reporting of Scope 1, Scope 2, and Scope 3 greenhouse gas emissions, with Scope 1 and 2 emissions calculated using methods consistent with the NGER Scheme legislation.

[12] https://aasb.gov.au/news/exposure-draft-ed-sr1-australian-sustainability-reporting-standards-disclosure-of-climate-related-financial-information/ . At 12 June 2024, the AASB board is still to consider feedback on the draft Exposure Draft.

3. Disclosure of climate resilience assessments against at least two possible future climate scenarios, one of which must be consistent with limiting global warming to 1.5°C above pre-industrial levels.

4. Disclosure of the effects of climate-related risks and opportunities on the entity's financial position, financial performance, and cash flows for the reporting period and anticipated future effects.

5. Reporting of climate-related metrics such as the amount and percentage of assets or business activities vulnerable to transition and physical risks, capital deployment towards climate-related risks and opportunities, and internal carbon prices used.

6. Disclosure of climate-related targets, including greenhouse gas emissions reduction targets, and progress towards those targets

We also consider that the change to the NGO supports our emissions reporting opex step change in order to enable us to achieve any 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.

### 4.2.1 Nature of the step change

We currently do not have any obligations to complete sustainability reporting on business performance of emissions reduction and expect that the annual recurrent requirement will commence from 1 January 2025.

We expect that the climate reporting will be recorded as other operating expenditure.

Given that is a new regulatory obligation, we have not considered the option of not complying (doing nothing).

### 4.2.2 Quantification of the step change

In considering the impact of the new AASB Australian Sustainability Reporting Standards obligations, we have considered the four pillars of the sustainability disclosure requirements (governance, strategy, risk management, and metrics and targets). We expect that in preparing to comply with the new reporting requirements we need to develop internal control procedures and data collection processes. Most of this work will occur during the period 1 July to 31 December 2024 and therefore will be a cost incurred in the current 2020-25 period.

New activities associated with compliance to the new AASB Australian Sustainability Reporting Standards that we expect to incur additional ongoing costs over the 2025-30 period relate to:

- Implementation: Broaden and adapt existing systems and processes for capturing and analysing data. This includes integrating sustainability data capture within overall business operations and automating processes where possible, and training staff on new requirements. Given the complexity of the new reporting requirements for across the Jemena Group, we expect that we will need approximately two years to fully implement the necessary systems and processes, with initial set up in the first year followed by refinements in the second year (2025-26). This will allow us to improve the quality, accuracy, and efficiency of our climate reporting, ensuring that we are not only compliant but also aligned with industry best practices.

- Governance and Internal Control: establish robust governance processes and internal controls to meet the new standards. This includes developing and refining data collection processes, and management and monitoring of climate related risks and opportunities.

- Engagement and Training: Engage with current process owners and reporting staff to leverage their knowledge and identify opportunities for enhanced control and oversight. Implement necessary training and support for change management.

- Strategic planning to ensure a smooth transition that satisfy the regulatory changes. This will include ensuring the Jemena group of businesses has appropriate climate change resilience built into its strategy and business model, and consideration is given to the financial implications of doing so. We will develop a transition plan and internal emissions target-setting process, which will be updated annually.
- Annual reporting of scope 1,2, and 3 emissions, interim targets and any associated financial reporting, and any purchase of carbon offsets
- Assurance - auditing fees to obtain independent assurance that the new reporting standards have been properly followed.

Across the Jemena group we expect that completing the above activities will require 4 full time equivalents.

Based on JGN's calendar year 2023 revenue as a proportion to total group revenue, JGN will be allocated about 28% of the total incremental costs associated with the new climate change reporting requirements. The revenue allocator has been used to allocate the costs across Jemena's business given that the reporting requirements are across all Jemena entities, and are not driven by parts of Jemena's business which are higher emitters. In addition, JGN expects that it will incur $100,000 in external consultancy fees each year to assist in collating the relevant information required by the new reporting obligations.

Table 11 sets out our forecast cost of $3.4M ($2023), or $3.6M ($2025), for JGN to comply with the new emissions reporting requirements over the 2025-30 period (see *JGN-Att 6.11M-Climate change reporting model* for further detail).

**Table 11: Climate change reporting requirements costs 2025-30 ($2023 '000s)**

| Details | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | Total |
|---|---|---|---|---|---|---|
| One-off implementation | 70 | - | - | - | - | 70 |
| Governance | 27 | 27 | 27 | 27 | 27 | 133 |
| Strategy | 64 | 64 | 64 | 64 | 64 | 322 |
| Risks, opportunities, metrics & targets | 43 | 43 | 43 | 43 | 43 | 216 |
| External support, formal audit & assurance | 462 | 462 | 462 | 462 | 462 | 2,312 |
| Report publication | 78 | 78 | 78 | 78 | 78 | 392 |
| **Total climate change reporting** | **675** | **675** | **675** | **675** | **675** | **3,444** |

We consider that our approach and associated forecast costs to comply with the new climate change reporting requirements are prudent and efficient, and reflect accepted good industry practice. We have considered the likely activities and resources required across the Jemena Group and consequently are able to efficiently meet JGN's obligations by sharing the costs across Jemena, helping us to achieve the National Gas Objective.

# 5. Pipeline Integrity Management Program

This activity is a major external factor outside JGN's control to avoid risk of failure in high pressure pipelines. The activity reflects a regulatory requirement in our pipeline licences that we operate our pipelines in accordance with Australian Standard (AS) 2885.3[13] Pipelines – Gas and Liquid Petroleum: Operations and Maintenance that documents Integrity Management Standards consistent with best industry practice.

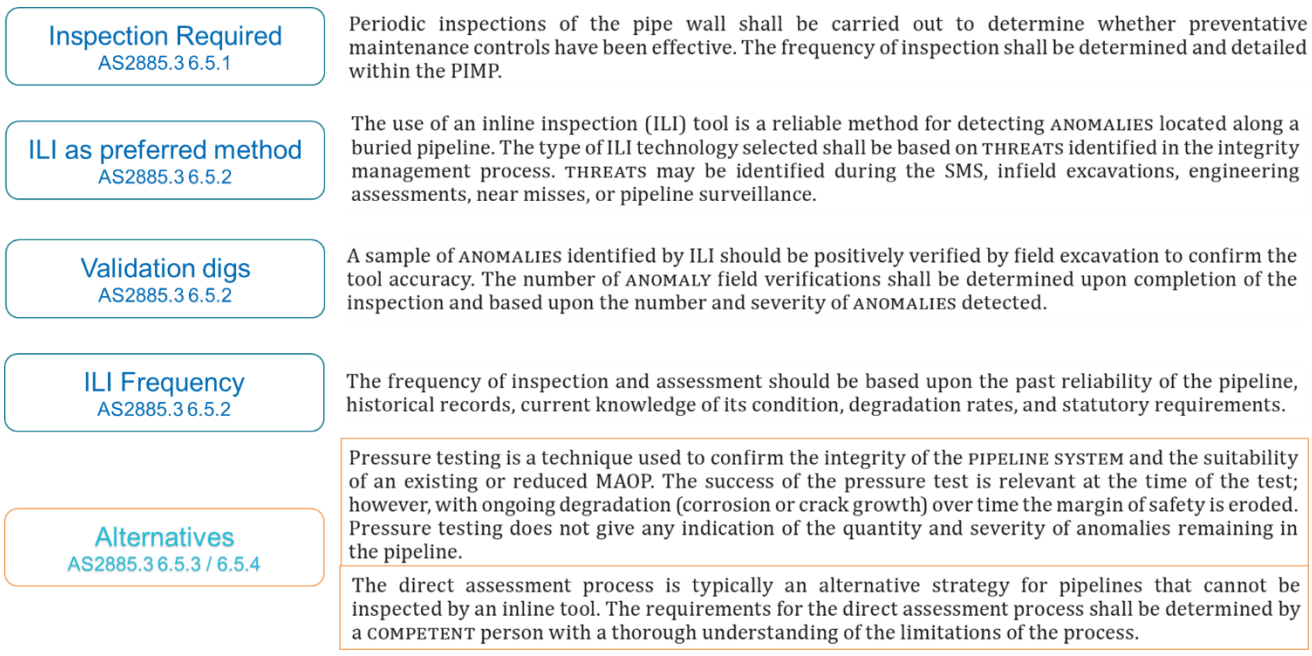
The drivers for our Pipeline Integrity Management Program of works related to the high pressure integrity management are:

- Safety, for both the public and JGN employees and contractors, is non-negotiable. A large portion of JGN's pipelines operate in urban or semi-urban areas. The on-going integrity of JGN's high pressure pipelines is a critical element of mitigating any risks that have the potential to affect the safety of the public or JGN employees or its' contractors.
- The JGN high pressure pipelines act as the foundation for the on-going delivery of gas to JGN's customers. Any integrity events that lead to the loss of function of these pipelines is likely to have a major consequence with respect to the supply to JGN's customers.
- Cost effective proactive management to ensure the integrity of JGN's pipelines. Unplanned failure events lead to expensive repairs and large consequential losses.

Since our Draft 2025 Plan, we have conducted a comprehensive review of the AS2885.3 requirements (see Figure 6) and applied a risk-based asset management approach to developing our developing our forecast Pipeline Integrity Management Program, identifying the need for a significant increase in preventative measures over 2025-30 period. We also considered the risk allocation between us and our customers. In particular:

1. We have taken a balanced approach that ensures a fair sharing of risk between us and our customers
2. Given our ageing and critical infrastructure, we have considered the implications of our plan on customer values of Safety, Environment and Reliability
3. Our planned program is long-term focused and not to the detriment of future generations.

**Figure 6: AS2885.3 Pipeline Integrity Management Standards requirements**




[13] The NSW Pipelines Act and NSW Gas Supply Act both oblige JGN to meet the requirements of AS2885.3.

As required by AS2885.3, the core activity of our Pipeline Integrity Management Program is In-line inspection (**ILI**) which is crucial for maintaining the safety and reliability of aging gas networks, and proactively addressing pipeline integrity issues and minimising risks to public safety and the environment. Good industry practice is to specify ILI inspection utilising a risk based approach for inspection intervals and the configuration or type of tool or tools to be deployed. ILI allows for:

- Nearly 100% inspection of long-length high-pressure pipelines
- Accurate location and sizing of defects
- Targeted repairs and understanding of defect mechanisms
- Validation digs to calibrate and confirm ILI results.

Conducting ILI helps:

- Reduce the risk of pipeline failures, leaks, and hazardous incidents
- Ensure the long-term integrity and safety of the gas network
- Make informed decisions regarding pipeline maintenance and repairs
- ILI is essential for proactively addressing pipeline integrity issues and minimising risks to public safety and the environment.

Inspection intervals are set based upon the risk factors determined from what is known about the threat characteristics and findings from previous inspections – i.e. past reliability of the pipeline, historical records, current knowledge of its condition, degradation rates or statutory requirements (AS2885.3). The industry has also adopted a cap or maximum interval limit of 10 years.

ILI tools are configured to inspect for the threat characteristics that have been determined for the pipeline being inspected. The tools must be capable of detecting and sizing/sentencing (depth and length) anomalies/features of those threats. To determine different threat characteristics, different tools may need to be utilised, leading to some pipelines having multiple ILI ‘runs’ with those different tools. The sensitivity and detectability of the threat characteristics is also dependent upon the nature and capability of the tool.

Other activities of our Pipeline Integrity Management Program in accordance with AS2885.3, include:

- Validation digs, which are used to verify the inline inspection data and enable calibration and therefore are an essential part of pipeline integrity management. Based on the findings of the validation digs the remediation digs are completed.
- Direct Current Voltage Gradient (**DCVG**) which is an industry accepted method for detecting coating defects utilising the cathodic protection system. AS2885.3 outlines the use of DCVG as a key set of supporting data for the indirect assessment of pipelines, particularly where ILI is not an option. The method provides an indication of some coating defects, however, it does not provide an indication that metal loss due to corrosion is occurring.
- Direct Visual Inspection, which requires the pipeline to be able to be physically inspected. Direct Visual Inspection can be undertaken where either the pipeline is already exposed (i.e. not buried, on a bridge, etc.) or where the pipeline is exposed through an inspection dig-up.

We provide a detail of our proposed Pipeline Integrity Management Program for the 2025-30 period in *JGN-Att 19 – Document Index*.

## 5.1 Nature of the step change

Whilst pipeline integrity management activities are recurrent in nature, they are very much dependent on the age of the pipelines and when the last preventative assessment measures were undertaken (they are usually completed on a 10 year rotation basis). This approach reflects good industry practices.

This means that our Pipeline Integrity Management Program can vary year to year, and particularly from one regulatory period to another. In the 2020-25 period, our expenditure on Pipeline Integrity Management Program preventative measures is expected to be an average of $2.5M (2023$) per year over the 2020-25 period, and $2M in 2023/24. We had assumed that our base year spend for preventative measures to avoid risk of failure in high pressure pipelines would be sufficient for our requirements over 2025-30. However, as shown in section 5.2 below we are expecting a large pick up in our pipeline integrity management activities over the 2025-30 period with an average annual forecast spend of about $7.3M ($2025). Given the resulting step in estimated costs we have disclosed our Pipeline Integrity Management Program costs as a step change rather than a category specific forecast.

Pipeline integrity management activities are categorised as other operating expenditure.

Given the safety aspect of our Pipeline Integrity Management Program we have not considered the option of doing nothing as it is inconsistent with the safety regulations and does not reflect accepted good industry practice.

## 5.2 Quantification of the step change

We have developed our ILI program based on:

- industry practice of minimum 10-year intervals
- regression analysis of defect deterioration from previous inspections
- known defects or events that may have occurred
- costs based on historical campaigns and discussions with specialist suppliers.

Our ILI program is also supported by a validation dig program which is based on:

- historical inspection results and dig programs
- understanding of potential integrity issues from other means
- length of the pipeline segment
- recent costs based on historical dig campaigns and knowledge of pipeline environments.

Table 12 sets out our estimate for our Pipeline Integrity Management Program cost over the 2025 Plan and the required opex step change of $28M ($2025). Further detail on our Pipeline Integrity Management Program and cost estimates are provided in *JGN-Att 19 – Document Index*.

**Table 12: JGN Pipeline Integrity Management Program costs 2025-30 ($2023 millions)**

| Pipeline | Activity | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | Total |
|---|---|---|---|---|---|---|---|
| Licence 1 | Digs | 3.2 | 0.03 | - | - | - | 3.23 |
| Licence 2A | ILI | 0.04 | 0.16 | 2.37 | - | - | 2.58 |
| | Digs | - | - | 0.02 | 0.44 | 1.20 | 1.66 |
| Licence 3, 7 & 8AB | ILI | - | - | 0.04 | 0.16 | 2.38 | 2.58 |
| Licence 8C | ILI | - | 0.94 | 1.14 | 0.18 | - | 1.42 |
| | Digs | - | - | 0.01 | 0.42 | 1.32 | 1.75 |
| SPL Hoxton to Tempe | ILI | 2.55 | - | - | - | - | 2.55 |
| | Digs | 2.44 | 1.24 | - | - | - | 3.69 |
| Penrith Primary | ILI | 0.04 | 0.16 | 1.51 | - | - | 1.71 |
| | Digs | - | - | 0.01 | 0.60 | 1.44 | 2.05 |
| SPM Horley to Banksmeadow | ILI | 2.17 | .04 | - | - | - | 2.21 |
| | Digs | 0.04 | 0.85 | 0.18 | 1.77 | - | 2.85 |
| SPM Putney to SB | ILI | - | - | 0.04 | 0.16 | 2.52 | 2.72 |
| | Digs | - | - | - | - | 0.99 | 0.99 |
| SPM Mortlake to Putney | ILI | 0.94 | 1.97 | 0.18 | - | - | 2.24 |
| | Digs | 0.02 | 0.16 | 0.96 | 1.83 | - | 2.11 |
| Direct Current Voltage Gradient (DCVG) digs | ILI | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 1.25 |
| Total pipeline integrity management program 2023$ | | 10.85 | 4.97 | 5.86 | 5.82 | 9.20 | 36.70 |
| Less costs in 2023/24 base year opex 2023$ | | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 9.85 |
| Total pipeline integrity management program ($2023, millions) | | 8.88 | 3.00 | 3.80 | 3.85 | 7.23 | 26.85 |
| **Pipeline integrity management program opex step change ($2025, millions)** | | **9.3** | **3.14** | **4.08** | **4.03** | **7.58** | **28.13** |

Totals might not add due to rounding

Our Pipeline Integrity Management Program is a very important activity in ensuring that we provide a safe and reliable service. Our approach is consistent with our regulatory requirements and accepted good industry practice. We have sought to ensure that our program is efficient to minimise our overall spend whilst ensuring that we continue to provide safe and reliable services. We consider that our program is consistent with the achievement of the National Gas Objective.