# Climate Transition Plan

2025

SGSP AUSTRALIA ASSETS

## Important information about this Climate Transition Plan

This *Climate Transition Plan* (Plan) is made by SGSP (Australia) Assets Pty Ltd (ABN 60 126 327 62) (SGSPAA) and its wholly owned subsidiaries (collectively, our Group). The purpose of this Plan is to set out a direction and strategy, together with actions and timing, to assist the Group to achieve its climate ambitions. It will form part of the upcoming mandatory climate disclosures for SGSPAA, commencing from the financial period starting 1 January 2025. SGSPAA makes this single joint statement on behalf of all reporting entities in the Group, including our two major brands: energy infrastructure business, Jemena; and engineering management and construction business, Zinfra. All subsidiaries are incorporated in Australia and 100 per cent of their share capital and units issued are owned by the Group, a list of which can be found in SGSPAA's Financial Statement for the year ended 31 December 2023.

Our Group holds a 50 per cent interest in the ActewAGL Distribution Partnership, primarily operating as Evoenergy, and a 34 per cent interest in United Energy Distribution Holdings Pty Ltd. These entities are not controlled by the Group and therefore are not covered by this Plan.

Any statements made in this document as to future actions by SGSPAA, including without limitation climate change, sustainability and net zero related forward-looking statements, targets, commitments, estimates, assumptions and metrics, are predictive in character. While we have made every effort to ensure that forward-looking statements are reasonably based and the assumptions underlying the statements are made clear, such statements and the implementation process or outcome(s) may be affected by incorrect assumptions or by known and unknown risks, uncertainties and events beyond the control of SGSPAA. As a result, the ultimate outcome(s) may differ from the action(s) described in this Plan. Please refer to the full disclaimer on page 41 of this document.

In developing this Plan, we have endeavoured to implement the guidance and principles outlined in the *TPT Disclosure Framework*[1] which supports companies to develop high-quality, consistent and comparable transition plan disclosures.

Our emissions reduction targets and metrics were developed referencing standards and guidance from the Science Based Targets Initiative[2] (SBTi) – noting there is no current guidance for the energy infrastructure sector – together with Climate Action 100[3] (CA100) recommendations for our goal- and target-setting process. We will review our Plan annually, and provide an update on progress.

This Climate Transition Plan was endorsed by the SGSPAA Board on 5 December 2024.

**SGSPAA Group**
Level 16, 567 Collins Street
Melbourne Vic 3000

For more information about this report contact Corporate_Affairs@jemena.com.au. For more information about our Group, visit **www.jemena.com.au**. Our annual reports, including Financial Statements and our Sustainability Reports are available at **www.jemena.com.au/about-us/investor-centre/**

1 Transition Plan Taskforce (TPT) is a UK-led initiative to establish a gold standard for private sector climate transition plans, **TPT Disclosure Framework**, October 2023.
2 The Science Based Targets initiative (SBTi) is a collaboration between the CDP, the United Nations Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF) to help companies to set emission reduction targets in line with climate sciences and Paris Agreement goals, **SBTi Website**.
3 CA100+ is an investor-led initiative to ensure corporate greenhouse gas emitters take necessary action on climate change, **Climate Action 100+ Website**.

## Acknowledgement of Country

We acknowledge the Traditional Owners of the lands on which we operate and recognise their continuing connection to land, waters and culture.

We pay our respects to their Elders past and present.

*Artwork by Aboriginal artist Chern'ee Sutton from Mount Isa.*

# Contents

# Our Path So Far

## 2019

First Sustainability Report, including disclosure of Scope 1 and Scope 2 emissions

## 2020

First Emissions Reduction Plan established

**AUGUST**
First electric work platform in use as part of our strategy to reduce emissions across our fleet

## 2021

**MARCH**
Announced our net zero emissions by 2050 ambition

**NOVEMBER**
Western Sydney Hydrogen Hub Operational

## 2022

Jemena led trials of managed electric vehicle (EV) charging to understand how to manage the impact of extra demand on the grid at peak times

## 2023

**MAY**
Malabar Biomethane Injection Plant operational

**AUGUST**
Picarro Gas Leak Detection Vehicle Pilot commenced

**SEPTEMBER**
Zinfra teams mobilised to site to deliver transmission line and substation projects for the Waratah Super Battery – the southern hemisphere's largest network battery

## 2024

**JANUARY**
Feasibility assessments for transporting hydrogen in our Eastern Gas Pipeline commenced

Feasibility studies to replace emissions-intensive water bath heaters commenced

Front End Engineering Design (FEED) for potential electrification of compressor stations on gas transmission pipelines commenced

**MAY**
First disclosure of Scope 3 emissions and partial TCFD disclosure

**OCTOBER**
Zinfra obtained an Infrastructure Sustainability Council Bronze rating for the Malabar Biomethane Injection Plant's construction

## 2025

**FEBRUARY**
Group interim emissions reduction targets and first CTP release

**APRIL**
Climate scenario analysis, Strategic risk and opportunities released in our annual 2024 sustainability report

# Our Climate Transition Plan Highlights

**Aiming to invest $185 million in energy and climate transition initiatives to 2030**

**Rebalancing our asset portfolio to achieve 50-50 gas-electricity mix by 2030**

**Targeting 30 per cent Scope 1 and 2 emissions reduction compared to 2021-22 baseline by 2030**

**Fully integrating climate considerations into our business processes and systems**

## Our Climate Ambitions

**To achieve a just transition for all our stakeholders**

**To fully integrate climate considerations in our systems and processes**


**To play our role in servicing the energy transition and support Australia's decarbonisation commitments**

# Statement from our Chair and Managing Director

**Our inaugural *Climate Transition Plan* represents a milestone for our Group as we navigate the transition to a net zero economy and the growing physical impacts of climate change. Australia's energy sector is undergoing rapid transformation to address these challenges while working to ensure energy security, inclusivity and equity for all in the transition.**

**David Gillespie**
Managing Director

**Jiang Longhua**
Chair of the Board

Over the past few years, we have taken steps to reduce our emissions and adapt our business for the energy transition. While we acknowledge we have more work to do to identify the actions required to reach our net zero by 2050 goal, this Plan offers a roadmap for our stakeholders, including our customers, employees, shareholders, government regulators, suppliers and the communities in which we operate. It sets out the actions we are seeking to take to cut greenhouse gas emissions, such as replacing, where economically viable, emissions-intensive equipment on our gas pipelines, reducing fugitive emissions and reducing line losses in our electricity network. It also outlines our efforts to establish a renewable gas sector for customers and to explore opportunities to invest in and connect renewable energy and energy storage infrastructure through our energy services and contracting business. It highlights some of the risks and challenges for us in meeting our target of reducing our Scope 1 and Scope 2 emissions by 30 per cent by 2030.

Our Group's objective of *transitioning our assets and business to enable a resilient energy future* means we are working towards rebalancing our mix of energy infrastructure assets, and the services we deliver, to meet demand in the new energy market resulting from the energy transition. The operational and investment activities described in this Plan recognise the important role our assets can play in firming energy supply as increasing renewable energy sources are introduced to the network, while simultaneously meeting new energy demand and supporting our customers to meet their emissions reduction targets. We also recognise and are planning for physical risks to our assets, operations and communities posed by the changing climate, including the increased risks of bushfire, flooding and extreme temperatures.

## Our Role in the Energy Transition

Australia's future economic prosperity depends on a low-cost, reliable, sustainable and low-emissions energy system – spanning electricity, gas and liquid fuels – which will be enabled by the broader energy transition. Traditionally, the electricity, gas and liquid fuels sectors have been viewed as three separate sectors, but as we navigate the energy transition, this perspective will be challenged. As we evolve our energy system, we anticipate these sectors will play more complementary roles, with gas – ideally including renewable gases (such as biomethane, renewable hydrogen and synthetic methane) – playing a role for hard-to-electrify industries in both facilitating their continued operation, as well as meeting their emissions reduction targets and even potentially supporting sectors such as commercial transport.

As the owner and operator of both gas and electricity assets through Jemena and as a leading service provider to the energy sector through our energy services and contracting business, we have the benefit of seeing how the energy system can work together within our own portfolio.

## Statement from our Chair and Managing Director continued

Currently, the Jemena Gas Network (JGN) services more than 1.5 million customers in New South Wales and our gas transmission network transports gas to major locations on Australia's east coast. The Jemena Electricity Network (JEN) services more than 380,000 customers in Melbourne's north-west.

We have insight into the current and future role of both electricity and gas within our energy system, and are taking a whole-of-economy perspective to emissions reduction. This means our role may contribute to our own emissions increasing in the near term as some of our hard-to-electrify industrial customers may look to reduce their emissions by switching to natural gas from higher-emitting fuels, such as coking coal used in blast furnaces for steel manufacturing, and enabling the retirement of higher-emitting coal[1] and diesel[2] electricity generation. Similarly, gas, in conjunction with energy storage solutions can provide crucial firming power to support intermittent renewable electricity sources like wind and solar. In the future, we aim for our gas assets to transport, in ever-increasing volumes, renewable gases such as biomethane and renewable hydrogen to give customers – including industrial customers whose processes are hard to electrify – flexibility in the energy sources they use. We will continue to work with the renewable gas sector to facilitate investment and market development and reinforce its merit as a way to reduce emissions as well as continue to advocate for necessary regulatory framework changes with Federal and State governments.

In Victoria, where the JEN is located, we aim to improve and expand our network so we can respond to future demand forecasts, changing consumer behaviours and the take-up of technologies such as roof-top solar and battery storage. We are also preparing to meet the demands of new customers, such as data centres – which have large and bespoke energy needs – as well as other businesses in our network area.

Our business strategy for our energy services and contracting business aims to have our highly skilled people working on more projects supporting the energy transition for clients across Australia.

### Securing a Just Transition

While working to reduce emissions across our assets and ensure energy supply security, we remain committed to supporting our customers – particularly our most vulnerable customers who may be most affected by the energy transition. Over the past 18 months, in preparing our draft pricing and services plans for our electricity and gas networks for the next five years, we have carried out an extensive consultation and engagement program with our industrial, commercial and residential customers – including those experiencing disadvantage – along with other stakeholders, energy experts, and industry partners. Our goal was to understand their expectations for our gas and electricity networks, both now and in the future.

### What is a 'just transition'?

**The United Nations defines the concept of just transition[3] as "... Ensuring that no one is left behind or pushed behind in the transition to low-carbon and environmentally sustainable economies and societies, can enable more ambitious climate action and provide an impetus to attaining the Sustainable Development Goals."**

A key theme that emerged is that customers want ways to reduce emissions – in their homes and to meet business targets – while also ensuring an affordable and reliable energy supply.

As we implement this Plan, we will continue to engage with our customers and other stakeholders to understand their needs during this period of change, while keeping them informed of our plans and progress.

We're excited about the opportunities, realistic about the challenges, recognise we have more work to do in the coming years, and look forward to playing our part in helping Australia meet its net zero target by 2050.

**Jiang Longhua**
Chair

**David Gillespie**
Managing Director

1 This emissions comparison is based on combustion only and does not represent a full life-cycle analysis. Coking coal produces 92.03 $kgCO_2e/GJ$ upon combustion and natural gas produces 51.53 $kgCO_2e/GJ$ on combustion. Based on National Greenhouse and Energy Reporting Determination (compilation 17 dated 1 July2024).

2 The emissions comparison is based on combustion only and does not represent a full life-cycle analysis. Diesel oil produces 70.20 $kgCO_2e/GJ$ upon combustion and natural gas produces 51.53 $kgCO_2e/GJ$ on combustion. Based on National Greenhouse and Energy Reporting Determination (compilation 17 dated 1 July2024).

3 Principles of just transition defined by United Nations in Page 1. CDP-excerpt-2023-1.pdf (un.org)

# Our Climate Transition Plan – in Summary

| OUR CLIMATE AMBITIONS | OUR ACTIONS | | | | | |
|---|---|---|---|---|---|---|
|  **To achieve a just transition for all our stakeholders** | **Engaging meaningfully with our customers, our communities and other stakeholders**<br>We will continue engaging with the broad spectrum of customers, ranging from people with low energy literacy or experiencing disadvantage to major industrial energy users, to understand their needs as the energy sector transforms, and to achieve an inclusive transition.<br>*Details about our approach, including recent engagement relating to our regulated assets, are on page 33.* | **Transforming jobs in the energy industry**<br>As the energy sector transforms, we will continue upskilling our people to respond to the needs of the industry. | **Continuing to keep our people safe, both in terms of physical and psychological health**<br>As a leading energy infrastructure and services company, we know there are risks involved in what we do. We continue pursuing excellence in safety because it is not only important for our people, but also because it's crucial to delivering energy to our customers and communities reliably and safely.<br>*Our Health and Safety Strategy 2025-2028 is available at www.sustainability.jemena.com.au.* | | | |
|  **To fully integrate climate considerations in our systems and processes** | **Continue to integrate climate considerations into business decision-making and planning**<br>Our key business processes, including annual business planning, have featured climate as a decision factor since the establishment of our first emissions reduction plan in 2020.<br>This also includes our risk management processes, which take into account the economic, regulatory and physical risks of climate change.<br>*Details about our governance of climate-related decision-making are on page 40.* | **Consider emissions alongside economic factors in our decision-making**<br>Our project and asset augmentation approvals include emissions impact as one of the decision criteria and carbon pricing[1] is integrated in our investment framework. | | | | |
|  **To play our role in servicing the energy transition and support Australia's decarbonisation commitments** | **Reducing our Scope 1 and Scope 2 emissions, and enabling our customers to reduce emissions**<br>We have set a target to reduce our operational emissions by 2030 by 30 per cent, compared to our 2021-22 baseline. Our Scope 1 and 2 emissions for 2021-22 were 940.2 $ktCO_2$-e, meaning our target for 2029-30 is 658.0$ktCO_2$-e.<br>We will also continue to support our customers to meet their emissions reduction targets, helping to bring about decarbonisation of the wider Australian economy.<br>*Read more about our emissions reduction metrics on page 36. Details about our active intervention plans (including work to support the development of a renewable gas sector) to support our customers' emissions reduction targets are from page 17.* | **Transforming our operations and leveraging opportunities resulting from the energy transition**<br>Our current asset optimisation plans aim to maintain energy reliability, safe operations and minimise energy costs for our customers. We recognise our responsibility to support the energy transition in Australia and we do this by reducing our own emissions and helping our customers to reduce theirs. We are also working to help establish an Australian renewable gas sector to enable natural gas substitutes and to support Australia towards achieving its net zero by 2050 goal.<br>*Read more from page 15.* | **Expanding the JEN to support increasing electrification**<br>Through our JEN 10 Year Strategy, we intend to expand our electricity network to respond to increasing electrification of Australia's energy system.<br>*Read more on page 29.* | **Growing our energy services business to deliver infrastructure projects supporting the energy transition**<br>We will explore opportunities for growth provided through the energy transition for our services business, which provides engineering, project management, construction, operations and maintenance services to the energy sector. This will include setting up our business and deepening our capabilities to deliver renewable energy projects.<br>*Read more on page 31.* | **Investing in contracted electricity assets like energy storage systems, standalone power systems and transmission assets**<br>As part of rebalancing our asset portfolio to achieve a 50-50 gas-electricity mix, we intend to invest in contracted electricity assets like energy storage systems, including Battery Energy Storage Systems (BESS), standalone power systems and transmission assets, where these opportunities achieve our business and climate goals. | **Investing in pipeline transmission assets to support energy security and decarbonisation via gas powered generation**<br>We will consider investments in gas transmission assets that support energy reliability or gas-powered electricity generation and assist the retirement of higher emitting industrial fuels for our customers. We will explore the potential for carbon capture and storage in the longer term. |

1 Shadow carbon pricing is a monetary value a business assigns to its greenhouse gas emissions on a per tonne basis.

# Our Business

## Our Group Vision

**Creating sustainable energy solutions with communities**

## Our Group Objectives

**We continue to build a safe and inclusive workplace**

**We deliver safe, reliable affordable energy and sustainable performance for all**

**We will transition our assets and business to enable a resilient energy future**

## Our Climate Ambitions

**To achieve a just transition for all our stakeholders**

**To fully integrate climate considerations in our systems and processes**

**To play our role in servicing the energy transition and support Australia's decarbonisation commitments**

**We've been bringing energy to life for Australians for almost two centuries – we can trace our origins back to when gas was used to light the streets of Newcastle, Sydney and other parts of New South Wales during the 1800s. Since then, we have grown and evolved as a key participant in the energy sector. We're proud to be continuing this evolution as we play our part in the energy transition.**

Our Group, comprising our integrated energy infrastructure business Jemena and energy services and contracting business Zinfra – provides electricity and gas solutions to communities across Australia. The JGN in New South Wales delivers gas to 1.53 million customers, the JEN delivers electricity to more than 380,000 customers in Melbourne's north-west, and our gas transmission pipelines across the Northern Territory, Queensland, New South Wales and Victoria transport the equivalent of around 25 per cent of the total domestic gas consumed.

Zinfra provides engineering management and construction services to leading energy companies across the country, with a presence in Queensland, New South Wales, Victoria, Tasmania, the Northern Territory and Western Australia.

We strive to deliver energy reliably, safely and sustainably while caring for our people, the environment and the communities in which we operate. As a company which transports natural gas and electricity generated from fossil fuels and renewable sources, we recognise the need to make changes to how we operate. We also recognise the opportunities inherent in the introduction of new technologies and renewable energy sources, as we work to support Australia to meet its legislated target of net zero greenhouse gas emissions by 2050.

# Our Locations and Assets

## Gas/Electricity

1. ActewAGL Distribution Partnership (50%)

## Gas

2. Atlas Gas Pipeline
3. Atlas Gas Processing Facility
4. Colongra Gas Transmission and Storage Pipeline
5. Darling Downs Pipelines
6. Eastern Gas Pipeline
7. Jemena Gas Network
8. Northern Gas Pipeline
9. Phillip Creek Compressor Station
10. Mount Isa Compressor Station
11. Queensland Gas Pipeline
12. Roma North Gas Processing Facility
13. VicHub

## Electricity

14. Regulated Electricity Network
15. United Energy Distribution (34% Group ownership)

## Renewable Gas Demonstration Projects

16. Western Sydney Hydrogen Hub
17. Malabar Biomethane Injection Plant

## Zinfra Operations

18. Zinfra Operational Locations

# Our View of Australia's Future Energy System

**Australia's energy system is becoming more complex and interconnected as we transition toward a net zero future. In the future, a diverse range of energy sources will be required to power society while ensuring an inclusive transition for all.**

Residential, commercial, and industrial electrification is increasing, particularly in sectors not reliant on high-grade heat to power their operations. The transport sector is also evolving, with the rise of electric vehicles placing more demand on electricity networks. Additionally, the growing adoption of Artificial Intelligence (AI) across industries will drive up electricity demand, particularly for powering data centres. However, challenges remain in decarbonising industrial processes that rely on high-grade heat, as well as sectors beyond those currently connected to energy distribution networks like commercial transport and aviation.

During this transition, natural gas and its infrastructure can continue to support applications that are difficult or costly to electrify, especially in industrial settings that require combustible fuels to generate high-grade heat or use gas as a chemical feedstock. Decarbonisation of industrial processes may be possible by switching from higher emitting fuels[1] such as coal to gas and the use of flexible gas-powered generation (GPG) can be utilised to replace retiring coal-fired generation, firming the increasing penetration of intermittent renewable electricity generation.

According to the 2024 *Integrated System Plan*[2] from AEMO, renewable electricity backed by storage and gas-powered generation offers the optimal development pathway to decarbonise the National Energy Market (NEM) power system.

Gas infrastructure can also be used to support renewable low-emission gases like biomethane, synthetic methane and renewable hydrogen[3] (< 10 per cent), therefore contributing to decarbonisation.

Carbon capture has also long been considered and continues to mature as a potential option to support decarbonisation. To achieve net zero targets by 2050, Australia's future energy system will need to be diverse, interconnected and capable of providing reliable, affordable and sustainable energy for all.


1 This emissions comparison is based on combustion only and does not represent a full life-cycle analysis. Coking coal produces 92.03 kg$CO_2$e/GJ upon combustion and natural gas produces 51.53 kg$CO_2$e/GJ on combustion. Based on National Greenhouse and Energy Reporting Determination (compilation 17 dated 1 July2024).

2 The Australian Energy Market Operator's Integrated System Plan is a roadmap for the transition of the National Electricity Market (NEM) power system, with a clear plan for essential infrastructure that will meet future energy needs. The plan's optimal development path sets out the needed generation, storage and network investments to transition to net zero by 2050 through current policy settings and deliver significant net market benefits for consumers.

3 To handle greater than 10 per cent hydrogen, gas infrastructure and appliances will require upgrading.

# Future Energy System – Our View

**Australia's future energy system will be more complex and interconnected in the future, with a diverse range of energy sources.**

# Our Key Assumptions and External Factors

**Recognising we are making strategic decisions in a changing operating environment, we have made the following assumptions in regard to key factors shaping the energy transition that will have implications for our Group.**

## Continued Demand for Gas

The Federal Government's *Future Gas Strategy*,[1] released in May 2024, highlights that to achieve national 2050 net zero targets there will be an ongoing need for gas infrastructure, even with the trend towards increasing electrification, including to support renewable electricity with gas-powered generation. Gas supply will be needed from existing, committed and new developments to 2050 and beyond.

According to AEMO's 2024 *Gas Statement of Opportunities*[2] (GSOO), there will be stable domestic gas demand in Australia to the early 2040s while gas production is expected to decline.

## Recognition of the Role of and Incentives for Renewable Gases

The *Future Gas Strategy* recognises the potential role of renewable gas in Australia's energy system. These recommendations have also been made by the Climate Change Authority[3] and have been acknowledged by the Federal Government in principle.

We anticipate that future government policies will recognise the role of renewable gases and their associated emissions reduction potential, for example, inclusion of biomethane and renewable hydrogen in government schemes that enable end users to use these gases to achieve their own emissions reduction targets. The Federal Government's *Future Made in Australia*[4] initiative commits $22.7 billion over the next decade to attract renewable energy investment and includes funding and tax incentives for hydrogen and workforce development.

## Pace of Electrification and Decarbonisation of Australia's Energy System

Policies supporting electrification will continue and policies limiting new residential gas connections are being implemented in some states. For example, the Australian Capital Territory has prevented new gas network connections in select areas across Canberra and the Victorian Government is limiting new residential gas connections from 2024.

1 Department of Industry, Science and Resources, ***Future Gas Strategy***, May 2024.
2 Australian Energy Market Operator, **Gas Statement of Opportunities**, March 2024.
3 Australian Government, ***Response to the Climate Change Authority's 2023 Review of the National Greenhouse and Energy Reporting legislation***, August 2024.
4 Australian Government, Budget 2024-25, ***Investing in a Future Made In Australia***, May 2024.

## Key Assumptions and External Factors continued

Government programs will continue to incentivise electrification. The 2024 Federal Budget committed $27.7 million for consumer energy including rooftop solar, household batteries and electric vehicles.

Anticipated residential and commercial electricity consumption from the grid is forecast to nearly double by 2050, according to AEMO's 2024 *Integrated System Plan*.[1] To meet demand, close to 10,000km of new transmission lines and upgrades to existing networks is required by 2050.

AEMO's 2024 *Electricity Statement of Opportunities*[2] flags that, given this exponential growth, there is short-term network reliability risk in Victoria, New South Wales and Queensland due to delays in transmission, battery storage projects and impending closures of coal-fired power plants.

State and Federal Governments have set targets on emissions reduction and renewable electricity generation by 2030. Victoria's target is 45-50 per cent emissions reduction by 2030 and a renewable energy target of 65 per cent.

## Macro-Economic Trends

Ongoing policy and economic factors affecting the energy sector and our business include slow GDP growth, with the labour market remaining resilient despite stagnant wage increases, alongside rising cost-of-living pressures and higher interest rates. In response, the Federal Government has committed $3.5 billion to energy bill relief.

## New and Emerging Technology

New and emerging technologies will play a role in the transition to a more sustainable and climate-resilient future. Key developments like AI, advanced computing (quantum computing), new renewable energy technologies and Internet of Things (IoT) devices may influence predictive capabilities, offer enhanced monitoring and lower the cost of the transition overall.

The Group will continue to monitor technology trends to determine what we can leverage to accelerate achieving our business and climate goals.

## Enhanced Transparency including in Corporate Reporting

There are increased expectations of organisations to undertake both mandatory and voluntary climate-related disclosures and reporting, including plans to achieve emissions goals and targets. With the introduction of Schedule 4 of the *Treasury Laws Amendment (Financial Market Infrastructure and Other Measures) Act 2024* in September 2024 and the associated changes to the *Corporations Act 2001* (Cth), large reporting entities like our Group are now required to make climate-related financial disclosures complying with the Australian Accounting Standards Board's sustainability standards, including the requirement for entities to conduct *1.5°C and +2.5°C or higher scenario assessments.*

The Group is currently advocating with the relevant regulators to recognise higher order direct measurement methods to report fugitive emissions. This is in line with the Climate Change Authority's recommendations to the Federal Government. Higher order methods reduce measurement uncertainties and increase transparency of reporting.

**New and emerging technologies will play a role in the transition to a more sustainable and climate-resilient future.**

1 Australian Energy Market Operator, ***Integrated System Plan***, June 2024.
2 Australian Energy Market Operator, ***2024 Electricity Statement of Opportunities***, August 2024.

# Our Climate Actions

**The Australian energy sector is in a period of unprecedented transformation. We believe that both our electricity and gas assets, as well as the services we provide the energy sector, will play an important role in supporting an orderly and just transition to achieve Australia's net zero by 2050 goal.**

**To support this, our Group is planning and executing the actions outlined in this Plan to achieve our emissions reduction target of a 30 per cent reduction of Scope 1 and Scope 2 emissions[1] by 2030, compared to a 2021-22 baseline, as well as our 2050 net zero goal.**

To accomplish this goal, support our customers in reaching their emissions reduction targets, and reduce our Scope 3 emissions[2], we will leverage existing technologies while closely monitoring emerging innovations to offer a diverse range of renewable energy options.

The following table outlines our Group and asset-level strategies which will help us reduce emissions and navigate the energy transition.

Our Plans and Strategies Supporting our Climate Ambitions

| OPTIMISING OUR CURRENT ASSETS | | | EXPANDING OUR ASSETS AND SERVICES | |
|---|---|---|---|---|
| **Group-Level** | **Gas Transmission Assets** | **Jemena Gas Network** | **Jemena Electricity Network** | **Energy Services** |
| **Emissions Reduction Plan** | **Gas Transmission Strategy** | **Jemena Gas Network 10 Year Strategy and Renewable Gas Strategy** | **Jemena Electricity Network 10 Year Strategy** | **Energy Services Strategy** |
| Active interventions on our existing assets to reduce emissions | The future for our gas transmission assets | The future for our gas distribution assets in New South Wales | The future for our electricity distribution network in Melbourne's north-west | The future for our energy services business through the energy transition |

1 Scope 1 greenhouse gas emissions are emissions released into the atmosphere as a direct result of activities in a facility. Scope 2 emissions (also referred to as indirect emissions) represent the emissions released outside of a facility to produce electricity imported into a facility and used. Emissions and energy types | Clean Energy Regulator (cer.gov.au).

2 Scope 3 emissions are emissions that occur outside an organisation's facility as a result of an organisation's actions (for example, upstream such as emissions generated from extraction and production of fossil fuels; downstream, such as emissions from transport of products). We intend to establish Scope 3 targets in 2026-27. Emissions and energy types | Clean Energy Regulator (cer.gov.au).

## Our Climate Actions continued

The emissions reduction potential of our actions and the timeframe in which we expect to realise these reductions is in Figure 1.

**Figure 1: An overview of projected emissions reduction benefits through our *Climate Transition Plan***

| | Emissions Reduction from current strategies (Scope 1, 2 and 3) | |
|---|---|---|
| | **Low reduction (<20k $tCO_2e$)** | **High reduction (>20k $tCO_2e$)** |
| **Asset Expansion** | Demonstration projects for renewable gas ● | Gas Pipelines: Coal – Gas switch for C&I customers + GPG ● |
| | Sustainable practices for our energy services and contracting business ● | JGN 10 Year Strategy: Coal – Gas switch for C&I customers ● |
| | | Contract Electricity Assets Investments ● |
| | | JEN 10 Year Strategy: Electricity Asset Growth ● |
| **Current Asset Optimisation** | Pipeline operation improvements ● | Bi-directional flow in EGP ● |
| | Fleet management strategy ● | Electrification of pipeline operations [currently at feasibility study stage] ● |
| | Line loss reduction initiatives in our electricity network ● | Advanced mobile leak detection to reduce fugitive emissions ● |
| | | Future opportunities – Biomethane for fuel gas, Beetaloo gas composition, Voltage Var Control ● |
| | | JGN 10 Year Strategy: Renewable Gas Strategy (Biomethane, $H_2$) ● |

● 0 – 3 years to realise benefit ● 3 – 6 years to realise benefit ● 6 – 10 years to realise benefit

# Emissions Reduction Plan

Our Emissions Reduction Plan includes three main areas of activity to reduce our Scope 1 and Scope 2 emissions, underpinned by the work we have undertaken to improve our understanding of our emissions baseline, including our Scope 3 emissions, which we reported for the first time in our 2023 Sustainability Report. We apply the principles of 'avoid', 'reduce' and 'replace' to managing all our assets.

Total greenhouse gas emissions in 2021-22 were 940,184 tonnes $CO_2e$ (baseline). Out of this total, our Scope 1 emissions were 707,196 $tCO_2e$ and our Scope 2 emissions were 232,988 $tCO_2e$.

Figure 2 breaks down our emissions contributions across our assets and operations in FY2021-22 – our baseline emissions year. (More information on our basis for selecting this year is on page 36). The actions in this Plan are targeted at reducing these emissions. In this Plan, we outline our major active intervention programs and disclose our dependency on passive intervention initiatives to achieve our 2030 target.

**Figure 2: Contributions to our baseline (2021-22) greenhouse gas emissions**

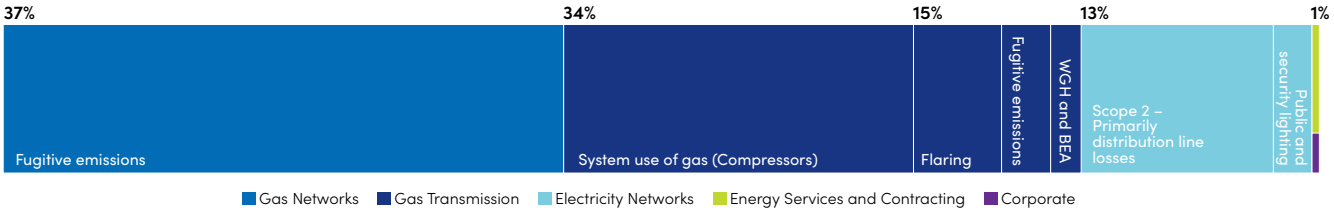
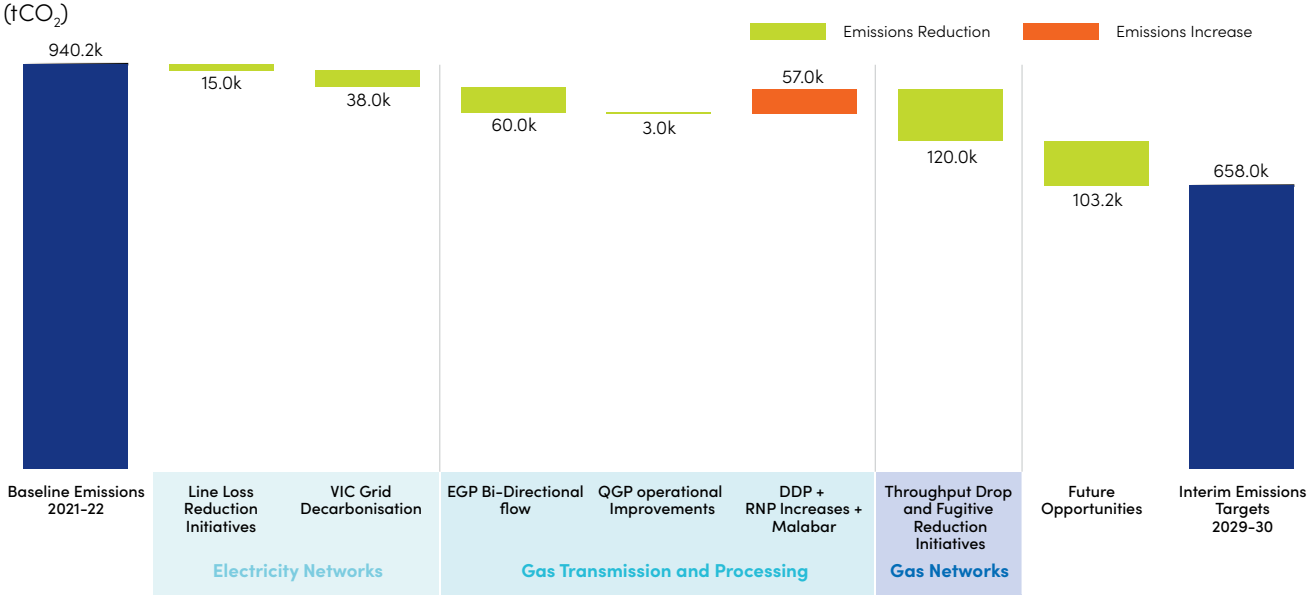



**Figure 3: Our pathway to 2030 and the reductions from our climate actions (active and passive interventions)** ($tCO_2$)



## Emissions Reduction Plan Actions

**AVOID**
As part of our major investment processes, we will consider the economic options to avoid emissions

**Shadow Carbon Pricing**

We introduced a requirement to assess the impact of our emissions footprint and the cost of carbon through shadow carbon pricing in December 2023.

When a project crosses certain thresholds in terms of project cost, size and complexity, there is a mandatory requirement as a part of our asset management strategies and planning processes to include carbon pricing. We use multiple future carbon pricing scenarios as we assess our investment decisions.

**REDUCE**
We will continually evaluate our operations and business practices to identify opportunities to reduce our emissions footprint via active emissions reduction interventions

**Pipeline Operation Improvements (Gas Transmission)**

We are undertaking a program of improvements across our gas transmission assets to help reduce the volumes of gas used to operate our pipelines. Some of the active intervention initiatives we are currently assessing include:

1. Optimising compressor operations and settings
2. Complete front-end engineering design for dry gas seal re-injection
3. Update to more accurate methane measurement methods
4. Trial capturing and reinjecting vented gas.

**Improving Leak Detection and Updating Methane Measurement Techniques**

We currently operate a fleet of three Picarro Advanced Leakage Detection Vehicles and plan to roll out a fleet of eight by 2026-27 (subject to AER approval of our JGN 2025-30 Access Arrangement proposal). The vehicles will support us to better detect leaks and rectify fugitive emissions from the JGN in New South Wales.

*Read more on page 20.*

**Line Losses in our Electricity Distribution Network**

Following studies in 2023 identifying line losses[2] in the JEN we are implementing a program to reduce these losses to achieve our 2030 targets. We are running a pilot trial on Variable Voltage Control, which enables us to vary voltage in our network depending on demand. The results are promising, and may enable us to deliver additional emissions reduction benefits.

We are also planning to replace all street lighting in the JEN with more efficient LEDs by 2030, as well as replacing older equipment in our substations and transformers with newer, more efficient equipment (Higher Efficiency Performance Standard [HEPS] transformers).

*Read more on page 19.*

**Fleet Management Strategy**

One of the aims of our fleet management strategy is continued emissions reduction. We are actively replacing vehicles in our SUV/passenger fleet with plug-in hybrid and mild-hybrid vehicles.

We have invested in the development and trial of a full battery electric Elevated Work Platform (EWP) and an industry-first Nifty-Lift Eco-PTO Hybrid Battery-Electric EWP which was delivered in June 2024.

We will continue to monitor the introduction of hybrid, electric and/or hydrogen fuel cell utilities, vans and heavy vehicles to the Australian market and will develop a future fleet strategy.

## Carbon Pricing

Our carbon pricing is currently set internally at $110/tonne to 2030. This is derived from the Clean Energy Regulator cap price[1] for Australian Carbon Credit Units – the mechanism to offset a business's emissions, where one ACCU equals 1 tonne of carbon dioxide. Our internal carbon price will reflect ACCU cap pricing until 2030. We will revisit this in 2026-27.

1 Federal Government Clean Energy Regulator, Quarterly Carbon Market Report, September 2023.

2 Line losses are a loss mechanism in electricity networks as electrical energy is transported from generation source to end users. This is due to inherent resistance in electric conductors as well as other factors like inductance and capacitance.

## Emissions Reduction Plan Actions continued

**REPLACE**
We will decrease the emissions intensity of our operations by introducing low and zero emissions technologies across our Group

**Preparing for Hydrogen**

As existing gas transmission infrastructure has been designed to transport natural gas, rather than hydrogen, we will continue our program to assess the feasibility of transporting hydrogen in our gas transmission assets with GPA Engineering and the University of Wollongong. Feasibility studies to understand what we need to do to make our gas distribution network capable of transporting increasing volumes of hydrogen are also in train. Research undertaken so far indicates we can transport up to 10 per cent hydrogen in our gas distribution network. While the primary impact will be on our customers' emissions, increasing volumes of renewable hydrogen may decrease our emissions. As transporting hydrogen has risks with flammability, embrittlement, and leaks we would have to make changes in how assets function. The various initiatives and research projects we support help achieve this purpose.

**Participation in Research Projects**

As part of the Future Fuels Cooperative Research Centre we participate in multiple research projects supporting the decarbonisation of Australia's energy networks through the introduction of renewable gases like biomethane and renewable hydrogen.

More detailed information is available on the Future Fuels CRC website at www.futurefuelscrc.com/

**Electrification of Pipeline Operations**

We are undertaking studies assessing the potential electrification of certain pipeline assets to reduce operational emissions, this includes a current FEED (Front End Engineering Design) project to electrify certain compressors and a feasibility assessment of electrifying water bath heaters.

*Read more on page 21.*

Notwithstanding the above avoidance, reduction and replacement initiatives, where any emissions reduction targets are not met, we will use carbon credits and offsets to meet our compliance obligations and achieve our sustainability aims. Our Carbon Offset Management Framework was approved in 2023 by our Board. It establishes the governance, offset criteria and relevant accountabilities should our Group be required to purchase offsets in the future.

Focus Initiative

## Line Loss Reduction in the JEN

We are currently installing energy efficient transformers across the JEN. These transformers require less energy to convert electricity from one voltage level to another.

Australian Standard AS 2374.1.2 stipulates Minimum Energy Performance Standard (MEPS) as the minimum efficiency requirements for distribution transformers. We are an early adopter of Higher Efficiency Performance Standard (HEPS) transformers, which reduce line losses – the main source of emissions for the network.

Additionally, we are also progressively replacing current public and security lighting (primarily streetlights) in our network from older metal vapour lamps to energy-efficient LED lamps, which are 50 per cent more energy efficient. We plan to complete this across our network by 2030.

Our line loss and public lighting initiatives are intended to help us reduce our Scope 2 emissions by approximately 15,000 $tCO_2e$ by 2030.

We have also been running a pilot study on Voltage-Var Control (VVC). VVC is the process of regulating voltage (Volt) and reactive power (Volt-Ampere Reactive – VAR) in a network to ensure the system's smooth operation. Its main objective is to keep the power network's voltage profile within acceptable limits. At the time of writing this Plan, the trial is still ongoing and we will provide an update on this initiative in future disclosures. VVC will help reduction of line losses in our network which translates to Scope 2 emissions reductions.

Focus Initiative

## Reducing Fugitive Methane Emissions through Improved Leak Detection

Methane emissions are a major contributor to climate change. Improved methane emissions reporting, and subsequent actions to reduce emissions can support reduction of atmospheric greenhouse gases.

Fugitive methane emissions from the JGN are the largest source our Group's Scope 1 emissions. To improve our methane emissions reporting, and support us in emissions reduction initiatives, we introduced innovative vehicle-based leak detection in 2023 – Picarro's Advanced Mobile Leak Detection (AMLD) solution, which is considered to be about 1,000 times more sensitive than traditional leak measurement devices.

Through this process, our Picarro vehicles do six passes of an area to obtain highly accurate measurements of the concentration of methane. Following this, we deploy Gas Service Technicians to the area to confirm the presence and exact location of any leaks detected and rectify them at the earliest opportunity.

We are now proactively monitoring our network using three Picarro vehicles in our current fleet. Our plan is to invest $19 million, dependent on AER approval, over the next five years to expand our fleet sufficiently to support annual monitoring of the entire 25,000 kilometres of the gas distribution network.

Direct measurement from this system is in line with current and future voluntary methane emission reporting schemes, including OGMP 2.0, Project Veritas, NGSI, Marcogaz, and OneFuture.

In addition to supporting our emissions reduction goals, improving leak detection and rectification on our network also helps us keep our network and communities safer. We expect this initiative (if approved by the AER) will produce an emissions reduction of approximately 80,000 $tCO_2e$.

**Focus Initiatives**

## Electrification of Gas Compressor Units

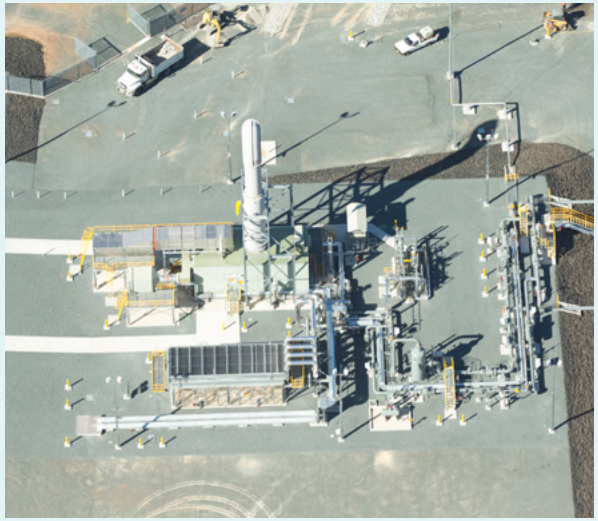
Our second largest emissions mode is combustion of gas in our turbine-driven gas compressors. This is also the largest mode in our gas transmission pipeline assets as gas is pressurised to keep it moving to its destination. Electrifying the gas turbine by an electric motor drive, where economically viable, is one of the few options to decarbonise gas compressors.

We have multiple compressors in operation and they are rated between 5-7MW needing a significant amount of energy. These compressors are powered by gas turbines using the natural gas that is being transported and paid for by customers. So, access to energy for powering these units is a key area of assessment.

To address this, our Group is currently conducting a FEED project to assess the potential to replace our current gas turbines with electric drives powered by purchased renewable electricity where our gas transmission pipelines are in a range of locations, some of which have proximity to the grid, like our Longford Compressor Station on our Eastern Gas Pipeline in Victoria – while others, like our Phillip Creek Compressor Station near Tennant Creek in the Northern Territory, are in areas where stable grid capacity isn't available.

This work is in its early stages, however, based on our initial assessments, we estimate electrifying our gas compressors across our Eastern Gas Pipeline and Queensland Gas Pipeline assets would yield an estimated annual Scope 1 and 2 emissions reduction of 100,000-140,000 $tCO_2e$ (assuming renewable electricity is purchased for operating the compressors).

Our Group acknowledges the economic, technical and geographic constraints in relation to proximity to the grid, which mean it may not be an appropriate solution for all of our locations.



## Electrification of Water Bath Heaters

Water bath heaters (WBHs) are used on gas transmission pipelines to preheat gas for injection into distribution networks. The gas is preheated to maintain recommended gas temperatures, pressures and to prevent operational issues and asset damage. As WBHs use gas as their fuel source, switching to electric heaters can reduce greenhouse gas emissions.

Work is currently underway to assess the feasibility of replacing the gas-fired WBHs at one of the main stations on our Queensland Gas Pipeline (QGP). These heaters are nearing the end of their operational life, making this an opportune time for an upgrade.

We estimate replacing all the QGP's WBHs could yield a 3,900 $tCO_2e$ annual Scope 1 emissions reduction (assuming renewable electricity is purchased).

Similar to the electrification of gas compressor units, our Group acknowledges the economic, technical and geographic constraints in relation to proximity to the grid, which mean it may not be an appropriate solution for all of our locations.

# Gas Transmission Strategy

Jemena owns and operates gas transmission pipelines across Victoria, New South Wales, Queensland and the Northern Territory which transported more than 370 petajoules of gas for our customers in 2023. Customers include energy retailers, industrial users, gas producers and gas-powered generators.

We see our gas transmission infrastructure playing roles in both providing secure and reliable energy supply to our communities, while also supporting gas-powered generation (GPG) of electricity to firm renewables, in addition to continuing to support hard-to-electrify industries.

There are forecast risks of gas supply shortfalls[1] starting in 2025 on extreme high-demand days, and supply gaps requiring additional sources of gas supply are forecast from 2028. Our investments facilitate energy security and system resilience by connecting new sources of supply to support sustained reliable delivery of gas to markets and our customers. We have connected the Port Kembla Energy Terminal to enable large-scale flexible supply of liquefied natural gas (LNG) to alleviate forecast shortfalls in New South Wales and Victoria, where traditional supply sources are declining.

As stated in the Federal Government's *Future Gas Strategy*, GPG will play a role in assisting the transformation of our electricity markets in the transition to a net zero economy.[2] While forecasts for gas demand for GPG out to 2050 vary widely (AEMO forecasts 15GW[3] to ensure the NEM remains resilient under a range of power system and extreme weather events), the need for large, time-limited contributions from GPG is expected. For industrial gas use, the transition pathway is highly complex and will depend on the cost and availability of alternatives. Industries that use high heat processes currently rely on natural gas. It is also consumed as a chemical feedstock in the manufacture of products such as fertilisers, explosives and mining reagents which currently do not have commercially viable substitutes.

Although our assets serve disparate markets across northern and east coast Australia, their roles in providing security of supply in the energy transition remain consistent and demonstrate the important role of our infrastructure into the future.

As a function of our role and the role of gas in the transitioning energy market, some investments that we make may increase our operational emissions, for example, if a major industrial customer decides to transition to gas use (see our case study on page 26). However, these investments can contribute to our customers' decarbonisation plans as they transition to fuels that produce lower emissions when combusted.[4]

Our current assets (Darling Downs Pipeline and Roma North Pipeline) are forecasted to have higher energy throughputs by 2030 and this will contribute to an emissions increase which is shown in the emissions trajectory.

**We see our gas transmission infrastructure playing roles in both providing secure and reliable energy supply to our communities, while also supporting gas-powered generation (GPG) of electricity to firm renewables, in addition to continuing to support hard-to-electrify industries.**

1 Australian Energy Market Operator, Gas Statement of Opportunities, March 2024.
2 Department of Industry, Science and Resources, ***Future Gas Strategy***, 9 May 2024.
3 Australian Energy Market Operator, ***Integrated System Plan***, 26 June 2024.
4 Based on National Greenhouse and Energy Reporting Determination (compilation 17 dated 1 July 2024), coking coal produces 92.03 $kgCO_2e/GJ$ upon combustion and natural gas produces 51.53 $kgCO_2e/GJ$ on combustion.

## Gas Transmission Strategy continued

### DELIVER ENERGY SECURITY AND RELIABILITY OF SUPPLY

**Key focus areas**

Address the forecast gas supply shortfall by:

- Building a connection from the Port Kembla LNG import terminal to the Eastern Gas Pipeline (EGP) to connect new energy sources to the east coast market (now complete).
- A new northern service from Kembla Grange to New South Wales, resulting in significant emissions reductions with the removal of the need for compression due to proximity to end users.
- A bi-directional southern service enabling gas to flow both to and from Victoria.
- Actively engaging with gas producers to connect new domestic sources of supply to the market, including biomethane where economically viable.
- Progressing connections to gas storage facilities to improve system resilience and flexibility, helping meet winter peak demand requirements.

Continuously improving systems and processes to ensure the reliability of gas supply.

Driving cost efficiencies to maintain competitiveness of our assets in supplying energy affordably.

### GPG FIRMING IN SUPPORT OF ELECTRIFICATION AND GRID DECARBONISATION

**Key focus areas**

Ongoing commercial and operational support for the changing needs of existing GPG operators connected to our gas transmission pipelines.

Engaging with new and existing GPG operators to investigate and support their needs for gas transportation, new connections, new infrastructure, and storage solutions as coal-fired power plants retire, increased renewables penetration and increased electricity demand driven by EV uptake and AI penetration drives the need for additional gas firming.

Assessing the need for new products and services to support the expected increase in peak-day capacity requirements, including existing pipeline storage and greenfield storage opportunities.

### SUPPORT AUSTRALIAN INDUSTRY DECARBONISATION

**Key focus areas**

Working with our customers to understand their needs, challenges and requirements to reduce emissions.

Engaging with stakeholders including customers, communities and regulators to implement pipeline augmentations and incremental expansions that meet changing customer gas demand.

Exploring our role in the decarbonisation pathways of our customers, including coal to gas switching, transporting alternative gases such as hydrogen, biomethane and carbon dioxide for use within carbon capture, utilisation and storage solutions.

Conducting research and testing of our existing pipelines to understand their technical capability to transport hydrogen.

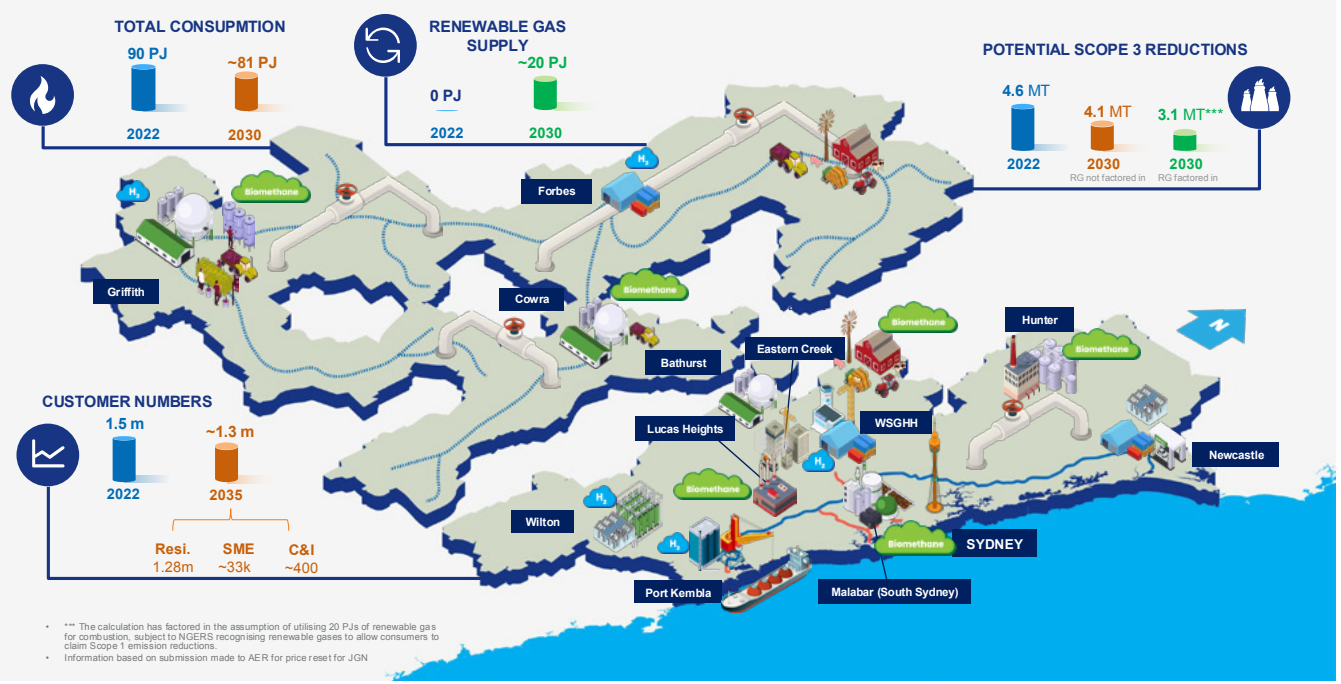
Understanding the commercial opportunities and constraints in progressing key decarbonisation projects with our customers.

# Jemena Gas Network 10 Year Strategy

The JGN services over 1.5 million customers in New South Wales. In 2023, we delivered over 90 petajoules of gas to around 388 industrial customers, more than 34,000 commercial customers, and about 1.48 million residential customers.

Our JGN 10 year strategy sets out how we're preparing for Australia's energy future, while also decarbonising our operations, and supporting our customers to decrease their emissions (our Scope 3 emissions).

**Figure 4: Our forecast gas distribution network in 2030**



## Jemena Electricity Network 10 Year Strategy continued

### PREPARING FOR AUSTRALIA'S ENERGY FUTURE

**Key focus areas**

Secure Australian Energy Regulator approval of funding and support for delivery of our renewable gas and commercial strategies. This includes support for connecting biomethane plants to our network to deliver renewable gas to customers.

Conduct customer initiatives to enhance renewable gas awareness.

Enhance gas affordability by optimising the cost of our future capital and operating programs (asset investment strategies).

### SUPPORT EMISSIONS-INTENSIVE COMMERCIAL AND INDUSTRIAL CUSTOMERS TO DECARBONISE

**Key focus areas**

Engage with emissions-intensive customers to support their emissions reduction journey through transitioning from coking coal[1] and diesel[2] to natural gas and renewable gases.

### INCREASE THE SUPPLY OF RENEWABLE GAS PRODUCTS INTO OUR GAS NETWORK TO SUPPORT OUR CUSTOMERS' DECARBONISATION PLANS

**Key focus areas**

*See Renewable Gas Strategy section on page 27.*

### EXPLORE AND DEVELOP OPTIONS FOR ALTERNATIVE USES FOR GAS INFRASTRUCTURE

**Key focus areas**

Identify parts of our network needing enhancements to accommodate 100 per cent hydrogen, subject to the commercial development of renewable hydrogen.

Explore the role our network could play in distributing renewable hydrogen to greenfield locations, the transportation sector and other potential users.

Develop the option to use the gas network as storage support to firm the electricity network.

1 This emissions comparison is based on combustion only and does not represent a full life-cycle analysis. Coking coal produces 92.03 kg$CO_2$e/GJ upon combustion and natural gas produces 51.53 kg$CO_2$e/GJ on combustion. Based on National Greenhouse and Energy Reporting Determination (compilation 17 dated 1 July2024).

2 The emissions comparison is based on combustion only and does not represent a full life-cycle analysis. Diesel oil produces 70.20 kg$CO_2$e/GJ upon combustion and natural gas produces 51.53 kg$CO_2$e/GJ on combustion. Based on National Greenhouse and Energy Reporting Determination (compilation 17 dated 1 July2024).

Case Study

## Supporting Decarbonisation for our Commercial and Industrial Customers

Iron and steel manufacturing is one of the most energy-intensive industries in Australia and is challenging to electrify. Current emissions intensity[1] of steel making is approximately 2.2 $tCO_2e$/tonne of steel. Emissions in the steel industry are directly linked to use of coal as both fuel and reductant.

The current process – used by the majority of steelmakers globally – involves the use of coal to extract iron in a blast furnace. This is a highly emissions-intensive process that does not enable our industrial customers to meet mid-term climate commitments and make progress on their longer-term decarbonisation goals. Currently, some steelmakers internationally are planning to transition to a process that uses natural gas.

This could yield an approximately 60 per cent reduction in emissions intensity to 1.0$tCO_2e$/ tonne of steel. If renewable hydrogen is used as a reductant alongside electric arc furnace process for steelmaking, the emissions intensity of steelmaking could reduce to 0.3 $tCO_2e$/ tonne of steel.

By supplying more natural gas (and renewable gases like biomethane and hydrogen) to our industrial customers, we could reduce customer Scope 1 emissions significantly. However our operational emissions would increase depending on the amount of natural gas supplied to the industrial customer. This is an example of our ability to support industrial decarbonisation by fuel switching to facilitate overall lower emissions for Australia.

For reference, total Scope 1 emissions for Port Kembla Steel (BlueScope) in 2022-23 were 6.1$MtCO_2e$[2]. A 60 per cent reduction could yield more than 3.5$MtCO_2e$ reduction, which is approximately 3 per cent of 2022-23 NSW emissions.[3]

1 General carbon intensity figures for steel-making in this case study are from BHP Insights, ***Pathways towards steel-making decarbonisation***, October 2024.

2 Clean Energy Regulator website, ***Safeguard facility reported emissions data***, 2022-23.

3 According to the NSW EPA's ***NSW State of the Environment***, NSW emissions for 2022-23 forecast is approximately 112 $MtCO_2e$. 3.5$MtCO_2e$ is 3 per cent of emissions.

# Renewable Gas Strategy

Renewable gases are produced using resources that are continually replenished, like biomethane, which is created by upgrading biogas (generated from decomposing organic waste), renewable hydrogen (generated when renewable electricity is used to split water into hydrogen and oxygen by electrolysis) and synthetic methane (generated by combining carbon dioxide – a byproduct of biomethane – with renewable hydrogen). Our Renewable Gas Strategy is focused on supporting the development of Australia's biomethane industry.

Biomethane is defined as a 'drop-in fuel' by the New South Wales Government,[1] which means that no modification is required to the existing gas network infrastructure, gas appliances in homes and business, and in industrial manufacturing processes. Biomethane is considered carbon neutral when combusted as a fuel[2] as it will produce biogenic[3] carbon dioxide.

We aim to provide our customers with the choice and opportunity to maintain gas usage in a net zero future. As there are limited choices currently for industries that use gas as a feedstock or high-grade heat source, biomethane provides a cost-effective potential pathway[4] to reduce their emissions and continue to operate viable businesses in Australia.

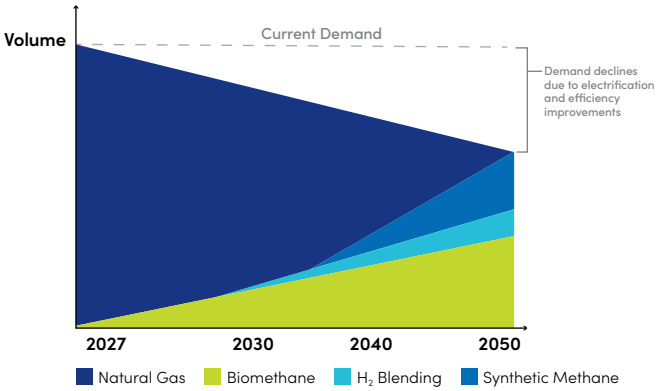
Our target is to have 20 petajoules of renewable gas injected into our gas distribution network annually for customers by 2030. This target is dependent on the development of several biomethane facilities that are currently in pre-feasibility stage. We have entered into a number of memorandums of understanding with developers to explore the feasibility of injecting renewable gas into the JGN.

To give a sense of the scale of Scope 3 emissions reduction this would bring about, if this volume of biomethane was used as combustible fuel by a downstream customer instead of natural gas, it would reduce their direct emissions by approximately 930,000 $tCO_2e$ annually.[5]

While biomethane is considered a drop-in fuel, renewable hydrogen may present a longer-term option supporting decarbonisation for hard-to-abate sectors of the economy. While current gas transmission and distribution networks and household appliances are not considered compatible with 100 per cent hydrogen, we are preparing for the potential introduction of increasing volumes of it into the JGN. Our Western Sydney Hydrogen Hub is continuing to demonstrate the technical viability of blending up to two per cent hydrogen into sections of the JGN, with ongoing test work to validate a higher percentage. In addition, other commercial pathways for hydrogen are being explored on site, such as refuelling, electricity generation and grid firming.

In addition to biomethane and renewable hydrogen, we are also taking steps to explore the potential for synthetic methane, through working with CSIRO on their Methanation Trial. This initiative will trial the production of synthetic methane created combining carbon dioxide (a byproduct of biomethane) with renewable hydrogen. This creates methane, which shares the same properties as natural gas, and can be used in current networks and appliances.

**Figure 5: An indicative illustration of our vision for the future of gases in our network**




1 Department of Climate Change, Energy, the Environment and Water, ***Opportunities for a Renewable Fuel Industry in New South Wales***, August 2024, page 12

2 When taking into account the full 'cradle-to-grave' life-cycle of biomethane, there may be some emissions associated with, for example, its production or transportation.

3 Biogenic carbon emissions are those related to the natural carbon cycle. When released into the environment (e.g. when biomethane is combusted), they are not considered to increase the concentration of carbon in the atmosphere, because they are releasing what has previously been absorbed. This contrasts with fossil fuels which release carbon stored millions of years ago when used, effectively increasing the concentration of carbon in the atmosphere.

4 Levelized Cost of Energy for fossil natural gas is $7-19/GJ. Biomethane is $9-25/GJ. Cost of gas delivered into the JGN incl. production and transmission. Excludes retail and distribution costs.

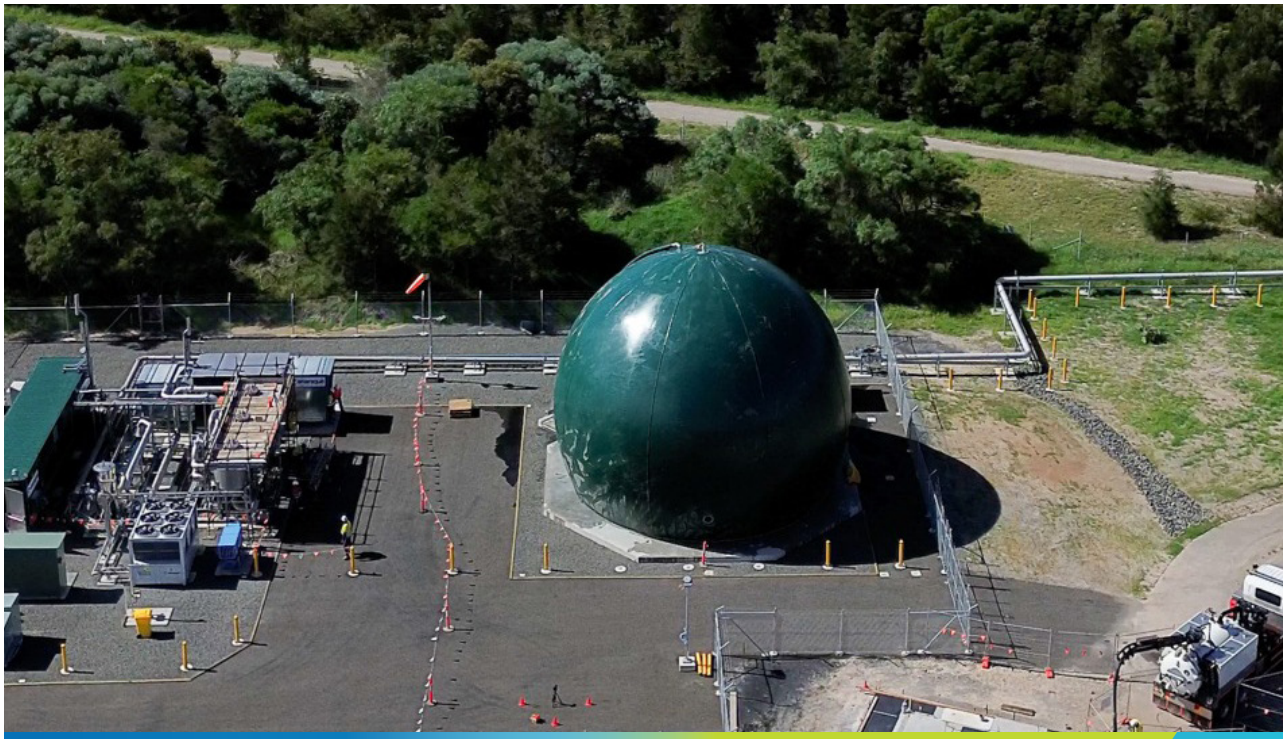
5 Calculation based on NGER reporting of natural gas combusted in a pipeline. 1 PJ = 51,530 $tCO_2e$.

## Renewable Gas Strategy continued

We are also continuing to work with commercial and industrial customers to highlight the potential for renewable gas to achieve their emissions reduction targets.

As part of efforts to activate a biomethane market, Jemena has signed several memorandums of understanding (MoU) with biomethane producers. These MoUs will see the proponents assess the feasibility of producing and injecting biomethane into Jemena's New South Wales gas distribution network.

If fully developed, these projects will potentially produce enough biomethane to meet our current industrial gas demand in New South Wales, which was 49 petajoules in 2023.



Focus Initiative

### Putting Waste to Work

The Malabar Biomethane Injection Plant (co-funded by ARENA) started to produce low-emission renewable gas in mid-2023, and was accredited by GreenPower in 2024. At the plant, biogas from partner Sydney Water's Malabar Waste Water Resource Recovery Facility is turned into biomethane on site. It is the first demonstration biomethane facility in Australia to inject the gas into the natural gas network and has showcased to industry and government stakeholders the potential for this renewable gas.

# Jemena Electricity Network 10 Year Strategy

**By 2031, we expect network demand to grow from 4.2 TWhr in 2022 to 7.4 TWhr (excluding data centre loads[1]), with peak demand rising from 940 MW to over 1,354 MW.**

The JEN 10 Year Strategy outlines key priorities to prepare the JEN in Melbourne's northwest for the energy transition. This includes supporting increased demand from customers electrifying their homes and businesses, and adapting to changes in network operations as more solar power is integrated. Significant growth in demand is expected with the establishment of major new users in the network area.

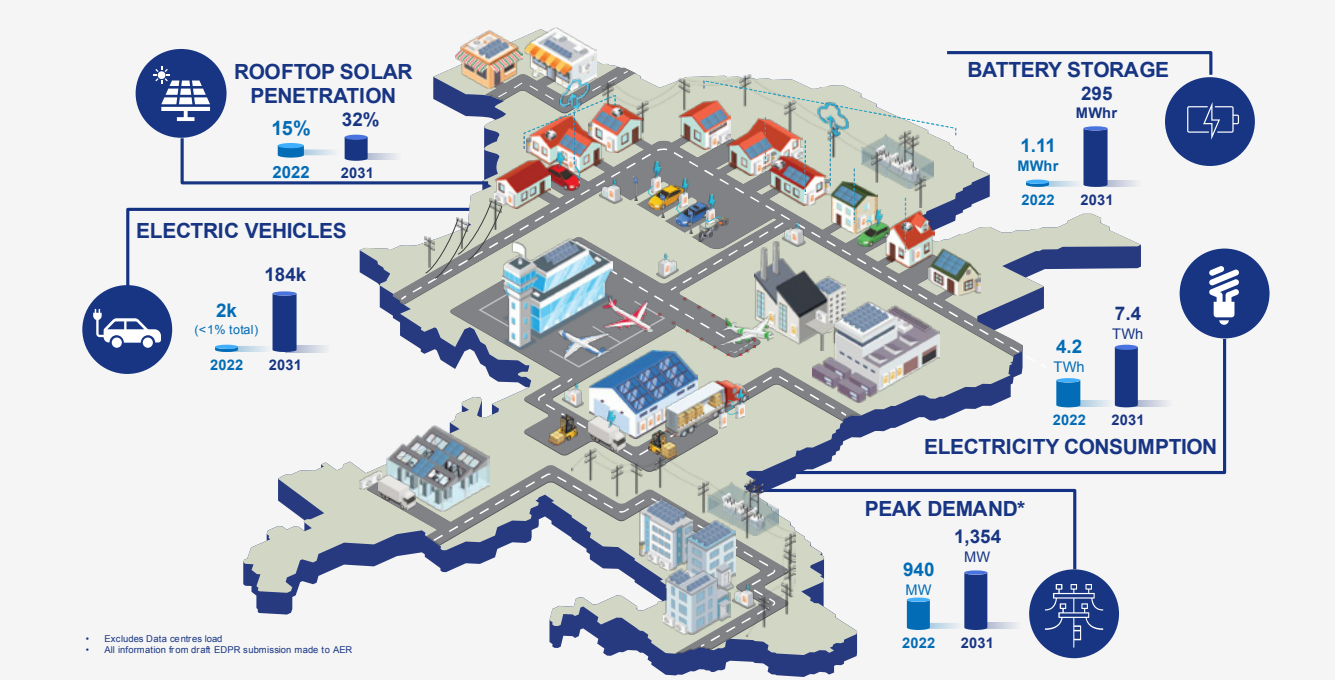
By 2031, we expect network demand to grow from 4.2 TWhr in 2022 to 7.4 TWhr (excluding data centre loads[1]), with peak demand rising from 940 MW to over 1,354 MW. This will be driven by factors like the transition from gas and increased adoption of electric vehicles. Additionally, with the growth of rooftop solar, along with community batteries, home batteries, and electric vehicles, we anticipate total storage in the network to grow from 1.11 MWhr in 2022 to 295 MWhr by 2031. Figure 6 indicates the JEN's future in 2031.

This strategy aims to stabilise distribution network charges for customers, reduce operational emissions (Scope 1 and 2 emissions) as well as customer emissions (Scope 3 emissions), while maintaining required network reliability levels with the anticipated significant changes to technology and demands on the network.

Given the substantial network growth we have in the JEN, it will contribute to rebalancing our asset portfolio to achieve a 50-50 gas electricity mix. We will be targeting our 30 per cent emissions reduction by 2030, compared to 2022, via active reduction initiatives to reduce line losses together with passive reductions from Victorian grid decarbonisation.

As a regulated network, the considerations described above have been incorporated into our pricing and services plan currently being considered by the Australian Energy Regulator.

**Figure 6: Our forecast for the JEN by 2031**




1 Data centre loads are excluded as they are customer contributed capital and they depend on developers. Current forecast including data centres is network size reaching approximately 10 TWhr by 2031.

## Jemena Electricity Network 10 Year Strategy continued

### EMPOWER VICTORIANS TO REACH NET ZERO BY 2045

**Key focus areas**

Know our customers and their needs – including their own desires and requirements to reduce emissions.

Drive cost efficiencies for supplying energy affordably such that no customer is left behind.

Optimise use of our network by incentivising customers to smooth out their usage, managing demand at peak times.

Continue providing a reliable source of energy to our customers via our resilient network.

Deliver a smart, customer-centric network that facilitates bi-directional energy flows to support the widespread adoption of consumer energy resources, including rooftop solar.

### ENABLE CUSTOMERS TO ACCELERATE DECARBONISATION PLANS

**Key focus areas**

Identify and prioritise industrial users that could potentially electrify operations.

Enable vehicle charging infrastructure.

Support Victorian Government initiatives and actively work with councils and developers to enable and support future customers' electrification journeys.

### SUPPORT VICTORIA'S ECONOMIC AND BUSINESS GROWTH WITHIN THE JEN

**Key focus areas**

Support data centre customers to connect to our network through positive engagement.

Support industrial development to the JEN area, and coordinate with councils and broader services.

### POSITION THE NETWORK TO SUPPORT THE FUTURE ENERGY ECOSYSTEM

**Key focus areas**

Prioritise customer needs by delivering reliable, innovative energy solutions to prepare the network for the future energy systems mix such as microgrids and battery systems.

Better manage customer and energy data and ensuring metering meets the needs of the future energy system.

Integrate battery storage within the JEN to enhance customer and community access to renewable electricity.

# Opportunities in the Energy Transition

We are a trusted provider in the energy market, delivering a wide range of services to the Australian energy and utilities sector, primarily on Australia's east coast, in the Northern Territory and with a presence being established in Western Australia. We have established our credentials in delivering a range of renewable energy projects, including some of Australia's first renewable gas demonstration projects that connect to the gas network. The energy transition and growing energy investment, from local and international sources, presents our engineering, construction and maintenance service provider business with immediate and long-term opportunities.

All states and territories nationally are forecasting an increase in energy investment to meet emissions reduction and reliability targets in the short and medium term. Energy projects and investments are largely skewed towards generation, particularly wind and solar, along with associated storage technology.

We are currently implementing a strategy to grow our engineering and services business, fundamentally based on three key pillars:

1. Optimising financial performance
2. Developing power services
3. Sustainably delivering safety, people, community and environmental outcomes

We plan to accelerate this strategy to capture opportunities in the growing energy transition investment space through a number of means, including investing in scaling our workforce and procuring the right materials and equipment to deliver projects efficiently and safely, while implementing appropriate controls and strategies to ensure we continue to comply with our regulatory obligations.

To service this growth in renewable project opportunities, we will continue to build on our core capabilities, the expertise of our engineers, technology experts and strategists, and our experience across our core services, which include:

**Engineering and design**

— expertise in high-voltage transmission, distribution network and energy infrastructure design and advanced engineering solutions tailored to meet specific project needs

**Construction**

— extensive experience in constructing high-voltage substations, transmission lines, and distribution networks as well as complex renewable energy projects

**Operations and Maintenance**

— comprehensive operations and maintenance services to ensure the long-term reliability and efficiency of energy infrastructure as well as maintenance programs and rapid response to operational issues

**Project Management**

— skilled project management teams that oversee the entire project lifecycle. Emphasis on stakeholder engagement, risk management, and execution.

**250+**
apprentices and trainees employed as at 2025

**2030 target**
**40%**
**women apprentices**

**More than**
**100,000**
**hours of training delivered in 2023**

We are continuing to invest in development and training across our workforce, including in hands-on experience in delivering renewable energy projects, such as major renewable gas demonstration facilities.

To help ensure a just and equitable transition, including access to employment opportunities in the energy sector, we are focused on employing a diverse range of people, as well as providing apprenticeship and traineeship opportunities.

Key examples of this strategy in action include our work on integrating Battery Energy Storage System (BESS) projects into existing electrical networks to enhance grid stability. Some of the projects we are connecting to networks include:

— Koorangie Energy Storage System – 185MW/370MWh lithium-ion battery providing system strength in the Murray River Renewable Energy Zone in Victoria

— Hazelwood Battery Project HBESS – 150MW/150MWh utility-scale battery that delivers further electricity grid stability for Victoria on the AusNet Grid network

— Carwarp BESS Project – 2.8MW /50MWh supporting the West Murray Distribution network by providing enhanced grid stability and reliability.

# Resourcing our Plans

Activities outlined in this Plan are currently costed and embedded in our five-year business planning cycles.

Based on our current costings, we anticipate the total expenditure on these initiatives is about $185 million[1] between 2025-29.

This total spend includes:

— expanding our electricity distribution business, subject to regulatory approval in subsequent electricity distribution price reviews submissions

— improving our greenhouse gas emissions measurement across the JGN

— continuing to invest in renewable gas, particularly new connections between our network and new biomethane plants

— optimising network operations to reduce greenhouse gas emissions

— utilise market opportunities in developing energy transition projects across battery energy storage systems, standalone power systems and transmission infrastructure.

Additional information about our Group's financial forecasts is available at [https://www.jemena.com.au/about-us/investor-centre/](https://www.jemena.com.au/about-us/investor-centre/)

1 Excludes investment in contracted electricity assets as value depends on project size and availability. Investment will be considered by SGSPAA Group on a case-by-case basis.

# Our Engagement and Advocacy

**Understanding and responding to the needs of our key stakeholders like customers, communities, the energy sector and government through the energy transition is central to achieving our climate ambitions.**

We have established mechanisms for engaging with residential, major commercial and industrial customers, as well as the customers of our gas transmission services, and the communities in which we operate on a range of issues impacting our operations. We have used these consultation processes and forums to understand our stakeholders' needs, ambitions and concerns in relation to the major changes under way in the energy sector and have used what they've told us to shape our plans for the future of our assets and services. We also have mechanisms in place to communicate with our major service providers about our plans for the future, and to understand their emissions reduction plans, and the implications for our own plans.

## Price Reset Engagement Programs

As the owner and operator of the regulated JEN and JGN, we are required to prepare pricing and services plans for consideration by the Australian Energy Regulator every five years. These plans outline the services we will provide and the prices we will charge for the following five-year period.

To develop our plans, we consult extensively with a diverse range of stakeholders, including residential, commercial, and industrial customers, energy sector experts, and community representatives, using best-practice engagement techniques. We began consultations to develop our next pricing and services plan for the JGN and the JEN in 2023 and 2024 respectively.

Throughout these consultations, we explored a variety of initiatives aimed at supporting the energy transition, including our approach to climate, emissions reduction and renewable energy sources. Our customers expressed concerns about the rising costs of living and uncertainty surrounding the energy transition. They want us to reduce emissions and see us plan for the future, but also emphasised the need to balance these goals with affordability.

The feedback from these processes has contributed to the development of the JGN and JEN 10 Year Strategies outlined in this Plan. Some of the proposed initiatives will depend on the regulator's approval.

Looking ahead, we plan to maintain many of the stakeholder groups and forums established during our price reset consultations. This will allow us to continue engaging with customers, industry experts, and other stakeholders on a range of energy-related issues, including the energy transition, to inform our future operations.

## Our Ongoing Customer Engagement

Ongoing customer engagement plays a critical role in understanding the diverse needs that we serve across the JEN and the JGN, how they are changing and the role we can play in connecting our customers to a renewable energy future.

### Customer Councils

The JEN and JGN Customer Councils provide a regular forum to engage with representatives across the JEN and the JGN's broad customer base to ensure that customers' preferences, expectations, and priorities are understood and considered in decisions impacting our services and prices. Through the outcomes of our Customer Councils, we can ensure the JEN and the JGN deliver services which better align with consumers' long-term interests.

Moving forward, we are committed to evaluating our business-as-usual engagement with customers to identify:

- new approaches to ongoing engagement with our customers, including ongoing engagement with diverse residential customers
- ways we can continue our engagement with customers and stakeholders who have participated in the price reset engagement consultations
- opportunities for continued dialogue to ensure customer priorities are reflected in future plans and to ensure we continue placing customers at the heart of our business.

## Gas Transmission Customer Engagement

Many of our gas transmission customers are in hard-to-abate industries where their emissions reduction pathways have commercial and technical challenges. We will continue to engage with them bilaterally in relation to the performance of current services and their emissions reduction plans. We will also share information, where appropriate, about our own emissions reduction plans and opportunities for their participation. At the same time, we will continue contributing to a range of industry forums to share information and updates about our initiatives as well as what we have learnt through implementing this Plan.

## Public Policy Engagement and Advocacy

The energy transition touches all sectors of the economy. As an owner and operator of, and service provider to, electricity and gas infrastructure, our Group supports the bipartisan commitment to net zero emissions by 2050 and actively advocates for a secure and affordable whole-of-system approach to reducing Scope 1, 2 and 3 emissions.

With a focus on the government jurisdictions relevant to our assets, we advocate for policies that are consistent with those found throughout this document, and our Sustainability Reports, both as an individual business and as a member of industry associations.

- **We advocate for the role of existing gas infrastructure in the energy transition.**
  - Gas transmission pipelines are an integral part of the gas supply chain for GPG. They are also integral for hard-to-electrify industrial energy users, which includes those that may switch from higher emission fuels such as coal[1] and diesel[2] to lower emission natural gas as part of their emission reduction strategies.
  - Our gas distribution network is capable of securely and affordably transporting natural gas, biomethane and small amounts of renewable hydrogen today, and, with further research and investment, could be capable of distributing increasing amounts of renewable hydrogen and other sustainable, low and zero carbon gases in the future. With many hard-to-abate users on the network, Jemena strongly supports the role gas distribution networks can play in enabling cost-competitive decarbonisation and alternative supply options for gas users.
- **We support the development of a biomethane market in Australia** which, with the right support and investment, can offer a cost competitive decarbonisation option for natural gas users that is entirely compatible with existing gas infrastructure and end user equipment and appliances.
- In the electricity sector, **we support the build out of firmed low-emission generation, storage, and network investment** needed to achieve Australia's climate targets.

1 This emissions comparison is based on combustion only and does not represent life-cycle. Brown coal produces 93.82 $kgCO_2e/GJ$ upon combustion and natural gas produces 51.53 $kgCO_2e/GJ$ on combustion. Based on National Greenhouse and Energy Reporting Determination (compilation 17 dated 1 July2024).

2 This emissions comparison is based on combustion only and does not represent life-cycle. Diesel oil produces 70.20 $kgCO_2e/GJ$ upon combustion and natural gas produces 51.53 $kgCO_2e/GJ$ on combustion. Based on National Greenhouse and Energy Reporting Determination (compilation 17 dated 1 July2024).

## Public Policy Engagement and Advocacy continued

— **We encourage consideration by government and regulators of the challenges and opportunities being faced by electricity distribution networks**, particularly the forecast increase in demand from large industrial loads and consumer energy resources (such as electric vehicles and behind-the-meter energy storage) as part of the energy transition.

— **We advocate for policy and regulatory settings required to support the scale of investment** necessary for the transition of our entire energy sector while maintaining affordability and reliability for Australian consumers.

## Peak Body and Industry Association Memberships

To enable our Group's vision of creating sustainable energy solutions with communities, we engage with a range of business and industry communities to learn, develop and advocate for sustainable energy solutions. We use these memberships and relationships to build best practice, understand industry peers' views, share and advocate on policies of relevance, and be a thought leader on nationally important network decarbonisation issues and security of energy supply.

Some of the peak bodies and industry associations we belong to are:

| | |
|---|---|
| **The Energy Charter** | We are a #BetterTogether Collaborator of the Energy Charter, which is a coalition of energy organisations with a shared purpose and passion for customers and communities. |
| **Energy Networks Australia (ENA)** | We are a member of Energy Networks Australia, the national industry body representing Australia's electricity transmission and distribution and gas networks. Energy Networks Australia works with networks, regulators and industry partners to develop research and advise on issues including national and state government policy and regulation and key technical issues such as network safety, reliability and energy efficiency and sustainability. |
| **Australian Pipelines and Gas Association (APGA)** | We are a member of APGA as the peak body representing Australasia's pipeline infrastructure. |
| **Future Fuels Cooperative Research Centre** | We are a partner in the Future Fuels Cooperative Research Centre which is the industry-focused Research, Development & Demonstration (RD&D) partnership enabling the decarbonisation of Australia's energy networks. |
| **Methane Guiding Principles** | We are a member of the Methane Guiding Principles which support gas supply chain businesses like ours on ways to reduce methane emissions. |
| **Infrastructure Sustainability Council** | Through Zinfra, we are a member of the nationally recognised Infrastructure Sustainability Council (ISC). |

# Setting Our Climate Targets

**As a Group we understand setting realistic targets for emissions reduction and establishing strong climate governance will be critical to our success.**

## Our Greenhouse Gas Emissions Metrics and Targets

To set our greenhouse gas emissions reduction targets, we used the Science Based Targets Initiative's (SBTi) guidance and principles. SBTi develop standards, tools and guidance which allow companies to set greenhouse gas (GHG) emissions reductions targets in line with what is needed to keep global warming below catastrophic levels and reach net-zero by 2050 at latest. SBTi guidance is climate science based and they conduct detailed research and analysis to develop target setting methods. The methods are expert reviewed and the modelling methods are shared transparently for all. At the end of 2023, over 4,000 companies have had their targets validated by SBTi.

Our approach to target setting also took into account the following factors:

— alignment to the objectives of the Paris Agreement and the *Climate Change Act 2022* (Cth).

— our structural abatement and emissions reduction following our principles of Avoid, Reduce, Replace.

— emissions reduction opportunities and pathways are consistent with five and 10 year forecasts and the opportunities are considered realistically.

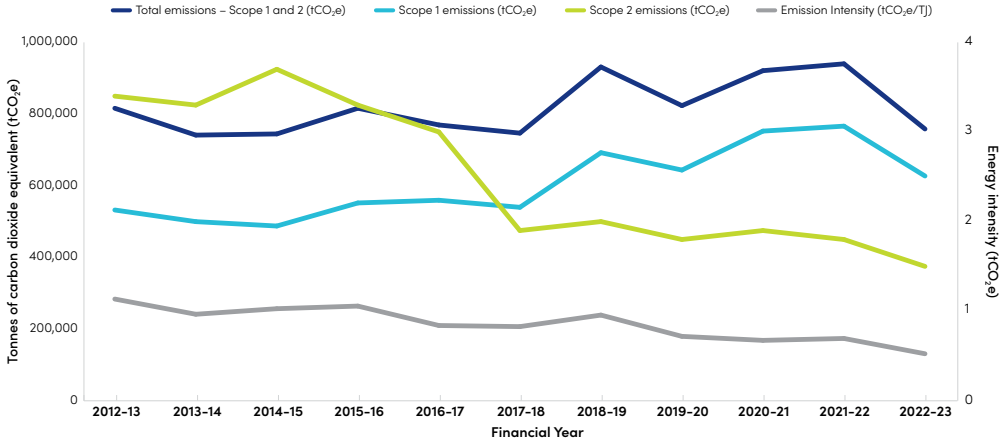
— future projections are based on internal and credible external scenarios.

Using this methodology, we have set a target of reducing our greenhouse gas emissions (Scope 1 and Scope 2) by 30 per cent by 2029-30 from our baseline year of 2021-22.

## Our Greenhouse Gas Emissions Metrics and Targets continued

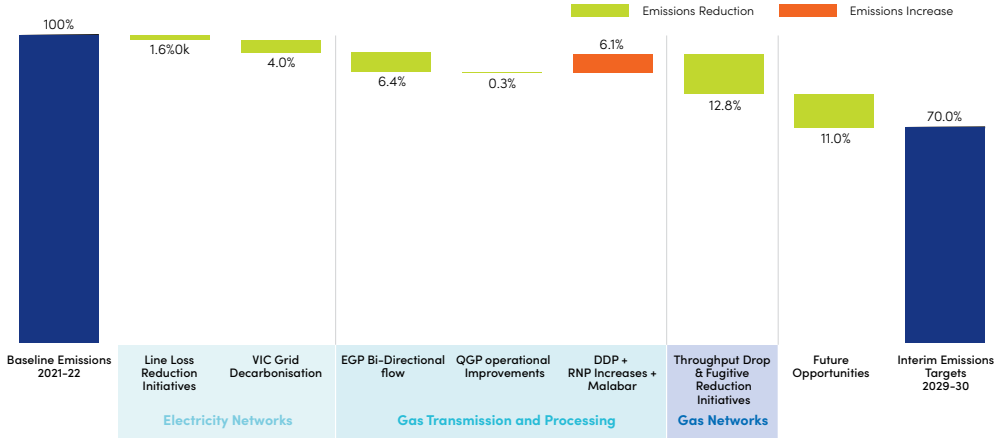
### Our Group's Greenhouse Gas Emissions 2012-13 to 2022-23[1]

Figure 7: Our Group's Greenhouse Gas Emissions




### Our Emissions Reduction Pathway to 2030

Figure 8: Our Absolute Emissions Pathway




### Our Interim Absolute Emissions Reduction Target

Our target to reduce our Scope 1 and Scope 2 emissions on an absolute basis by 30 per cent by 2029-2030 will be achieved through our current active interventions and the future activities outlined in this Plan.

1 Under the *National Greenhouse and Energy Reporting Act 2007* (Cth) we report annually on our energy use and Scope 1 and 2 emissions to the Clean Energy Regulator (CER). This report is available on request. The significant increase in emissions during the 2018-19 reporting period coincided with the commissioning of the Northern Gas Pipeline. The increase of emissions in 2020-21 is due to the CER updating/increasing the emissions factor of methane used for calculating fugitive emissions. There was also increased fuel gas throughput across the Eastern Gas Pipeline, Darling Downs Pipeline and Roma North facilities. In 2021-22, there was increased fuel gas throughput across the Eastern Gas Pipeline and Darling Downs Pipeline. In 2022-23, our overall emissions decreased by 30.9 per cent relative to the 2020-21 reporting period. This is due to a change in formula for calculating the fugitive emissions in distribution network by the Clean Energy Regulator.

## Our Greenhouse Gas Emissions Metrics and Targets continued

### Setting our Metric

The Group considered both absolute emissions ($tCO_2e$) and emissions intensity ($tCO_2e/TJ$) as potential metrics for setting interim emissions reduction targets. We have chosen absolute emissions as our primary reporting metric, as it directly reflects our progress towards our net zero goal. However, we recognise the value of emissions intensity in showcasing the efficiency improvements of our assets and their contribution to reducing operational emissions. Therefore, we will continue to report emissions intensity alongside our primary interim metric of absolute emissions.

### Setting our Baseline Year

According to the SBTi, organisations should use the most recent period for which data is available as the baseline. At the time of writing, the 2022-23 period was the latest for which data could be obtained. However, due to one-off events (i.e. a change in regulator calculation methodology) this is not representative of our typical GHG emissions profile for Scope 1 and Scope 2 emissions. Hence, 2021-22 was selected as our baseline year for target setting.

Our Scope 1 and Scope 2 emissions for 2021-22 have been through reasonable, independent assurance from an external provider, EY, and were submitted to the Clean Energy Regulator (CER).

### Setting our Target Year

SBTi states setting a near-term target of 5-10 years as best practice. As there is an overlap of our planning cycle timelines and our internal asset transition targets by 2030, the target year was selected as 2030.

### Setting our Target

SBTi recommends that companies set targets to reduce emissions at a linear reduction rate of 4.2 per cent per year using the cross-sector absolute contraction method.

At the time targets were set, our most recent reporting data was 2022-23. With the aim of reducing emissions by at least 4.2 per cent in each of the seven reporting periods between 2022-23 and 2029-30, a 30 per cent reduction target has been set.

At the time of writing, SBTi doesn't have sectoral guidance for oil and gas, and power and doesn't verify target setting for companies in these sectors.

### Our Emissions Trajectory

Our internal modelling of our current emissions trajectory will follow the Representative Concentration Pathway (RCP) 2.6[1]. RCP2.6 conforms to Australia's Nationally Determined Contribution (NDC) under the Paris Agreement which is consistent with a temperature rise of less than 2°C by the end of the century.

The RCP2.6 pathway also aligns with AEMO's Step Change scenario. The Group has conducted scenario resilience assessments on RCP1.9 (< 1.5°C temperature increase) and RCP4.5 (> 2.5°C temperature increase) pathways and will make those available on our website.

### Reward for Emissions Reduction Performance

To support effort towards achieving our targets, emissions reduction and mandatory climate-related reporting readiness are both Group key performance indicators (KPIs) for 2024 and 2025, and we intend to continue making sustainability and emissions reduction a focus into the future. Our Short Term Incentive Plan (STIP) payments for executives are tied to meeting these KPIs.

## Risks and Potential Disruptions

The risks and disruptions we have identified that may impact meeting our target are:

1. **Whole-of-economy perspective:** We recognise that while supporting industrial customers to achieve their emissions reduction targets may increase our Group's emissions in the near term, from a whole-of-economy perspective it may contribute to overall emissions reduction in the Australian economy. Our approach to emissions reduction as set out in this Plan will guide our response to minimising the impacts should this occur.
2. **Change in emissions factors used for calculating emissions inventory:** Changes in emissions factors by the regulator could make a significant difference in our emissions reporting.
3. **Change in emissions reporting measurement methods:** We are currently advocating for a direct emissions measurement method to calculate fugitive emissions for our gas distribution network, supported by our introduction of advanced mobile leak detection methods. Direct measurement provides higher confidence in our

1 According to the IPCC, RCP 2.6 requires that carbon dioxide emissions start declining by 2020 and go to zero by 2100. It also requires that methane emissions go to approximately half the CH4 levels of 2020, and that sulphur dioxide ($SO_2$) emissions decline to approximately 10 per cent of those of 1980–1990.

## Our Greenhouse Gas Emissions Metrics and Targets continued

emissions reduction initiatives and representative emissions in our network. We have received initial support from the regulator and look to move to this method as soon as possible. If this results in significant changes to our GHG inventory, a target re-evaluation will be necessary.

4. **Dependency on passive emissions reductions:** Given the size of our assets, we are dependent on Victoria achieving its 65 per cent renewable electricity target by 2030. The ability to meet these targets is dependent on a range of factors, e.g. the availability of required materials and critical minerals, establishing or maintaining social licence to build transmission and other energy assets, and potential shifts in market demand for electric vehicles and related demands on electricity networks.
5. **Regulatory approvals:** All our investments and plans in our regulated assets are subject to regulatory approvals. Our gas and electricity networks are going through a price reset process and our ability to carry out some of the actions in this Plan and achieve the targets depends on outcomes that support our direction.
6. **Macroeconomic landscape and stable policy:** Demand for gas and electricity depends on economic growth and macroeconomic stability. This has to be supported by stable policy settings at the state and federal level to give our business (and other energy businesses) the stability to invest during the energy transition.
7. **Gas availability and supply stability:** The operation of our assets and our emissions are directly linked to stable gas production and supply from upstream producers. Whilst a drop in supply generally translates to reduced emissions, the drop could provide an exaggerated view on the active emissions intervention programs from the Group. Should this happen, we will maintain full transparency of the reason for significant emissions changes to previous years.

## Next steps – Setting our Scope 3 Target

Scope 3 emissions includes all indirect emissions that occur in the upstream and downstream activities of our organisation. Some key components of Scope 3 are:

— emissions from downstream consumption of the electricity and gas moved through our assets by our customers (also called as use of sold products in greenhouse gas protocol for emissions reporting)

— emissions for the purchased goods and services, like poles and wires, pipes, materials and equipment used in construction

— business and employee travel

— waste disposal.

Scope 3 reporting requires high quality data across the value chain (across sectors and countries). This data needs to be acquired, tracked, recorded accurately based on globally recognised greenhouse gas protocols. To be able to track and reduce Scope 3 emissions accurately, high levels of data maturity is required across the value chain. We are currently working to increase the maturity of our Scope 3 reporting. Our current Scope 3 emissions are calculated following a spend-based method detailed in the Greenhouse Gas Protocol's *Technical Guidance for Calculating Scope 3 Emissions*. We made our first disclosure in our *2023 Sustainability Report*.

We expect to be able to disclose our Scope 3 emissions target in 2027 from the various systems uplift programs we have in place.

# Our Governance

**Our Board and Leadership Team are committed to achieving the targets in our first Climate Transition Plan through delivering actions, pursuing opportunities and managing risks.**

## Climate-Related Board Activity in 2024

| | |
|---|---|
| **March 2024** | Update on organisational readiness for mandatory climate-related financial disclosures. |
| **June 2024** | Discussion of potential energy transition opportunities and potential future investments. |
| **September 2024** | Review of climate-related risks, including physical, transitional and reputational. |
| **December 2024** | Climate Transition Plan review and approvals. |

## Management Roles, Responsibilities and Accountability

### SGSPAA Board

*Meets quarterly*
- Monitors and optimises the Group's financial and non-financial performance, including climate-related matters
- Decision-making on material climate-related matters including emissions reduction targets and approval of the Climate Transition Plan
- Advises and approves strategies to establish the Group's long-term viability and sustainability
- Maintains oversight of risks facing the Group, including climate-related risks (physical, reputational and transition)

#### Audit and Compliance Committee

*Meets quarterly*
- General oversight of financial statements including future mandatory climate-related reporting

#### Funding and Disclosure Committee

*Meets quarterly*
- Assists the Board in managing the continuous disclosure obligations, including mandatory climate-related disclosures

#### Risk, Health, Safety and Environment Committee (RHSEC)

*Meets quarterly*
- Assists the Board in fulfilling its oversight responsibilities on the type and level of Group business risks, risk management and sustainability risks, including climate-related risks

#### Nomination and Compensation Committee

*Meets quarterly*
- Approves climate-related KPIs and annual performance against them

### Leadership Team

*Meets monthly*
- Develops Group strategy, business plans and budget for Board consideration, and drives their implementation – including the Group's Environment, Social and Governance (ESG) Plan and emissions reduction initiatives

### ESG Steering Committee

*Meets as required, at minimum every two months*
- Leaders across the business responsible for managing our business sustainably
- Responsible for implementation of the Climate Transition Plan
- Provides guidance and advice in relation to ESG Plan, including emissions reduction
- Chaired by Executive General Manager, People, Safety and Governance

### Executive Risk Management Committee

*Meets quarterly*
- Supports our Managing Director and RHSEC in executing their responsibilities
- Chaired by Executive General Manager, People, Safety and Governance

### Emissions Reduction Working Group

*Meets quarterly*
- Senior subject matter experts across the Group providing input to our Emissions Reduction Plan
- Supported by Emissions Reduction Working Groups focused on our gas transmission and distribution assets

### Mandatory Climate Disclosure Working Group

- Senior subject matter experts coordinating across the business to review our current sustainability reporting and identify our path to readiness for making mandatory climate-related financial disclosures in 2026

### Risk Management and Internal Audit Team

- Responsible for delivering the Group's annual Risk Management Plan and overseeing the Group's Risk Register
- Implementing annual Risk Management Plans, including maturing our climate-related risk responses

### Environment and Sustainability Team

- Leads development of Group ESG Plan, Emissions Reduction Plan and climate transition plans with subject matter experts across the business
- Responsible for emissions monitoring and tracking of Climate Transition Plan implementation, including engaging external auditors to undertake reasonable assurance of our emissions reports

### Group Strategy Team

- Leads development of Group strategic objectives
- Undertakes climate risk and opportunities analysis

**Finance, Legal Services, Human Resources, Health and Safety, Business Resilience, Property and Procurement Teams** are responsible for developing relevant Group-wide plans, strategies and processes in alignment with the Group ESG Plan, and working with teams across the organisation to implement and monitor. Responsible for risk management in their areas of responsibility.

**Jemena Networks, Gas Markets, Services and Projects (Zinfra)** are responsible for implementing Group-wide ESG initiatives and relevant policies, including identifying and managing risk, and identifying and actioning emissions reduction opportunities

## Embedding our Climate Ambitions in our Group

Our Group's dedication to addressing climate change challenges and opportunities, particularly in supporting Australia's energy transition and reducing emissions, is embedded in several of our core strategies and plans, including our overarching Group Strategy, and the future plans for our assets outlined in this Plan. This commitment is prominently reflected in our Group ESG Plan and aligns closely with our Group's values. Our Climate Ambitions align also with these plans and our Group Values.

Having a shared understanding across our Group of our climate ambitions and what we are doing to achieve them will be critical in the coming years. We will be incorporating information and messaging about our *Climate Transition Plan* in our broader communication activities supporting our Group ESG Plan.

As part of the work we are doing to mature our ability to respond to the impacts of climate change, including preparing for mandatory climate-related reporting, we will review, update and report on our progress against this Plan by the second quarter of 2026.


# Disclaimer

SGSPAA has prepared this document for the purposes of facilitating the Group's achievement of its climate ambitions. It should not be relied on for any particular purpose and, specifically, has not been prepared for the purposes of investment or to provide information in relation to the Group's current or future financial performance.

While we have made reasonable efforts to ensure the quality of the content, we give no guarantee or warranty regarding its accuracy, completeness, currency or suitability for any particular purpose and, to the extent permitted by law, do not accept any liability for loss or damage incurred as a result of reliance placed on any information, findings, opinions, estimates, recommendations or conclusions provided in, or omitted from, this document. Before using or relying on any information contained in this document, the information should be independently verified and specific advice sought from appropriate experts.

The representations and statements made in this document have been made in good faith and based on the best information available at the time of writing. It may include information, including from third parties, that has not been independently verified. In regards to statements as to future actions, including our targets, commitments, estimates, expectations and scenario modelling, these are necessarily predictive in character and every effort has been made to ensure that such statements are reasonably based, and that key assumptions are made clear. Our key assumptions include current beliefs and expectations with respect to regulatory approvals and policy settings, market behaviour, customer behaviour, uptake of renewables, economic trends and technological developments. It must be acknowledged that the realisation of forward-looking statements, based as they are on certain assumptions and conditions being met, is impacted by known and unknown risks, uncertainties and events beyond the control of the Group. Consequently, actual results may differ from estimated or forecasted results. While such forward-looking statements reflect our current best estimates and judgements at the time, we give no assurance that future states or actions will be realised as anticipated.

This document is subject to regular review and where further information becomes available, or additional assumptions need to be made, we reserve the right to amend this document, but we are not obliged to do so.