

# Securing Australia's energy future

Climate Report 2024

**APA**





## Acknowledgement of Country

At APA, we acknowledge the Traditional Owners and Custodians of the lands on which we live and work throughout Australia. We acknowledge their connections to land, sea and community. We pay our respects to their Elders past and present, and commit to ensuring APA operates in a fair and ethical manner that respects First Nations Peoples' rights and interests.

### Entity details

**Business name:** APA Group

**Ownership and legal form:** APA Group (APA) comprises two registered managed investment schemes – APA Infrastructure Trust (APA Infra) and APA Investment Trust (APA Invest) – and their controlled entities. APA Group Limited is the responsible entity of APA.

**Head office:** Level 25, 580 George Street, Sydney NSW 2000

**Contact us:** If you have any questions or comments relating to this Climate Report, please email [sustainability@apa.com.au](mailto:sustainability@apa.com.au)

### About this Report

**Important notice:** This Climate Report ('the Report') has been prepared for APA stakeholders and outlines APA's progress against its 2022 [Climate Transition Plan](#) to address climate-related matters, including risks and opportunities. It has not been prepared as financial or investment advice or to provide any guidance in relation to the future performance of APA.

**Disclosure approach:** APA's disclosure approach in this report aims to align with the recommendations of the Financial Stability Board (FSB) [Task Force on Climate-related Financial Disclosures \(TCFD\)](#), which address strategy, risk management, governance and metrics and targets. The Task Force on Climate-related Financial Disclosure section provides a guide to how we have responded to specific TCFD disclosures.

**Organisational boundary:** Unless noted otherwise, the organisational boundary for all emissions calculations, targets and goals relates to assets under APA's operational control, as defined by the Greenhouse Gas (GHG) Protocol. Except where noted otherwise, FY24 data is used throughout the document where we refer to emissions and progress against targets and goals. The position statements, policies and governance arrangements referenced apply to APA Group Limited and its subsidiaries and controlled entities.

**External assurance:** We engaged Deloitte to undertake assurance over selected metrics in APA's [FY24 Climate Data Book](#) in accordance with the Australian Standard on Assurance Engagements ASAE 3000 Assurance Engagements other than Audits or Review of Historical Financial information issued by the Australian Auditing and Assurance Standards. The key performance indicators are to be read in conjunction with APA's [FY24 Greenhouse Gas Emissions and Energy Calculation Methodology](#). Details of the assurance scope, procedures and conclusion are included in the Assurance Report on pages 68–72 of this report.

### Disclaimer and forward-looking statements

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**Forward-looking statements:** This publication contains forward-looking information, including about APA Group, its financial results and other matters which are subject to risk factors. 'Forward-looking statements' may include indications of, and guidance on, future earnings and financial position and performance, statements regarding APA Group's future strategies and capital expenditure, statements regarding estimates of future demand and consumption and statements regarding APA's

sustainability and climate transition plans and strategies, the impact of climate change and other sustainability issues for APA, energy transition scenarios, actions of third parties, and external enablers such as technology development and commercialisation, policy support, market support and energy and offsets availability. Forward-looking statements can generally be identified by the use of forward-looking words such as 'could', 'may', 'predict', 'plan', 'will', 'believe', 'target', 'goal', 'ambition' and other similar expressions are intended to identify forward-looking statements which discuss future expectations concerning sustainability, including climate change and energy transition scenarios and outcomes.

At the date of this report, APA Group believes there are reasonable grounds for these forward-looking statements and due care and attention have been used in preparing this report.

Forward-looking statements in this Climate Report are based on management's current expectations and reflect judgements, assumptions, estimates and other information available as at the date of this Climate Report and/or the date of APA's planning processes or scenario analysis processes, and which are subject to change. Readers are cautioned not to place undue reliance on such statements, particularly in light of the long-time horizon which this Climate Report discusses and the inherent uncertainty in possible policy, market and technological developments in the future. There are also inherent limitations with scenario analysis and it is difficult to predict which, if any, of the scenarios might eventuate. Scenarios do not constitute definitive outcomes or probabilities, and scenario analysis relies on assumptions that may or may not be, or prove to be, correct and may or may not eventuate. Scenarios may also be impacted by additional factors to the assumptions disclosed. Investors should carefully consider and form their own views as to these matters and any assumptions.

Due to the inherent uncertainties and limitations associated with measuring greenhouse gas emissions data, our references to the same are estimates and APA Group Limited does not guarantee the accuracy of the information provided and readers should not place undue reliance on these estimates. The basis for calculation of the emissions data is provided in APA's [FY24 Greenhouse Gas Emissions and Energy Calculation Methodology](#).

There are also limitations with respect to climate scenario analysis and it is difficult to predict which, if any, of the scenarios might eventuate. Scenario analysis is not an indication of probable outcomes and relies on assumptions that may or may not prove to be correct or eventuate. Scenarios may also be impacted by additional factors to the assumptions disclosed.

No representation or warranty is made regarding the accuracy, completeness or reliability of the forward-looking statements or opinions contained in this Climate Report, or the assumptions on which either is based. All such information is, by its nature, subject to significant uncertainties including those outside of the control of APA, and actual results, circumstances and developments may differ materially from those expressed or implied in this Climate Report. Except as required by applicable laws or regulations, APA does not undertake to publicly update or review any forward-looking statements (or the assumptions on which they are based), whether as a result of new information or future events. To the maximum extent permitted by law, APA and its officers do not accept any responsibility or liability (howsoever arising, including due to negligence, default or lack of care) for any loss, damage, cost, expense or outgoing of any kind suffered or incurred by any person arising from the receipt, interpretation or use of the information contained in, or inferred from, this Climate Report and do not represent, warrant or guarantee the success or performance of the matters stated in this Climate Report. Any opinions expressed in the Climate Report are based on the knowledge and expertise of the persons forming the opinion at the date the opinion was formed and may in the future cease to be (and may never have been) appropriate in light of subsequent knowledge or attitude.



# Message from the Chairman and Managing Director

## We are pleased to present APA's FY24 Climate Report, detailing our progress against our Climate Transition Plan.

As Australia's energy infrastructure partner, APA makes two distinct and important contributions to the nation's energy transition: partnering with our customers to deliver innovative solutions which enable them to achieve their climate ambitions, and decarbonisation of our own operations.

With Australia's decarbonisation agenda continuing to mature and evolve, the central role of natural gas in ensuring energy security, supporting the accelerated development of renewables and powering essential Australian industry in an affordable and sustainable way, is now widely acknowledged. This has been reinforced by the Federal Government's *Future Gas Strategy* and the Australian Energy Market Operator's (AEMO) *2024 Gas Statement of Opportunities*.

APA's extensive network of natural gas pipelines, together with our large and growing portfolio of renewables, firming generation and electricity transmission infrastructure assets, delivers integrated and customer-focused solutions that play a critical role in decarbonising the economy. We acknowledge that the systemic benefits our gas network delivers, in facilitating the timely retirement of coal and other more carbon-intensive fuels, has the potential to impact our own operational emissions in the short term as the nation transitions to a cleaner energy future.

This was evident in FY24 as APA's gas pipeline network transported much-needed gas from the northern gas fields to the southern markets on Australia's east coast, and delivered supply critical to Western Australia's resources sector and its renewable build out. Excluding these essential growth projects, APA's gross emissions would have reduced by eight per cent from FY21 levels, compared to the 1.7 per cent gross reduction that was achieved.

As we navigate our dual role in Australia's energy transition, APA remains committed to striking the right balance to ensure Australian households, businesses and industry continue to have access to affordable, reliable and lower emissions energy.

## FY24 progress

This report details the progress we have made in FY24, the second year in implementing our 2022 Climate Transition Plan. There were a number of highlights:

- **Ongoing progress towards our 2030 interim targets and goals**, including a 1.7% gross reduction and a 10% net reduction (including offsets) in gas infrastructure emissions, as well as an 11.3% reduction in power generation emissions intensity (both relative to our FY21 base year).
- **Delivery of abatement measures under our Methane Action Plan**, including pipeline leak repairs and compressor seal upgrades. While methane abatement is not accounted for in our reported emissions, APA recognises the significant contribution this makes to decarbonisation.
- **Improved understanding of abatement opportunities** across our gas infrastructure network through enhanced methane measurement on the South West Queensland Pipeline (SWQP) – our highest emitting gas pipeline infrastructure – using state of the art aerial Gas Mapping LiDAR technology. This work provides a holistic view of the SWQP asset, helping to inform future abatement plans for our nationwide gas infrastructure.
- **Undertook comprehensive technical and commercial assessments** for the electrification of the Wallumbilla compressor station in Queensland, building on our nationwide compressor electrification study in FY23.
- **Partnering with our customers to achieve their decarbonisation ambitions** across the Pilbara Energy System in Western Australia to develop and deliver APA's renewables pipeline, including ongoing development of the Port Hedland Solar and Battery project.
- **Exploring fuels of the future** including continued feasibility work on Western Australia's Parmelia Gas Pipeline Green Hydrogen project in partnership with our customer, and with funding support from the Australian Renewable Energy Agency.

- **Completion of the next stage of our physical climate risk analysis**, with deep dive assessments on five priority assets across a range of operational activities and locations.
- **Procuring 100% renewable electricity** to address our Scope 2 emissions, achieved through the purchase and surrender of large-scale generation certificates.
- **Continuing our contribution to broader industry and policy developments** in relation to climate.
- **Progress towards delivering APA's Scope 3 emissions goal**, with the development of an opportunity roadmap for further analysis and incorporation into our next Climate Transition Plan.

All of this has been delivered under strengthened sustainability governance put in place in FY23, ensuring consistent Board oversight of APA's progress against our 2022 Climate Transition Plan.

In line with the Board's commitment to enhanced transparency, this year's Climate Report continues to build on our FY23 approach. We aim to align our disclosures with the Financial Stability Board's Task Force on Climate-Related Financial Disclosures and have again produced a comprehensive Climate Data Book, which transparently reports our Scope 1, 2 and 3 emissions, as well as other detailed information such as APA's approach to offsets.

We have enhanced our data assurance in FY24, with Deloitte providing reasonable assurance of our Scope 1 and 2 emissions (previously limited assurance) and limited assurance of our Scope 3 emissions, well ahead of new mandatory reporting requirements.

### Looking ahead

APA will continue to progress our work against each of our targets and goals. In FY25 this will include expansion of our compressor optimisation work to a broader set of assets, implementation of our Methane Action Plan focusing on abatement and enhanced measurement, and further development of our renewable, firming and storage project pipeline in support of economy-wide decarbonisation.

In FY25 the Board's Safety and Sustainability Committee will also oversee development of our refreshed Climate Transition Plan and this plan will be put to a non-binding securityholder vote at APA's 2025 Annual Meeting. We will continue to actively engage with our securityholders and other stakeholders to incorporate their expectations of APA and our critical role in Australia's energy transition.

We understand the important role we play in supporting the nation's evolving decarbonisation journey, and are committed to partnering with our customers, communities, governments and suppliers in *securing Australia's energy future*.

We look forward to updating you again soon.



**Michael Fraser**  
Chairman



**Adam Watson**  
Chief Executive Officer  
and Managing Director

# FY24 highlights

In FY24, we continued to build momentum and make progress against our 2022 [Climate Transition Plan](#). This delivered a number of achievements in line with our climate-related targets, goals and supporting actions.

## Our FY24 progress highlights

### 2030 TARGET

**Reduce gas infrastructure operational emissions by 30% (FY21 base year)**

**1.7% gross emissions reduction<sup>1</sup> and 10% net reduction (including offsets) compared to FY21**

- Operated compressors more efficiently
- Completed Wallumbilla compressor station electrification technical and commercial assessments<sup>2</sup>
- Submitted Safeguard Emissions-Intensity Determination applications for two significant pipeline assets

### 2030 GOAL

**Reduce power generation infrastructure operational emissions intensity by 35% (FY21 base year)**

**11.3% decrease compared to FY21<sup>5</sup>**

- Progressed construction of Port Hedland Solar and Battery Project
- Commenced development of the 1 GW+ Pilbara Energy System renewables pipeline to support the resource industry's decarbonisation plans
- Submitted a Safeguard Emissions-Intensity Determination application for Newman Power Station

### FY24 ACTIONS

#### Climate risk and opportunities

- Completed physical climate risk deep dive assessments on five priority assets across a range of operational activities and locations
- Commissioned an APA gas market model which will be used for transition risk and opportunity analysis in our [Climate Transition Plan](#) update

### 2030 TARGET

**Reduce operational methane emissions by at least 30% (FY21 base year)**

**3.7% increase (driven by growth projects) compared to FY21<sup>3</sup>**

- Delivered enhanced methane measurement study on the South West Queensland Pipeline using Gas Mapping LiDAR technology<sup>4</sup>
- Methane abated through pipeline leak repair, compressor seal packing and the trialling of gas recovery technology
- Completed engineering studies and delivery planning for further abatement initiatives

### SUPPORTING ACTION

**Investment in future fuels and technologies and incorporation of the Methane Guiding Principles (MGP)**

- Invested in hydrogen readiness and CO<sub>2</sub> transportation pipeline and biomethane opportunity research through our Pathfinder Program
- Submitted an [MGP Signatory Report](#)
- Participated in the MGP Roundtable in Doha and key MGP workstreams
- Made submissions to the Climate Change Authority and Australian Government advocating for improved methane measurement methods

### FY24 ACTIONS

#### Uplifted data management and approach to disclosures

- Initiated development of our new emissions data and reporting platform to automate emissions data capture
- Uplifted assurance levels to reasonable assurance for key operational disclosure items in advance of future mandatory requirements

<sup>1</sup> Fugitive methane abatement achieved was not able to be accounted for in our assured emissions reporting due to the method applied for reporting under National Greenhouse and Energy Reporting. Information on this abatement is given in the Metrics and Targets section of the report.

<sup>2</sup> A Final Investment Decision (FID) has been delayed as we await the outcome of the Australian Energy Regulator's regulatory review into the South West Queensland Pipeline.

<sup>3</sup> The Australian Department of Climate Change Energy Environment and Water is considering opportunities to develop new higher order methods for methane measurement and reporting (DCCFEW, [National Greenhouse and Energy Reporting \(NGER\) scheme 2024 Proposed Amendments, April 2024](#)). Moving to enhanced methane measurement and reporting will support re-baselining and enable us to report progress towards our methane target.

<sup>4</sup> Pilot conducted on APA's South West Queensland Pipeline included ground level source measurements and the first deployment of Bridger Photonics' Gas Mapping Light Detection and Ranging (LiDAR) technology in Australia.

<sup>5</sup> Based on re-baselined emissions to include Alinta Energy Pilbara.

## ONGOING ACTIONS

### Ongoing annual actions towards our targets, goals and commitments

- Offset 100% of our business travel- related emissions
- Purchased and surrendered large-scale generation certificates from Stockyard Hill Wind Farm to meet our 100% renewable electricity procurement target
- Approved a FY25–FY30 Electric Vehicle strategic approach

## PROGRESS TOWARDS 2025 ACTIONS

### Finalise a Scope 3 emissions goal in conjunction with our next Climate Transition Plan in 2025

- Made progress towards the delivery of our Scope 3 goal by identifying key opportunities for further analysis
- Developed requirements within APA's procurement documents to inform our Scope 3 emissions
- Continued to engage with suppliers and operators of APA's assets on mitigation and enhanced methane emissions measurement and reporting

## 2040 GOAL

### Electricity transmission net zero operational emissions by 2040

- 98% reduction (excluding line losses) compared to FY21 achieved through purchasing and surrendering large-scale generation certificates

## Our FY25 focus areas



### Gas infrastructure

- Expand compressor optimisation to other assets
- Wallumbilla compressor electrification investment decision<sup>1</sup>
- Continue implementing our Methane Action Plan focusing on abatement and enhanced measurement



### Power generation and electricity transmission

- Commission Port Hedland solar and battery plants
- Further develop our Pilbara Energy System development pipeline
- Continue to pursue the New England Renewable Energy Zone and VicGrid opportunities



### Risks and opportunities

- Complete updated transition risk and opportunity assessments
- Progress further physical climate risk assessments and integration into asset management planning



### Scope 3 goal

- Further engagement with key value chain stakeholders
- Develop a roadmap of prioritised emissions reduction opportunities
- Publish our Scope 3 emissions goal within our next Climate Transition Plan



### Climate Transition Plan

- Deliver the three-yearly update of our Climate Transition Plan for publication in 2025
- Prepare to hold a non-binding securityholder vote on our updated Climate Transition Plan at our 2025 Annual Meeting



### Data management and disclosure reporting

- Commission our emissions data and reporting platform
- Prepare for new mandatory climate-related financial disclosures

<sup>1</sup> A final investment decision (FID) has been delayed as we await the outcome of the Australian Energy Regulator's regulatory review into the South West Queensland Pipeline.

# About APA

At APA, we're taking on one of Australia's greatest challenges: the energy transition. We're not doing it alone. We're doing it as Australia's energy infrastructure partner – a role our unique experience and expertise positions us to play.



OUR PURPOSE  
Why we exist

Securing Australia's energy future



OUR STRATEGY  
What we do

To be the partner of choice in delivering infrastructure solutions for the energy transition

## About APA

**As Australia's energy infrastructure partner, we work across a diverse range of energy solutions, transporting almost half of the nation's domestic gas supply and managing a large and growing portfolio of renewables, firming generation, and electricity transmission infrastructure assets.**

And we're exploring the fuels of the future as we look towards what's next.

Consistent with our strategy to deliver infrastructure solutions for Australia's energy transition, our diverse portfolio delivers energy to customers in every Australian state and territory. We actively support the energy transition by partnering with our customers on reliable, affordable and lower emission solutions that help achieve their decarbonisation ambitions.

In August 2022, we published our inaugural [Climate Transition Plan](#) which outlined our commitments in support of Australia's energy transition and our pathway to achieve net zero operational emissions by 2050. We published our first Climate Report in 2023 to disclose progress against our Climate Transition Plan and we do this on an annual basis.

We operate and have interests in 692 MW of renewable generation and battery storage infrastructure making us one of the largest renewable electricity suppliers in Australia. Our high-voltage electricity transmission assets connect Victoria with South Australia, New South Wales with Queensland and Tasmania with Victoria.

Our 15,000 km of natural gas pipelines connect sources of supply and markets across mainland Australia. We operate and maintain networks connecting 1.5 million Australian homes and businesses to the benefits of natural gas. We also own or have interests in gas storage and 884 MW of gas-fired generation assets.

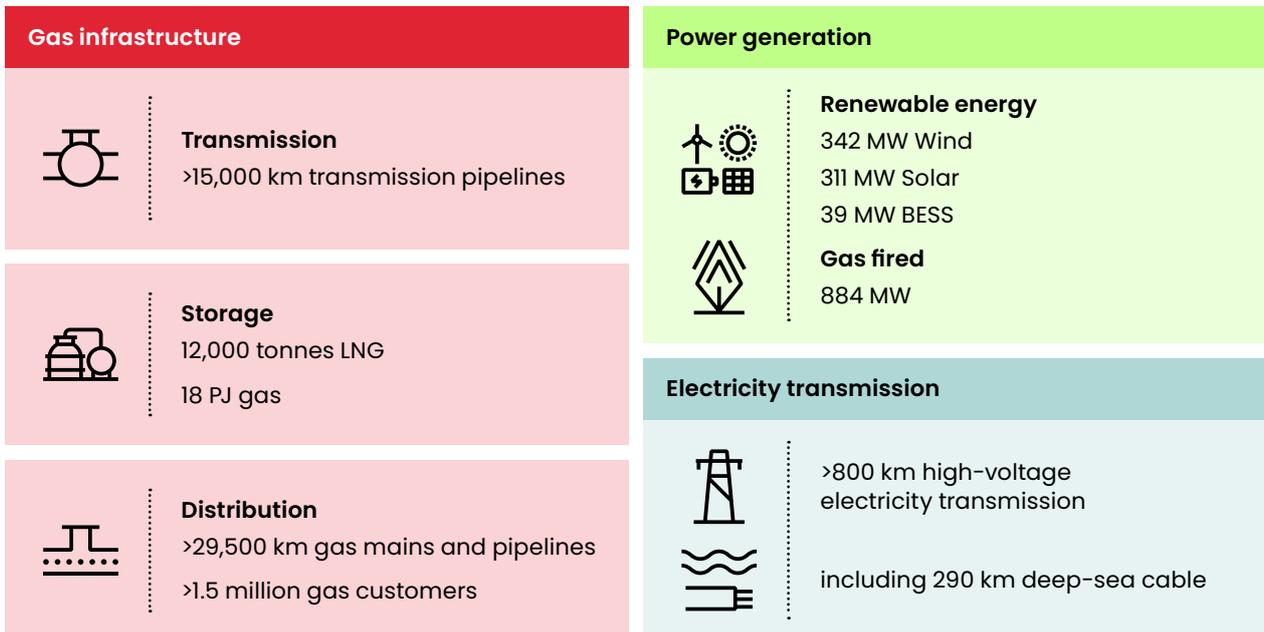
Our electricity transmission business has deep operational and project delivery expertise and in FY24 we announced a partnership with leading global infrastructure organisation EDF Group (Electricité de France) to integrate global experience within our electricity transmission delivery and operations.<sup>1</sup>

APA has the scale and capability to be the leading provider of bundled energy infrastructure solutions for the remote regions of Australia. We support our regional customers' energy transition and decarbonisation efforts through our ability to develop and operate bundled solutions spanning renewables, natural gas and battery firming and electricity transmission.

In November 2023, we completed the acquisition of Alinta Energy Pilbara Holdings Pty Ltd and Alinta Energy (Newman Storage) Pty Ltd (Alinta Energy Pilbara), an energy infrastructure business in Western Australia with natural gas and solar generation, battery storage and electricity transmission assets. Our Pilbara Energy System, which integrates this newly acquired infrastructure and our existing assets such as the Goldfields Gas Pipeline, has an extensive pipeline of wind, solar, gas and electricity transmission projects. Our other investments in remote energy solutions include the Diamantina Power Station Complex and Dugald River Solar Farm at Mount Isa in Queensland, and the Gruyere Microgrid in Western Australia.

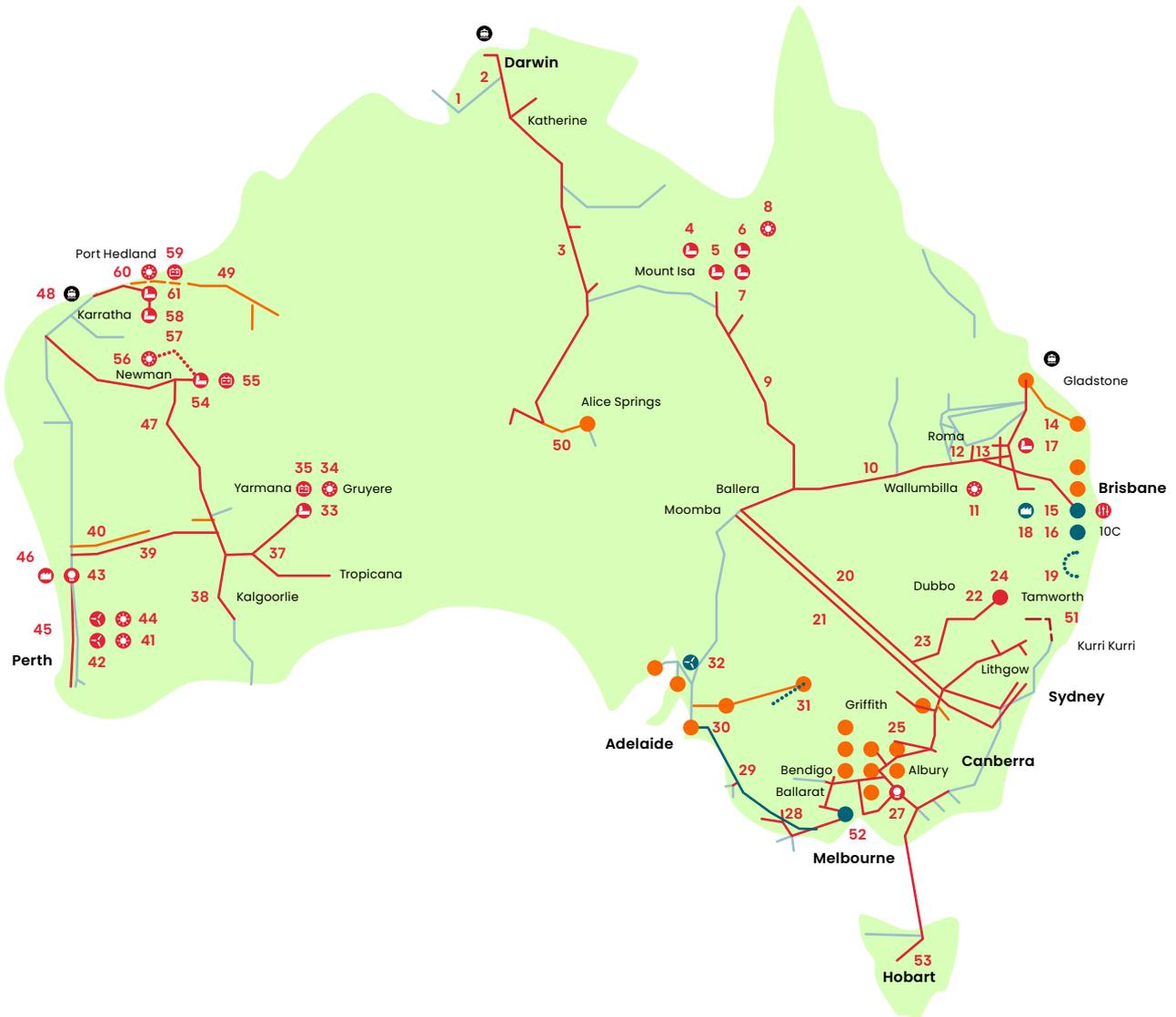
Building on our extensive portfolio of assets and expertise across natural gas, electricity and renewables, we are also investing in future fuels and technologies to support APA, customer and national pathways to net zero. Through our Pathfinder Program, we are advancing studies into how our infrastructure can support hydrogen transportation and investigating how biomethane and carbon capture and storage can support decarbonisation.

### Diverse energy infrastructure portfolio



<sup>1</sup> APA, 'APA Group and EDF Group to pursue electricity transmission projects' (Media Release, 31 October 2023).

# APA portfolio of assets and investments



## Pipeline

- 3 Amadeus Gas Pipeline (inc laterals)
- 13 Berwyndale Wallumbilla Pipeline
- 1 Bonaparte Gas Pipeline
- 9 Carpentaria Gas Pipeline (inc laterals)
- 22 Central Ranges Pipelines
- 23 Central West Pipeline
- 37 Eastern Goldfields Pipeline
- 47 Goldfields Gas Pipeline (GGP)
- 38 Kalgoorlie Kambalda Pipeline
- 40 Mid West Pipeline
- 20 Moomba Sydney Pipeline (inc laterals) (MSP)
- 21 Moomba Sydney Ethane Pipeline
- 28 Mortlake Gas Pipeline
- 39 Northern Goldfields Interconnect
- 45 Parmelia Gas Pipeline (PGP)
- 48 Pilbara Pipeline System
- 12 Reedy Creek Wallumbilla Pipeline
- 15 Roma Brisbane Pipeline (inc Peat lateral)
- 30 SEA Gas Pipeline
- 29 SESA Pipeline
- 10 South West Queensland Pipeline (SWQP)
- 49 Telfer/Nifty Gas Pipelines and lateral
- 25 Victorian Transmission System (VTS)
- 14 Wallumbilla Gladstone Pipeline (inc laterals)
- 2 Wickham Point Pipeline
- 36 Yamarna Gas Pipeline
- 51 Kurri Kurri Lateral Pipeline (KKLP)\*
- 52 Western Outer Ring Main (WORM)

## Gas Processing and Storage

- 27 Dandenong
- 18 Kogan North
- 46 Mondarra

## Gas Distribution

- 16 Allgas Gas Network
- 50 Australian Gas Networks
- 24 Tamworth Gas Network

## Electricity Transmission

- 19 Directlink
- 31 Murraylink
- 53 Basslink
- 57 Pilbara – HV Transmission Lines

## Generation

- 17 Daandine (30 MW)
- 6 Diamantina (242 MW)
- 33 Gruyere (47 MW)
- 7 Leichhardt (60 MW)
- 5 Thomson (22 MW)
- 4 X41 (41 MW)
- 54 Newman (232 MW)
- 58 Port Hedland (126 MW)
- 61 Boodarie (84 MW)
- 35 Gruyere Battery Station (4.4 MW/4.4 MWh)
- 65 Newman Battery (35 MW / 11.4 MWh)
- 59 Port Hedland Battery\* (35 MW / 34.1 MWh)

\* Under construction.

## Solar Farm

- 43 Badgingarra (19 MW)
- 11 Darling Downs (108 MW)
- 41 Emu Downs (20 MW)
- 34 Gruyere (13.2 MW)
- 8 Dugald River (88 MW)
- 56 Chichester (60 MW)
- 60 Port Hedland\* (47 MW)

## Wind

- 44 Badgingarra (130 MW)
- 42 Emu Downs (80 MW)
- 32 North Brown Hill (132 MW)

## Key

- APA Group asset
- APA Group distribution network asset
- APA Group investment
- Investment distribution network
- ⋯ Electricity transmission
- APA Group managed asset (not owned)
- Managed distribution network
- Other natural gas pipelines
- Under construction
- ☼ Wind farm
- ☀ Solar farm
- 🏭 LNG plant
- 🔋 Battery storage
- 🗄 Gas storage facility
- 🏭 Gas processing plant
- ⚡ Gas power station
- 🏢 Integrated Operations Centre

# Pilbara Energy System assets and development pipeline



## Contracted Renewables

60 MW operating solar, 35 MW operating battery and ~1 GW+ development pipeline of wind, solar and battery storage<sup>1,2,3</sup>



## Gas Generation

442 MW operating gas generation with an additional 60 MW development pipeline<sup>1,2</sup>



## Electricity Transmission

>200 km operating transmission lines with an additional >600 km development pipelines<sup>1,2</sup>



## Gas Transmission

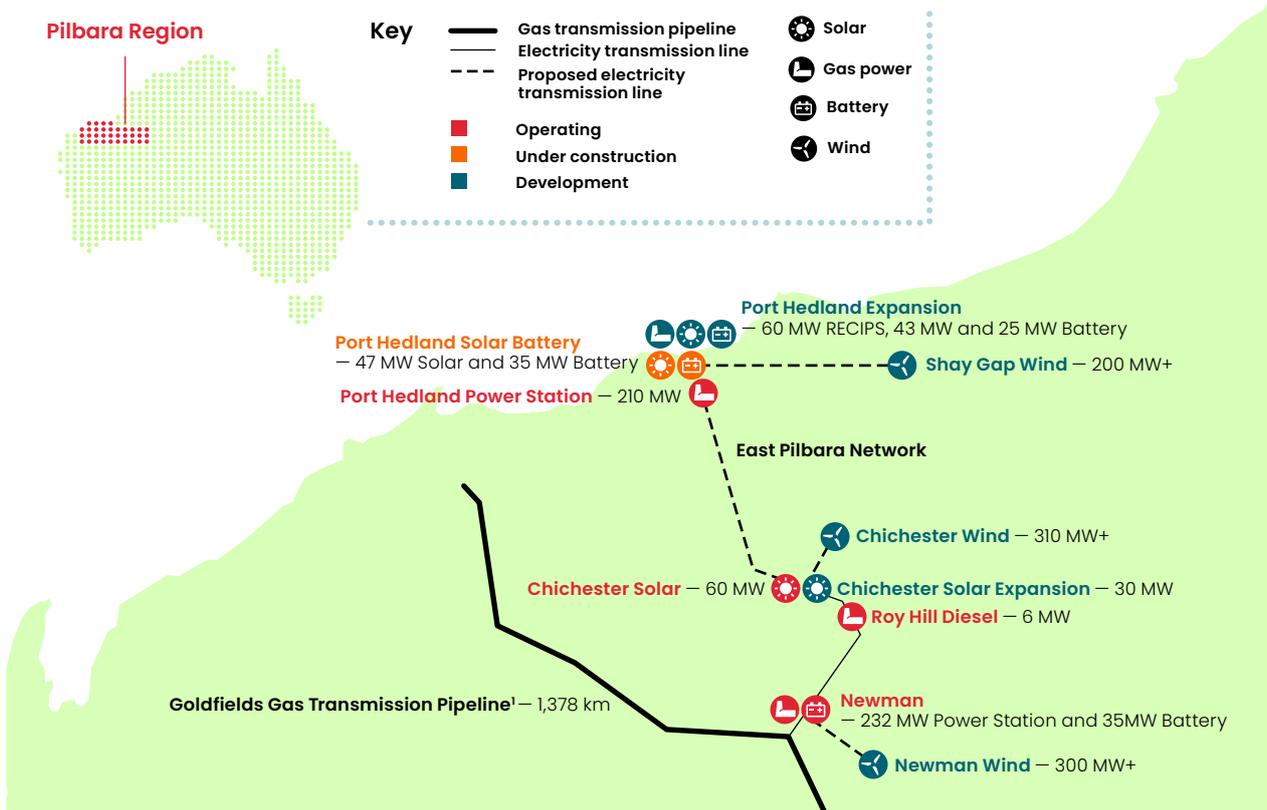
Remaining 11.8% of 203 TJ/d<sup>4</sup> Goldfields Gas Transmission Pipeline (GGTP) not already owned by APA

### Pilbara Region



### Key

- Gas transmission pipeline
- Electricity transmission line
- Proposed electricity transmission line
- Operating
- Under construction
- Development
- Solar
- Gas power
- Battery
- Wind



Dugald River Solar Farm, QLD

## APA's infrastructure in the Mount Isa Region

APA owns and operates three key assets that serve the power needs for Mount Isa and Cloncurry communities as well as major mining operations across the region – the Diamantina Power Station Complex, the Carpentaria Gas Pipeline and the Dugald River Solar Farm.

Australia's largest remote-grid solar farm by megawatt capacity, our 88 MW Dugald River Solar Farm supports MMG Dugald River Mine, Mount Isa Mines and New Century with solar energy firmed by gas from our Diamantina Power Station.

1 Development pipeline capacities based on current project design, subject to change up until Final Investment Decision.  
 2 Based on information provided by Alinta Energy Pilbara.  
 3 Development pipeline includes 47 MW Port Hedland Solar and 35 MW Port Hedland Battery which are currently under construction.  
 4 Reflects 11.843% of the GGTP that was not owned by APA. APA owns 100% of the GGTP following completion of the Alinta Energy Pilbara acquisition.

# Our strategy

At APA we focus on delivering reliable, future-focused energy solutions for the resources industry, energy supply and wholesale markets, government, and large commercial and industrial customers.



APA's strategy is

To be the partner of choice in delivering infrastructure solutions for Australia's energy transition



Image: Emu Downs Wind Farm, WA

## Our strategy

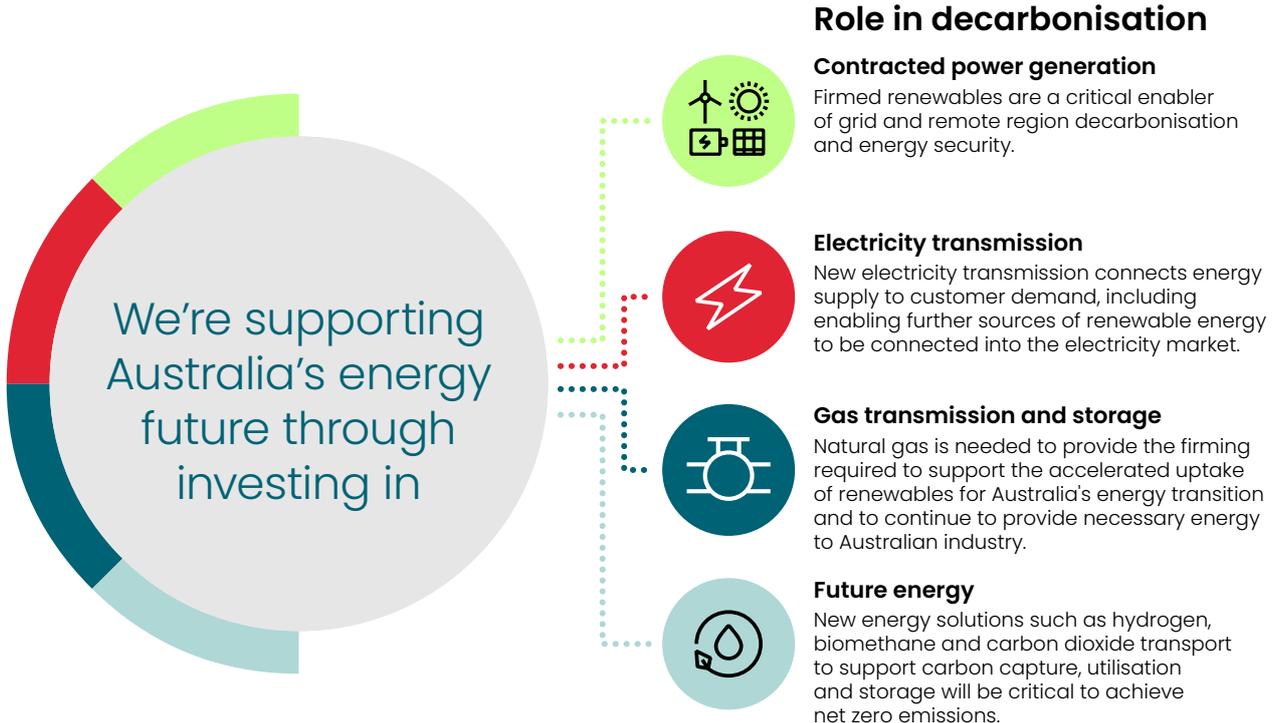
**Our approach is customer driven and our solutions target four asset classes that are essential to Australia's energy transition and where we have a competitive advantage: contracted renewable electricity and firming, electricity transmission, gas transmission and storage, and future energy (such as hydrogen and renewable methane).**

Our strategy targets both organic growth and strategic acquisitions, such as the Alinta Energy Pilbara acquisition, that establish strong platforms for further growth. Through this approach we will transform APA's asset base and capability to support Australia's energy transition and our customers' decarbonisation plans.

With Australia's energy transition being core to our business, we consider climate-related risks and opportunities as we manage and grow our portfolio of assets. An effective energy transition requires an ambitious but pragmatic approach to delivering reliable, affordable and lower emissions energy.

To achieve this, the energy transition must focus on the retirement of coal-fired power generation and the introduction of renewable generation, firmed with a combination of short-duration (i.e. batteries) and long-duration energy storage and generation technologies (i.e. natural gas and hydro).<sup>1,2</sup>

**Our strategy is focused on four asset classes**



**A customer-focused strategy delivering customer solutions which target assets classes that are essential to Australia's energy transition and where we have a competitive advantage**

<p><b>RESOURCE INDUSTRY</b></p>	<p><b>ENERGY SUPPLY AND WHOLESALE</b></p>	<p><b>GOVERNMENT</b></p>	<p><b>LARGE COMMERCIAL AND INDUSTRIAL</b></p>
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<sup>1</sup> Net Zero Australia, [Net Zero Mobilisation report: How to make net zero happen](#), July 2023.  
<sup>2</sup> Australian Energy Market Operator, [2024 Integrated System Plan for the National Electricity Market. A roadmap for the energy transition](#), June 2024.

## OUR STRATEGY

APA is well positioned in Australia to play a key role in developing and deploying energy solutions that strike a balance between the often competing priorities of reliability, affordability and lower emissions.

Our natural gas assets are strategically integrated in both the east and west coast gas markets. They will remain a critical part of the future energy mix, transporting gas to the firming capacity essential to supporting the expansion of the renewable energy generation required to replace retiring coal power stations.<sup>1,2</sup>

Natural gas will continue to be important to powering the nation's hard-to-abate and hard-to-electrify industrial sectors and providing essential heating in colder climates.<sup>3</sup> Our assets will help ensure Australian industry continues to have access to the energy essential to their operations.

We will achieve our strategy by focusing on our three delivery pillars: Our People, Operational Excellence and Creating Value.



The success of our strategy execution and creating value for our securityholders will continue to be underpinned by understanding our customers, anticipating their needs, partnering with them and delivering bundled energy solutions that they value. We create value through an attractive pipeline of near and long-term growth opportunities.

We consider climate-related risks and opportunities as we manage and grow our portfolio assets. Our refreshed gas market model will support updated transition risk and opportunity assessments to inform our next Climate Transition Plan to be released in 2025.

Given APA's footprint across Australia, our assets are exposed to a range of physical climate risks from extreme weather events and the incremental impacts of climate change. We identify, manage and report on climate-related risks as part of our overall risk management framework. This was supported by additional work over the past two years to further understand and respond to physical climate risks across our portfolio of assets (refer to the *Physical climate risk section* on page 29).

### Connecting customers and communities to renewable electricity

APA seeks to support our regional customers' energy transition and decarbonisation efforts through our ability to develop and operate bundled solutions spanning renewables, gas and battery firming and electricity transmission. We specifically work with our customers to support their needs around affordable, reliable and lower emissions energy solutions.

We have invested more than \$1 billion in energy assets in the North West Minerals Province including development of the Dugald River Solar Farm. This 88 MW solar farm is part of a remote-grid energy solution which supports our resource industry customers in the Mount Isa region with access to solar energy firming by gas from our nearby Diamantina Power Station Complex.

The Pilbara Energy System includes a mix of operating assets (solar, battery, gas generation and transmission), together with a development pipeline of 1 GW+ (>\$3 billion) renewables, 60 MW gas generation and over 600 km electricity transmission. This development pipeline will support the electrification and decarbonisation efforts of mining companies operating in the Pilbara region. Future investments in the Pilbara Energy System renewables-focused organic growth and development pipelines are aligned with our [Climate Transition Plan](#).

New electricity transmission enables further sources of renewable energy to be connected into the electricity market.<sup>4</sup> We continue to invest in electricity transmission as a strategic priority and have established a partnership with EDF Group to support competitive bids to build the electricity transmission lines needed to connect customers and communities to renewable energy zones in New South Wales and Victoria.

<sup>1</sup> BCG, [The Role of Gas Infrastructure in Australia's Energy Transition](#), June 2023.

<sup>2</sup> Australian Energy Market Operator, [Gas Statement of Opportunities](#), March 2024.

<sup>3</sup> Australian Government, Department of Industry, Science and Resources, [Future of Gas Strategy](#), May 2024.

<sup>4</sup> Net Zero Australia, [Net Zero Mobilisation report: How to make net zero happen](#), July 2023.

## Role of natural gas in Australia's energy transition

Natural gas continues to play an important and ongoing role to firm renewables within electricity networks, power essential Australian industries that rely on gas for high-grade heat, and to power remote-grid systems to displace more carbon-intensive fuels. APA's natural gas infrastructure assets play a critical role in supporting the firming and peaking capacity needed to expand renewable energy so it can replace retiring coal power stations. These assets also support our resource industry customers to deliver the Australian minerals necessary for the energy transition globally.

The role of natural gas in Australia's energy transition and the need for new investment in domestic gas supply to manage regional supply risk shortfalls were made clear in 2024 by the Australian Government<sup>1</sup> and the Australian Energy Market Operator<sup>2</sup>. APA plays a critical role in gas transportation across the country, working with our customers to develop the gas transmission infrastructure needed to support new gas supply.

This recently included entering into early works arrangements to develop the Sturt Plateau Pipeline (SPP) in the Northern Territory, to connect the proposed Shenandoah South Pilot Project (operated by Tamboran Resources for the Beetaloo Joint Venture) in the Beetaloo Basin with APA's Amadeus Gas Pipeline, which connects through to Darwin and to other Australian markets. The natural gas production from this proposed development could supply around two-thirds of the Northern Territory's gas requirements, enabling residents and businesses to secure critical access to reliable energy. The timing and details of further stages of infrastructure development within the Beetaloo Basin will be subject to customer gas production development, approvals processes and commercial considerations.

APA also recently entered into a 20-year Gas Transportation Agreement with Senex Energy to transport gas from their proposed Atlas East expansion gas project in APA's Reedy Creek Wallumbilla Pipeline to the Wallumbilla Hub, supporting additional gas supply into the east coast gas market.

## Supporting our customers' future energy needs and decarbonisation in the broader economy

Through our Pathfinder Program, we are investing in research and development of future fuels and technologies to support emissions reduction from the use of natural gas and other sources. We work with customers and partners to advance hydrogen projects and CO<sub>2</sub> transportation opportunities for carbon capture, utilisation and storage (CCUS) to support decarbonisation within the broader economy.

Repurposing natural gas pipelines to transport hydrogen, has been demonstrated in Europe and North America and presents cost-efficiencies when compared to constructing new, dedicated hydrogen pipelines.<sup>3,4</sup>

Our Parmelia Gas Pipeline (PGP) conversion project in Western Australia confirmed the technical feasibility of converting a 43 km section of the high-pressure natural gas pipeline to carry 100% hydrogen.<sup>5</sup> Previous assessments using our Pipeline Screening Tool indicated a high likelihood that around half of APA's natural gas pipeline assets could be used for hydrogen transportation with either no or small changes to their existing operating profile.<sup>6</sup>

We continue to investigate how parts of our current network, and new pipelines, are able to support connecting hard-to-abate industries with existing or planned CO<sub>2</sub> storage facilities. APA has signed a Memorandum of Understanding with Santos to explore the development of potential CO<sub>2</sub> pipelines for Santos' Moomba Carbon Capture and Storage facility.<sup>7</sup>

We also seek to contribute to avoided emissions within the broader economy. We are working with our resource industry customers to electrify the Pilbara region and support decarbonisation by displacing diesel use (refer to the *Supporting mining customers to electrify their operations and displace diesel use* case study on page 50).

<sup>1</sup> Australian Government, Department of Industry, Science and Resources, *Future of Gas Strategy*, May 2024.

<sup>2</sup> Australian Energy Market Operator, *Gas Statement of Opportunities*, March 2024.

<sup>3</sup> Amber Grid et al, *European Hydrogen Backbone* (Report, April 2022).

<sup>4</sup> Cheng W and Cheng Y.F, A Techno-economic Study of the Strategy for Hydrogen Transport by Pipelines in Canada, *Journal of Pipeline Science and Engineering*, Volume 3, Issue 3, September 2023.

<sup>5</sup> APA, *Testing confirms technical feasibility of converting gas transmission pipeline* (Media Release, 19 May 2023).

<sup>6</sup> Following the application of the Pipeline Screening Tool, detailed assessment and testing would then need to be undertaken of each specific asset, as well as the equipment of our customers.

<sup>7</sup> APA, *APA and Santos has signed a memorandum of understanding to explore development of potential carbon capture and storage pipelines* (Media Release, 22 November 2023).

## Stakeholder engagement

### Investor engagement and resolutions following the release of Climate Report 2023

Securityholder feedback following the release of our *Climate Report 2023* was positive overall. Specific aspects of the report that prompted favourable reactions included:

- delivering on commitments including establishing a methane target, completing a physical climate risk screening assessment across our portfolio of assets and procuring 100% renewable electricity<sup>1</sup>
- progress on our Scope 3 goal including establishing focus areas

- enhanced transparency through publishing our Climate Data Book and Greenhouse Gas Emissions and Energy Calculation Methodology document for the first time. This included reporting of emissions by asset class and greenhouse gas type, and disclosing offsets and emissions using an equity share boundary
- reporting on specific actions that demonstrate progress towards achieving our targets and goals.

Areas raised within the feedback provided by some securityholders, and related actions we are taking, are summarised in the table below.

Topic	Some investors	APA's response
<b>Scope 3</b>	<ul style="list-style-type: none"> <li>• would like us to set a credible Scope 3 goal and start to make progress on reducing these emissions.</li> </ul>	<p>We are working towards publishing our Scope 3 goal in 2025. We have continued to engage with targeted suppliers and operators of APA's assets and developed a list of key opportunities for analysis to inform our roadmap of prioritised abatement opportunities. All business travel-related emissions are being offset and we are working towards embedding Scope 3 considerations within APA's procurement policies.</p>
<b>Offsets</b>	<ul style="list-style-type: none"> <li>• would like us to ensure there is a focus on abatement and not an over-reliance on offsets in achieving our targets.</li> </ul>	<p>Our mitigation hierarchy defines our approach to emissions reduction (refer to page 27 of our <a href="#">Climate Transition Plan</a>).</p> <p>Our internal carbon abatement price is updated on a six-monthly basis and is based on a 10-year rolling average (five years historical and five years forward-looking) which combines the unit cost for APA's existing carbon offset contracts and historical and forecast nature-based ACCU prices. A 100% premium is then applied to determine the internal carbon abatement price. This is to support incentivising the avoidance and reduction of emissions, and resorting to offsets only when reasonable to do so. We define 'reasonable' as circumstances where the marginal cost of emissions mitigation is above our internal carbon abatement price (refer to <i>Our internal carbon abatement price</i> section on page 49 of this Report).</p> <p>We disclose our Offset Criteria within <i>The role of offsets</i> section in this Report. Information on our potential use of offsets is included within the <i>Metrics and targets</i> section of this Report. Our <a href="#">FY24 Climate Data Book</a> provides details on the offsets surrendered including project name, type of credit, abatement method, volume surrendered and what they are attributable to e.g. gas infrastructure target.</p>
<b>Transparency, disclosure, and capital efficiency</b>	<ul style="list-style-type: none"> <li>• wish to see more detail on how we plan to achieve our interim targets and goals and plans beyond 2030 to achieve our net zero ambition</li> <li>• wish to see disclosure of alignment of capital expenditure with Paris-aligned net zero emission scenarios</li> <li>• wish to see demonstration of capital efficiency in how we deliver on our targets to appropriately balance our approach while maintaining shareholder returns.</li> </ul>	<p>Information on how we plan to achieve our interim targets and goals is included in the <i>Delivering our Climate Transition Plan commitments</i> section with further details to be provided within our next Climate Transition Plan to be published in 2025.</p> <p>We have again disclosed FY24 spend associated with delivering against our Climate Transition Plan in our <i>Investing in our net zero goal</i> section.</p> <p>Our disclosures in this Report aim to align with the Task Force on Climate-related Financial Disclosures (TCFD) recommendations.</p> <p>Investor feedback regarding further disclosures related to capital expenditure will be addressed under our response to impending mandatory climate-related financial reporting requirements in Australia.</p>

We recognise the value of engaging with our securityholders and proxy advisers in shaping our climate plans, and we will continue to engage with and listen to our key stakeholders to inform our approach as we develop our next Climate Transition Plan for publication in 2025. In line with our commitment to hold a non-binding securityholder vote on future major updates to our Climate Transition Plan, the next vote will occur at our 2025 Annual General Meeting.

### 4.7.2. Engaging our people

We have continued to educate and engage our people on our climate ambitions and in FY24 we conducted a series of 'Let's talk about climate' sessions. Information related to APA's role in the energy transition and our [Climate Transition Plan](#) is integrated within our induction materials and presentations for all new employees. We also launched a Net Zero Ideas Portal to provide an opportunity for our people to apply their expertise to co-create solutions to help APA avoid or reduce emissions. We progress feasible ideas as part of our established ideation to implementation process.

<sup>1</sup> Purchased and surrendered large-scale generation certificates from Stockyard Hill Wind Farm to meet our 100% renewable electricity procurement target.

## APA's Climate Transition Plan

APA's Climate Transition Plan commitments are aligned with our business strategy.

Goals	
•	Gas infrastructure – net zero operational emissions by 2050 <sup>1</sup>
•	Power generation and electricity transmission infrastructure – net zero operational emissions <sup>2</sup> by 2040 <sup>3</sup>

Interim targets/goals for 2030 <sup>4</sup>			
<b>Target:</b>	30% emissions reduction for gas infrastructure (FY21 base year)	<b>Goal:</b>	35% reduction in emissions intensity for power generation (FY21 base year)
<b>Target:</b>	100% renewable electricity procurement from FY23 onwards	<b>Goal:</b>	Contribute positively to grid decarbonisation measured by MW of enabled renewable infrastructure
<b>Target:</b>	30% methane reduction target (FY21 base year)	<b>Goal:</b>	100% zero direct emission fleet <sup>5</sup>
<b>Supporting actions:</b>	Responsible criteria <sup>6</sup> applied when offsets are required	<b>Supporting actions:</b>	Active program to reduce emissions we can control and apply best practice management techniques to managing line losses

Key supporting actions				
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Incorporation of the Methane Guiding Principles	Hold a non-binding securityholder vote every three years to align with major updates to our Climate Transition Plan	Report annually on progress against the targets, goals and commitments in our Climate Transition Plan	Link executive remuneration to climate-related performance from FY23	Scope 3 emissions goal to be finalised before or in conjunction with our next Climate Transition Plan

When setting APA's targets and goals, we made our commitments clear to stakeholders based on the level of uncertainty in the pathway required to reach them:

<p><b>Target:</b></p> <p>An intended outcome where we have identified one or more pathways for delivering that outcome, subject to certain assumptions or conditions.</p>	<p><b>Goal:</b></p> <p>An ambition to seek an outcome for which there is no current pathway but for which efforts will be pursued towards addressing that challenge, subject to certain assumptions or conditions.</p>
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<sup>1</sup> Includes transmission, distribution, gas processing, storage and corporate.

<sup>2</sup> The organisational boundary for all targets and goals relates to assets under APA's operational control, as defined by the Greenhouse Gas (GHG) Protocol. The following assets are not within APA's operational control for emissions reporting purposes: Victorian Transmission System (maintenance excepted), Gruyere Power Station, Wallumbilla Gladstone Pipeline, SEA Gas Pipeline and Mortlake Pipeline, North Brown Hill Wind Farm and Australian Gas Networks.

<sup>3</sup> Includes power generation and interconnectors.

<sup>4</sup> In line with APA re-baselining principles, we recalculate emissions in the base year to reflect a change in the structure of the company, or to reflect a change in the accounting methodology used. This ensures data consistency over time. Full definition in APA's FY23 Greenhouse Gas and Energy calculation methodology document.

<sup>5</sup> Refers to vehicles associated with assets and operations under our operational control.

<sup>6</sup> This means the application of our Offset Criteria when offsets are required.

### Climate Transition Plan

Our strategy to support Australia’s energy transition through investment in contracted power generation, electricity transmission, gas transport and future energy underpins our [Climate Transition Plan](#). We are pursuing our emissions intensity goal for power generation by investing growth capital in renewables and electricity transmission to support the use of renewable electricity in the market. Our investments in gas infrastructure, including to increase our capacity to shift natural gas from northern basins to southern markets on the east coast, supports peaking gas generation to firm renewables and ensure security of supply. Our bundled energy systems similarly support remote region energy security, and we are targeting and funding emissions reductions from our gas infrastructure assets.

Our Climate Transition Plan sets out our climate-related targets, goals and supporting actions that will guide our approach as we pursue our net zero ambition. We set targets where there is one or more identified pathways to deliver the intended outcome, and goals where we state an ambition towards an outcome. While we may not be able to identify pathways to achieve relevant goals, efforts are being pursued towards addressing those challenges. Our Climate Transition Plan will be refreshed every three years, with the next update in 2025.

### About our emissions

Gross adjusted Scope 1 and Scope 2 (market-based method) emissions from assets within APA’s operational control were 2,035 kt CO<sub>2</sub>-e in FY24. This includes emissions associated with the Alinta Energy Pilbara acquired assets. Our gross Scope 1 and Scope 2 emissions are made up of:

- natural gas combustion from power generation infrastructure (67%),
- natural gas combustion from gas infrastructure compressors and gas engine alternators that operate our pipelines (13%)
- methane emissions principally due to the operation of our gas infrastructure assets (13%)
- line losses due to the transmission of electricity in our interconnectors (6%)
- other, including diesel use and sulphur hexafluoride (SF<sub>6</sub>) emissions (<1%).

Power generation infrastructure is the largest source of our Scope 1 emissions, with electricity transmission being the main source of our Scope 2 emissions. The extent of our power generation emissions depends on the amount of electricity we generate and the mix of thermal and renewable generation. Integrating renewable generation with gas-fired electricity generation reduces the amount of time gas-fired generators operate. This reduces the emissions intensity of our power generation. Our Scope 2 emissions from grid electricity use are addressed through the procurement of 100% renewable electricity.<sup>1</sup>

<sup>1</sup> Through the purchase and surrender of large-scale generation certificates.

<sup>2</sup> Emissions associated with the extraction, production, and transportation of fuels and energy consumed by facilities under APA’s operational control (not already captured in Scope 1 or Scope 2).

<sup>3</sup> Emissions from the operation of investment (including equity and debt investments and project finance). This category covers downstream emissions for facilities and activities where APA does not have operational control but does have an ownership interest.

Our targets and goals, as set out in our [Climate Transition Plan](#), cover approximately 94% of our total gross Scope 1 and Scope 2 emissions (refer to page 15). The balance of emissions which are not covered relate to line losses from existing electricity transmission infrastructure. Australia’s Safeguard Mechanism (emissions limiting regulatory framework) covers 84% of our total Scope 1 emissions.

We disclose our Scope 3 emissions, which are indirect emissions (not included in Scope 2) that occur in our value chain. These emissions are calculated using methodologies based on the GHG Protocol Scope 3 Accounting and Reporting Standard. An operational control organisational boundary is applied which means that assets we own but do not operate are included as a Scope 3 emissions source.

Our gross Scope 1, Scope 2 and Scope 3 emissions comprised 70%, 5% and 25% of APA’s emissions respectively in FY24. Our largest sources of Scope 3 emissions were fuel- and energy-related activities<sup>2</sup>, investments<sup>3</sup>, and purchased goods and services (including capital goods). Together these three categories contributed approximately 95% of our Scope 3 emissions.

In accordance with the GHG Protocol Scope 3 Accounting and Reporting Standard category boundaries, emissions associated with natural gas products we transport but do not sell to the end-user, are not included in our Scope 3 emissions. In our [Climate Transition Plan](#), we committed to continue to disclose estimates of these end-user emissions (refer to the *Metrics and Targets* section of this Report).

### Key targets and goals

In our [Climate Transition Plan](#) released in August 2022 we set targets and goals, including:

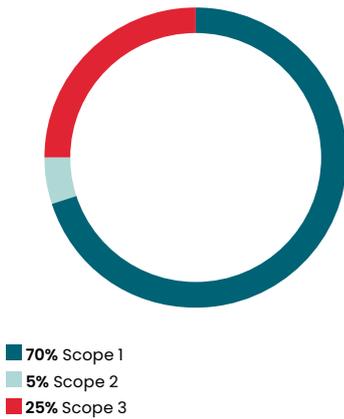
- overarching goals to reach net zero operational emissions for our gas infrastructure assets by 2050, and for our power generation and electricity transmission infrastructure assets by 2040
- an interim target of reducing net gas infrastructure emissions by 30% from FY21 levels by 2030
- an interim goal to reduce the gross emissions intensity of our power generation infrastructure assets by 35% from FY21 levels by 2030.

We assess these commitments to be in support of the Paris Agreement objective to limit warming to well below 2°C. Our [Climate Transition Plan](#) explains how we set these interim targets and goals (refer to page 25 of the Climate Transition Plan for further information).

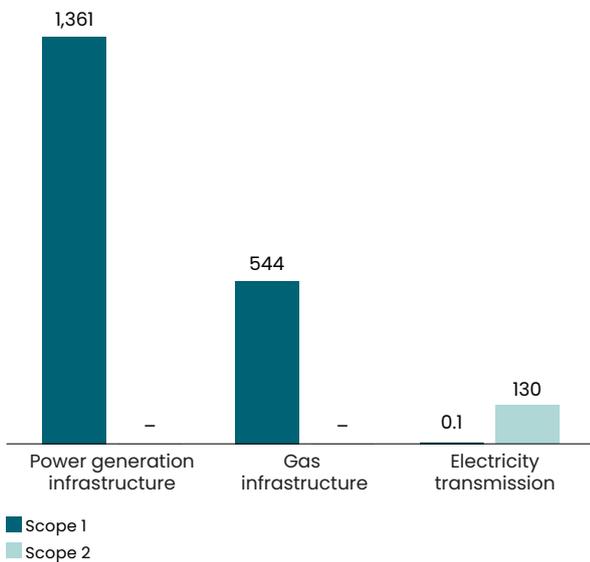
Our methane target to reduce operational methane emissions by at least 30% by 2030 (relative to FY21) as announced in [APA’s Climate Report 2023](#) is in support of Australia’s commitments as a signatory to the [Global Methane Pledge](#). In addition, we committed to review strengthening this target in the next update of our Climate Transition Plan.

The *Metrics and targets* section of this report discloses APA’s FY24 performance against these and other Climate Transition Plan commitments.

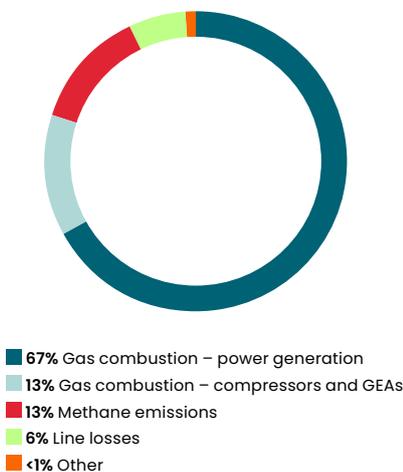
APA Gross emission by scope (FY24)  
(kt CO<sub>2</sub>-e)



APA Gross Scope 1 and Scope 2 emissions by asset class (FY24) (kt CO<sub>2</sub>-e)



APA's Gross Scope 1 and Scope 2 emissions by source FY24<sup>1</sup>



<sup>1</sup> Numbers may not sum to 100% due to rounding.

## Investing in our net zero goal

APA's investment in renewable electricity and electricity transmission is supporting progress towards our emissions intensity goal for power generation as well as supporting our customers' decarbonisation plans.

In our [Climate Transition Plan](#), the cost of our gas infrastructure emissions reduction initiatives was estimated at approximately \$150 to \$170 million over the period FY23–FY30 with expected outlays for compressor electrification, methane abatement and the acquisition and surrender of offsets and large-scale generation certificates.

Following the comprehensive assessments for the Wallumbilla compressor electrification initiative and enhanced methane measurement work, the expected cost of our gas infrastructure emissions reduction initiatives for the period FY23–30 are likely to require revision, which is currently estimated to be an increase in the order of \$100 million due to:

1. Increases in capital costs for the Wallumbilla compressor electrification initiative, largely associated with bringing electricity to the site and market escalation of capital costs. This project remains subject to a Final Investment Decision.
2. Operational and capital costs associated with enhanced methane measurement.

Further work will be undertaken in FY25 to confirm the cost impact. The original expenditure estimates outlined in our [Climate Transition Plan](#) were based on preliminary assumptions that have been revised following the selection of a specific site for the compressor electrification initiatives and completion of more detailed scoping for both initiatives.

We will further revise program and gas infrastructure emissions reduction costs following the development of our next Climate Transition Plan as we continue to explore other options for emissions reduction.

This includes through our Pathfinder Program, which continues to investigate emerging technologies and renewable gases to support the delivery of sustainable energy solutions for our customers.

Our power generation and electricity transmission goals are investment-led and as such will be funded by growth capital. Expenditure will be announced at the time of Final Investment Decision on each individual project.

In FY24, we spent approximately \$7.0 million, including \$3.3 million as capital and \$3.7 million as operating expenditure. This included expenditure associated with gas infrastructure abatement initiatives, offset project investment, acquisition of offsets and large generation certificates, and enhanced methane measurement and reporting.

## Delivering our Climate Transition Plan commitments

### Reducing our operational gas infrastructure greenhouse gas emissions

 <b>Climate Transition Plan Commitment</b>	<b>Target:</b> 30% operational emissions reduction for gas infrastructure by 2030 (FY21 base year)
	<b>Goal:</b> net zero operational emissions by 2050

Since publishing our [Climate Transition Plan](#) in 2022, our engineering and enhanced methane measurement studies have supported a more detailed understanding of methane sources and abatement options. This includes further insight into compressor electrification and fuel efficiency options, biomethane opportunities and addressing vented methane emissions. Addressing compressor fuel combustion and methane emissions is a focus for APA due to compression playing a necessary role in enabling natural gas transportation.

An updated outlook of how emissions reduction categories identified within our Climate Transition Plan are projected to contribute towards meeting our 2030 target is shown in the waterfall graph on page 19. We have made progress on the following abatement initiatives:

- compressor electrification:** following our national compressor electrification study completed in FY23, we identified the Wallumbilla compressor station as the largest emissions reduction opportunity for compressor electrification. Electrifying the largest compressor at Wallumbilla compressor station would eliminate a large proportion of combustion emissions at the Wallumbilla hub. Comprehensive technical and commercial assessments have been undertaken. Updated cost estimates are higher than initial costs in the [Climate Transition Plan](#) and a Financial Investment Decision has been delayed as we await the outcome of the regulatory review into the SWQP<sup>1</sup>. Given the regulatory review there is not sufficient regulatory and commercial certainty to finalise the business case for this project (refer to the *Wallumbilla compressor electrification case study* on page 19).
- compressor and operational efficiency:** compressor fuel gas optimisation models have been established to assist our Integrated Operations Centre (IOC) operators in their decision making to drive fuel gas reduction (refer to the *Compressor fuel efficiency case study* on page 40).
- methane abatement:** engineering studies were progressed for valve upgrade and compressor methane recovery initiatives, providing a more detailed understanding of the abatement potential and costs of these initiatives. Reducing compressor methane abatement costs to within our internal carbon abatement price represents a challenge. A positive finding from the engineering studies for the valve upgrade initiative is that low emission valves are more prevalent across our natural gas infrastructure assets than initially estimated.
- methane measurement:** we achieved learnings from our methane measurement studies. Moving to enhanced methane measurement and reporting will provide further insight on methane sources, support the re-baselining of our methane emissions and enable us to report progress towards our methane target.<sup>2</sup> Enhanced methane emissions measurement is an iterative process in which we will continue to refine our approach, including as new technologies and approaches become available and as the Australian government reforms the regulatory reporting framework. Refer to the *Improving methane emissions measurement to inform abatement plans case study* on page 38.
- renewable electricity procurement:** we have reduced our Scope 2 emissions through the procurement of 100% renewable electricity.<sup>3</sup>

Given that gas is necessary for the successful build out of renewable energy in Australia, APA's role in Australia's energy transition means potential increases in our gas infrastructure emissions due to growth associated with this role (refer to waterfall graph). We recognise that despite the potential increase in our own emissions, our current and future gas infrastructure must play this critical role in supporting the use of renewable electricity in the market and helping to replace more emissions-intensive fuels to support energy security and emissions reductions in the broader Australian context.

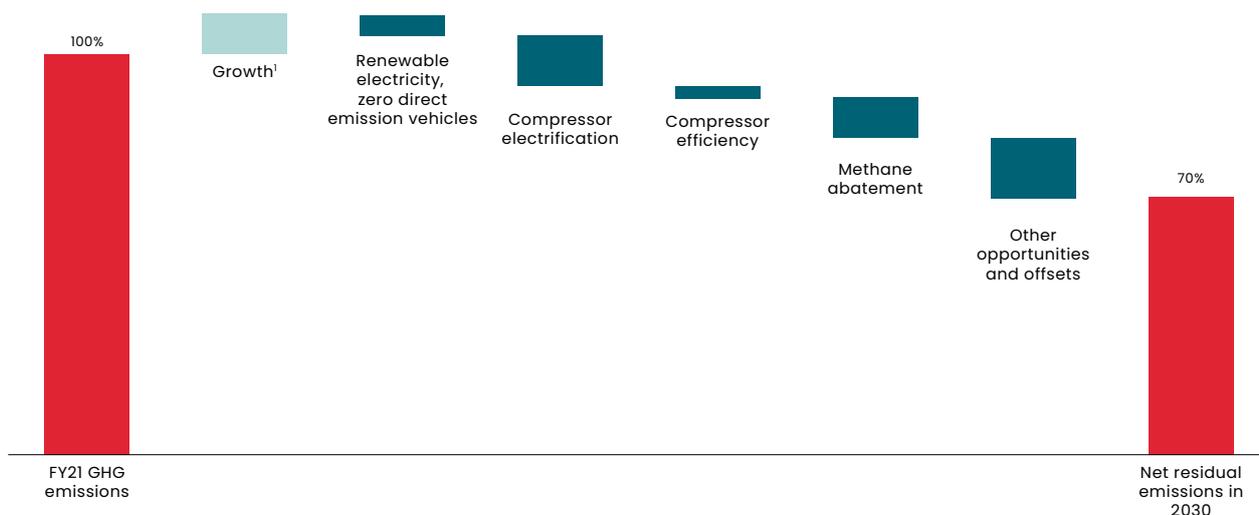
<sup>1</sup> Australian Energy Regulator, [South West Queensland Pipeline to undergo form of regulation review](#), 22 February 2024.

<sup>2</sup> The Australian Department of Climate Change Energy Environment and Water is considering opportunities to develop new higher order methods in response to the Climate Change Authority's recommendations to improve fugitive methane emissions measurement and reporting under the NGER scheme. (DCCEEW, [National Greenhouse and Energy Reporting \(NGER\) scheme 2024 Proposed Amendments](#), April 2024).

<sup>3</sup> Purchased and surrendered large-scale generation certificates to meet our 100% renewable electricity procurement target.

## Material opportunity areas for GHG emissions reduction in APA's gas infrastructure portfolio<sup>1</sup>

### Gas infrastructure — Scope 1 and Scope 2 emissions reduction forecast for 2030<sup>2</sup>



In addition to progressing abatement initiatives identified in the [Climate Transition Plan](#), we continued working to identify further abatement opportunities to support the delivery of our 2030 target and progress towards our net zero emissions by 2050 goal. This is embedded within our asset management and planning process, and we have established an emissions reduction ideation to implementation process to systematically identify and progress new abatement opportunities. Ideas are captured within an emissions reduction register and then prioritised by our subject matter experts.

Operational decarbonisation opportunities are also being explored by our Future Energy team. In FY24 this included launching an expression of interest (EOI) initiative seeking to source biomethane supplies to displace emissions from natural gas and power

generation infrastructure. The process identified multiple biomethane project opportunities which are being advanced through our stage-gate project planning and execution model.

Our 2030 target corresponds to a net emissions reduction of 3.3% each year (FY21 base year), however we expect our gross emissions reductions to follow a 'stepped' trajectory as we progress the work needed to implement emissions reduction projects. After prioritising abatement, we use offsets for gas infrastructure emissions that cannot be reasonably avoided or reduced. Refer to *Our internal carbon abatement price* section on page 49 for further information on how we apply a mitigation hierarchy to prioritise abatement, and *The role of offsets* section on page 23 for information on our process for selecting offsets consistent with our Offset Criteria.

## Wallumbilla compressor electrification case study

Following our national compressor electrification feasibility study completed in FY23, APA has identified the electrification of the Wallumbilla compressor station as the largest opportunity for compressor electrification due to:

- Wallumbilla delivering the largest emissions reduction opportunity for our gas infrastructure of around 64,000 t CO<sub>2</sub>-e per year based on current operating assumptions
- the cost per tonne of emissions reduced being the lowest of the compressors assessed across our gas transmission network.

Comprehensive technical and commercial assessments have been undertaken for the

Wallumbilla compressor electrification initiative including engineering studies, submission of grid connection requests, customer engagements on commercial items and land owner access discussions. Based on these assessments capital costs were estimated to be higher than the initial costings in the [Climate Transition Plan](#).

Increases in capital costs are largely associated with bringing electricity to the site and market escalation of capital costs.

A Final Investment Decision has been delayed as we await the outcome of the Australian Energy Regulator's regulatory review into the South West Queensland Pipeline as an input to consideration of the business case.<sup>3</sup>

<sup>1</sup> Growth shown includes only projects which have reached Final Investment Decisions at the time of reporting.

<sup>2</sup> Emissions reduction forecasts shown reflect our best estimates at the time of publication.

<sup>3</sup> As part of the reforms to Australia's gas pipeline regulatory framework, the Australian Energy Regulator is planning to undertake a review of the APA owned and operated South West Queensland Pipeline to consider whether to make this asset a scheme pipeline, subject to full price regulation.

Reducing our operational gas infrastructure methane emissions

 <p><b>Climate Transition Plan Commitment<sup>1</sup></b></p>	<p><b>Target:</b> ≥30% reduction in operational methane emissions by 2030 (FY21 base year)</p>
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APA’s methane target aligns with our commitment as a signatory to the Methane Guiding Principles (MGP) and acknowledges the Australian Government’s commitment to the [Global Methane Pledge](#). We have established a Methane Action Plan to embed this target within our operations, and to systematically progress methane abatement, measurement and stakeholder advocacy.

We continue to build on our understanding of methane emissions across our portfolio. Site methane measurements have been undertaken on the Goldfields Gas Pipeline (refer to [Climate Report 2023](#)), with enhanced methane measurements involving ground level measurements and aerial surveys conducted for the South West Queensland Pipeline in FY24 to inform our gas infrastructure emissions reduction plans. Such measurements could enable better reporting of methane emissions and abatement but would require significant resources and time to implement across our gas infrastructure portfolio. Refer to the *Improving methane emissions measurement to inform abatement plans case study* on page 38.

Our enhanced methane measurement study for the SWQP highlighted the contribution of venting methane emissions, so confirming the importance of the compressor methane recovery, and valve and compressor seal upgrade initiatives we are actively pursuing.

An updated outlook of categories of methane emissions reductions projected to contribute towards meeting our 2030 target is shown in the waterfall graph on page 21, with progress being made in relation to the following abatement initiatives:

- **compressor methane emissions abatement:** we delivered methane abatement by implementing ultra-low emissions compressor seal upgrades at two compressor stations in New South Wales (refer to the *Compressor seal upgrade case study* on page 40).<sup>3</sup>

Engineering studies were done for the compressor methane recovery initiative. Reducing compressor methane abatement costs to within our internal carbon abatement price represents a challenge with options to increase cost efficiencies for the initiative considered.

- **site methane abatement:** we have undertaken engineering studies and delivery planning for the valve upgrade initiative. A key finding is that low emission valves are more prevalent across our natural gas infrastructure assets than initially estimated. While this is a positive finding indicating lower than expected emissions, it means that the overall abatement potential of this project is reduced.

We have also completed gap assessments against [MGP Best Practice Guides](#) to identify further methane mitigation opportunities for existing natural gas infrastructure assets. Abatement actions being pursued or trialled include leak detection and repair, use of portable flaring to reduce emissions from pipeline maintenance activities and gas capture and recompression technology. We have also embedded reference to MGP Best Practices within our engineering design practice guidance for new natural gas infrastructure.

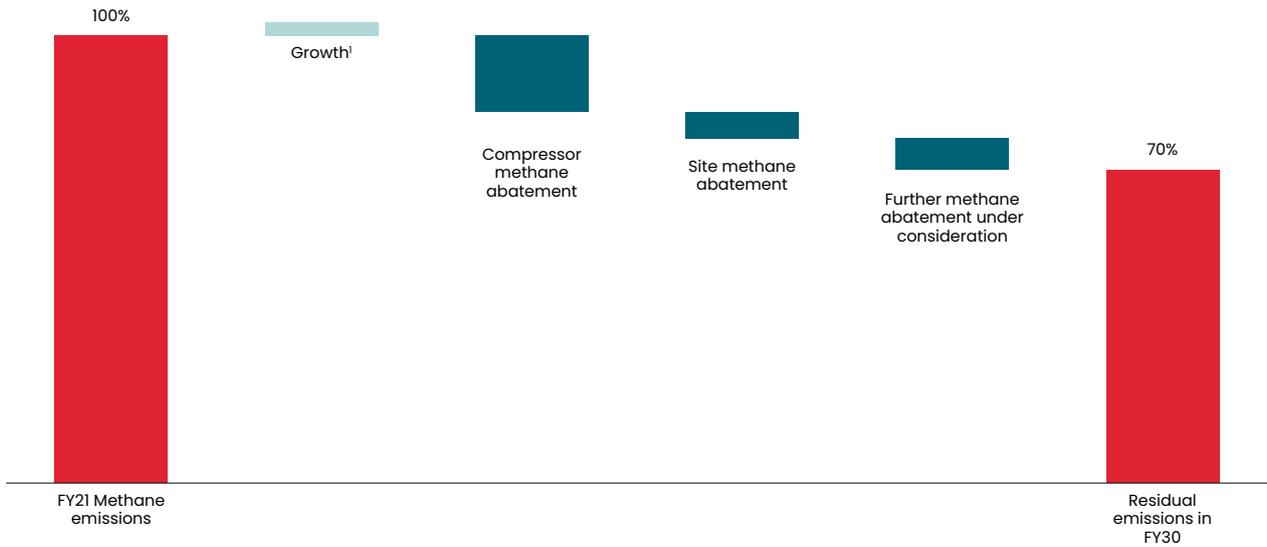
Methane emissions reductions through the above abatement practices are projected to coincide with an increase in methane emissions as a result of business growth to address market and customer requirements. Emissions resulting from growth projects are included in our natural gas infrastructure emissions forecasts once a Final Investment Decision is reached on each project.

Options to expand the scope of our existing compressor and site methane abatement initiatives, and to implement abatement actions which have been trialled, will be further considered in our next Climate Transition Plan, informed by our ongoing enhanced methane measurement work.

<sup>1</sup> Our [Climate Transition Plan](#) committed to the development of a methane target with this target announced in the [Climate Report 2023](#).  
<sup>2</sup> The Australian Department of Climate Change Energy Environment and Water is considering opportunities to develop new higher order methods in response to the Climate Change Authority’s recommendations to improve fugitive methane emissions measurement and reporting under the NGER scheme. (DCCEEW, [National Greenhouse and Energy Reporting \(NGER\) scheme 2024 Proposed Amendments](#), April 2024)  
<sup>3</sup> We calculated the methane emissions reductions based on seal packing specifications from the technology suppliers. These methane emissions reductions are not captured within our reported emission estimates due to our current reporting methods.

**Material opportunity areas for methane abatement in APA's gas infrastructure portfolio<sup>1</sup>**

**Methane emissions reduction forecast for 2030<sup>2</sup>**



**Reducing the emissions intensity of our power generation infrastructure assets through contracted renewables and firming**

<p><b>Climate Transition Plan Commitment</b></p>	<p><b>Goal:</b> 35% reduction in operational emissions intensity for power generation infrastructure by 2030 (FY21 base year)</p>
	<p><b>Goal:</b> net zero operational emissions by 2040 (power generation)</p>

Progress towards our 2030 emissions intensity goal for power generation is being delivered through operational efficiencies at gas-fired power generators and through our investments in renewables to meet customer demand. This includes our build out of renewables as part of remote-grid bundled energy solutions, such as the commissioning of the Dugald River Solar Farm at Mount Isa in FY23.

The Alinta Energy Pilbara portfolio acquired in November 2023 includes a renewables-focused development pipeline of 1 GW+ of solar, wind and battery storage and 60 MW of natural gas firming, and 600 km of electricity transmission. This includes the construction and commissioning of the 47 MW Port Hedland Solar and 35 MW Port Hedland Battery, expansion of Chichester Solar and the further development of wind farm projects such as Shay Gap, Chichester Wind and Newman Wind.

Refer to the *Port Hedland Solar Farm and Battery Energy Storage System case study* on page 41 for further information.

Our ongoing investments in renewable energy projects across Australia will support progress towards our 2030 emissions intensity goal for power generation. Although our 2030 goal implies a 3.9% per year reduction in emissions intensity if linearly projected, we expect progress to involve stepped improvements rather than a linear reduction. Our intent is not to purchase offsets to meet the power generation intensity goal except for compliance reasons.

<sup>1</sup> Percentage growth shown includes only projects which have reached Final Investment Decisions at the time of reporting.  
<sup>2</sup> Emissions reduction forecasts shown reflect our best estimates at the time of publication.

Investing in electricity transmission to enable renewables

 <b>Climate Transition Plan Commitment</b>	<b>Goal:</b> net zero operational emissions by 2040 (electricity transmission)
	<b>Goal:</b> Contribute positively to grid decarbonisation measured by MW of enabled renewable infrastructure
	<b>Goal:</b> Active program to reduce emissions we can control and apply best practice management techniques to managing line losses

Consistent with our strategy to be the partner of choice in delivering infrastructure solutions for Australia’s energy transition, we have continued to invest in our Electricity Transmission division with a focus on building and operating electricity transmission infrastructure across Australia. We have established a partnership with leading global infrastructure organisation EDF Group to support competitive bids to build the electricity transmission lines needed to connect customers and communities to renewable energy zones. APA is also expanding its electricity transmission assets as part of our investment in remote grids to connect our resource industry customers to firmed renewables.

APA considers best practice technology for new greenfield infrastructure and implements mitigation controls for the management of line losses across the lifecycle of transmission lines, from initial strategic design, through to operation of the asset. For new infrastructure, we also seek to minimise losses by optimising network operations through the use of energy management systems and continuous monitoring based on real time data from across the transmission network. Regular maintenance ensures that transmission lines remain in good condition, thereby controlling leakage currents.

We have enhanced the measurement of sulphur hexafluoride (SF6) leakage and are reviewing options to reduce our Scope 1 emissions for the electricity transmission emissions we control. We procure renewable electricity to reduce our Scope 2 emissions through the purchase and surrender of large-scale generation certificates.

**Delivering our renewable electricity and zero direct emission fleet<sup>1</sup> commitments**

In addition to our asset-specific targets and goals we also have supporting actions which are applicable to all of APA’s asset classes. These are:

- a target of 100% renewable electricity procurement to reduce our Scope 2 emissions (excluding those from line losses)<sup>2</sup>
- a goal for a 100% zero direct emissions vehicle (ZDEV) fleet by 2030.

We are pursuing our ZDEV goal on a rolling basis as our existing fleet leases expire. Challenges to meeting this goal include market availability of suitable light commercial utility ZDEVs and charging infrastructure particularly in remote locations.

**Reducing Scope 3 emissions and contributing to economy-wide decarbonisation**

In addition to reducing the Scope 1 and Scope 2 emissions from the assets we operate, APA is pursuing opportunities to reduce Scope 3 emissions and contribute to broader economy-wide decarbonisation.

As we work to deliver a Scope 3 goal in 2025, our efforts have been focused on ongoing improvements to the data supporting our Scope 3 emissions inventory, engagement with companies within our value chain to identify emission reduction opportunities, and building and refining emissions reduction pathways. While working on this goal, our near-term actions include offsetting all business travel emissions, our 100% renewable electricity procurement that reduces upstream emissions associated with grid-sourced electricity and commencing the embedding of Scope 3 considerations within APA’s procurement policies.

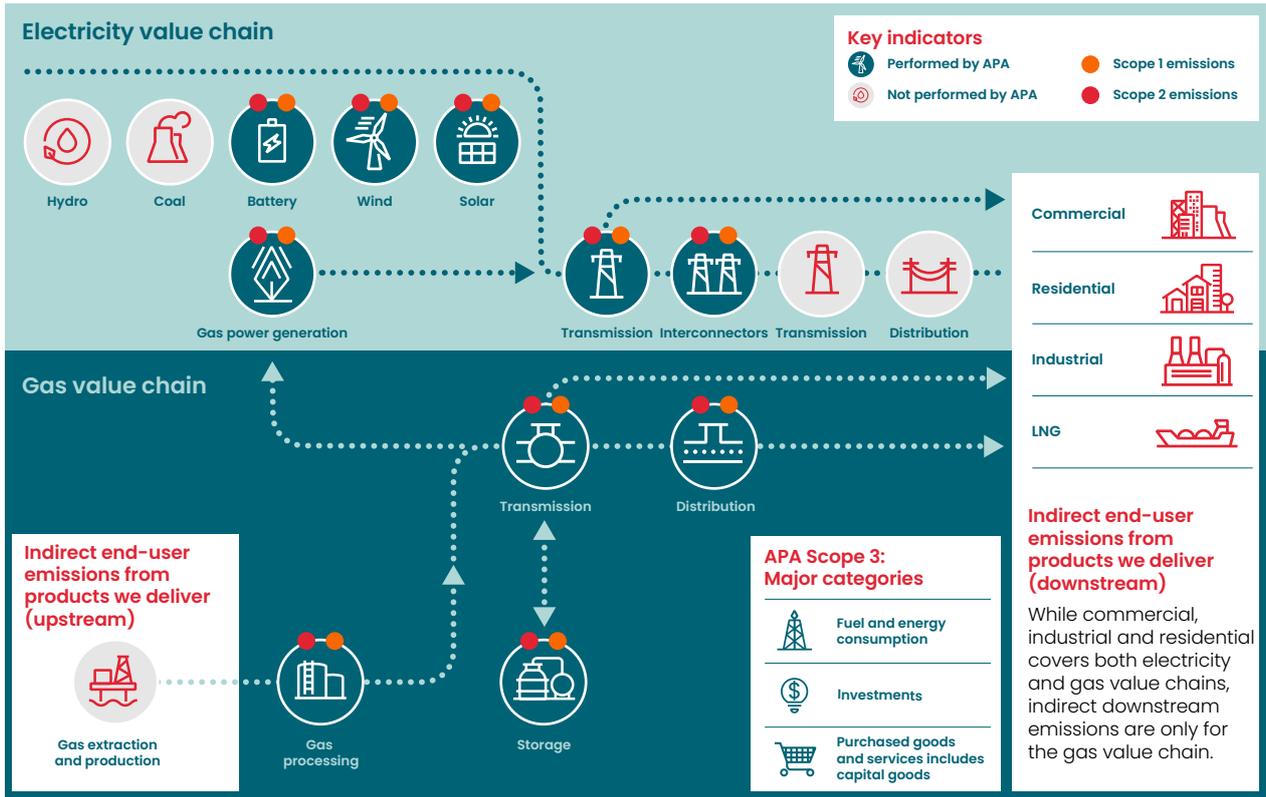
Being the partner of choice for our customers’ energy transition will potentially increase APA’s own operational and Scope 3 emissions. These potential increases to APA’s emissions profile may have systemic benefits in helping to decarbonise Australia’s key industrial regions and may support our trading partners to access affordable, reliable and lower emissions energy.

Our investments in future fuels and technologies, such as hydrogen and CO<sub>2</sub> transportation, have the potential to contribute to broader decarbonisation of the economy. Through our Pathfinder Program, we are advancing hydrogen initiatives such as the Parmelia Gas Pipeline (PGP) conversion project in Western Australia and working to develop infrastructure for CO<sub>2</sub> transportation. The purpose of these initiatives is not only to reduce our end-user emissions but also to support economy-wide decarbonisation. Refer to the *Investing in future fuels and technologies through our Pathfinder Program* on page 47.

We also see an opportunity to deliver low cost, reliable, lower emissions energy to our remote customers. Supporting firmed renewables in the Pilbara, for example, will help our major mining customers seeking to reduce their emissions through electrification and diesel use displacement. Refer to our case study on *Supporting mining customers to electrify their operations and displace diesel use* on page 50.

<sup>1</sup> Refers to vehicles associated with assets and operations under our operational control.  
<sup>2</sup> To be achieved through purchasing and surrendering large-scale generation certificates (LGCs).

## APA's role in the value chain



## The role of offsets

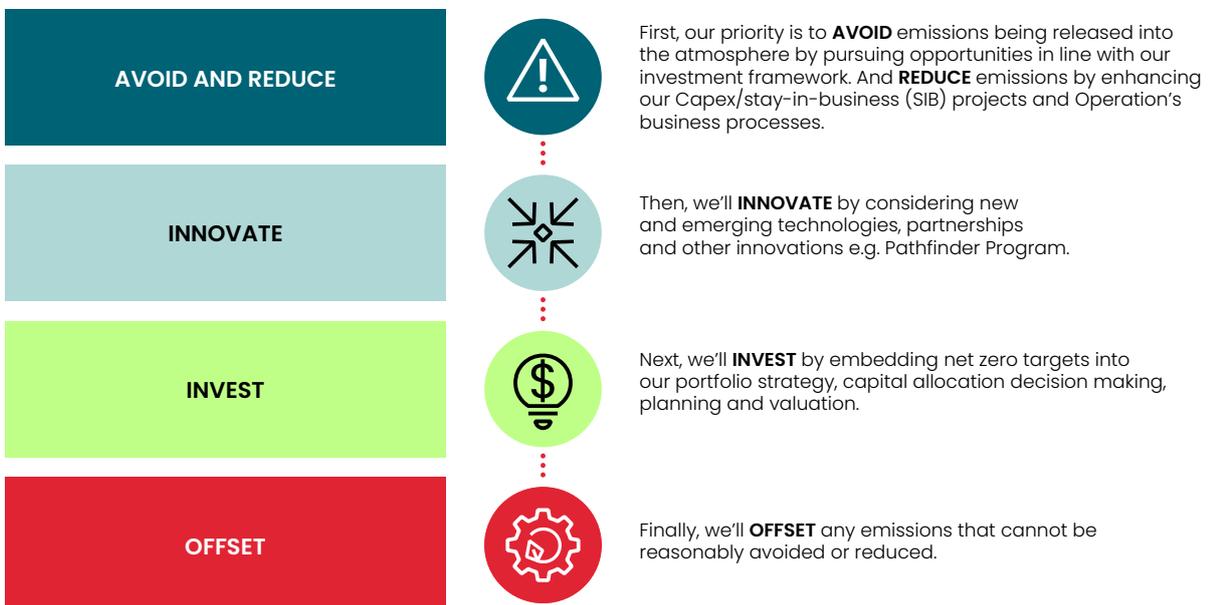
### APA emissions mitigation hierarchy

APA applies a mitigation hierarchy to prioritise abatement where reasonable to do so (refer to page 27 of our [Climate Transition Plan](#)). We apply an internal carbon abatement price to help align our decision making with this priority.

Our internal carbon abatement price is updated on a six-monthly basis and is based on a 10-year rolling average (five years historical and five years forward-looking) which combines the unit cost for APA's

existing carbon offset contracts and historical and forecast nature-based ACCU prices. A 100% premium is then applied to determine the internal carbon abatement price. This is to support incentivising the avoidance and reduction of emissions and resorting to offsets only when reasonable to do so. We define 'reasonable' as circumstances where the marginal cost of emissions mitigation is above our internal carbon abatement price (refer to *Our internal carbon abatement price* section on page 49 of this report).

### APA emission mitigation hierarchy



**APA’s approach to offset selection**

Where abatement is not ‘reasonable’, we use offsets that meet clearly defined Offset Criteria (refer to the table which sets out APA’s Offset Criteria). In particular, we surrender offsets where there is a performance gap between gross gas infrastructure emissions

and the annual reductions required to support our 2030 target. Additionally, we offset business travel emissions. Information on our potential use of offsets is included within the Metrics and targets section of this report.

**APA’s Offset Criteria**

Requirement	Offset Criteria
<b>Additionality</b>	Offsets to represent genuine abatement. Nature-based sequestration prioritised over emission avoidance projects.
<b>Co-benefits</b>	Offsets to possess co-benefits leveraging synergies with APA’s Sustainability Roadmap and our priority issues, such as support for First Nations engagement.
<b>Double counting</b>	Reductions attributable to the surrender or retirement of any offset are otherwise unclaimed by others. Specifically, unclaimed by others means: the party that surrenders or retires the offsets, can claim the reduction of CO <sub>2</sub> emissions, and no other party, including the party that originally generates and subsequently sells the offset, can claim that reduction potentially resulting in ‘double counting’.
<b>Geographic location</b>	Offsets prioritised in the country where the emissions being offset occurred.
<b>Leakage</b>	The standard under which the offset is generated must have a mechanism to address changes in emissions outside the project boundary due to the project’s implementation.
<b>Permanence</b>	Offsets purchased from a project to have a minimum life of 25 years with a longer term preferred. The standard under which the offset is generated to have a mechanism for dealing with emissions reversal, e.g. bushfire.
<b>Transparency</b>	Offsets purchase and surrender detail to be publicly disclosed including key offset information (type, source, methodology and accrediting organisation).
<b>Verification/Registration</b>	Offsets to have independent verification through recognised national/international standards and be listed and tracked in a publicly transparent registry.
<b>Vintage</b>	Offsets vintage to be close in time not greater than five years to when the emission occurred.

We use our Offset Criteria and a numerical scorecard to screen and evaluate potential offset purchases and aim to procure a diverse portfolio of Australian and international offsets that meet these criteria. Note that different criteria may be applied to meet regulatory requirements when procuring offsets for compliance purposes, such as under the Safeguard Mechanism.

Our medium-term strategy is to source offsets through a combination of multi-year contracts, directly investing in projects and/or funds, and making purchases from the spot market.

Details of the offsets surrendered are provided in APA’s [FY24 Climate Data Book](#). Information disclosed includes the project name, type of credit, abatement method and volume surrendered

## Reflecting climate-related risks and opportunities in our strategy

As an energy infrastructure business, climate-related risks and opportunities are considered within APA's strategy, and the Board oversees how APA responds to climate-related risks and opportunities. We use scenario analysis to assess physical and transition risk, and actively monitor for opportunities from emerging technology developments. Opportunities to increase the resilience of our assets are identified as part of physical climate risk assessments for our assets.

APA assesses transition risks and opportunities across these timeframes in line with TCFD guidance:

- **short term (0–3 years):** corresponds mainly to risks and opportunities impacting APA's existing operations and active projects
- **medium term (4–10 years):** mainly impacts on project investment decisions
- **long term (greater than 10 years):** contributes to formulating our broader business strategy and planning for energy transition and technology trends.

In addition to informing our business strategy, climate-related considerations are integrated into business decision making on a day-to-day basis. Climate-related risks and opportunities and alignment with our [Climate Transition Plan](#) are considered as part of our Investment Committee process; our internal carbon abatement price is applied to emissions reduction and avoidance initiatives and other projects; and our corporate risk management framework assists with identifying, assessing and managing climate-related risks.

Refer to *Metrics and Targets* section for further information on APA's internal carbon abatement price, and to the *Risk Management and Governance* sections for information on APA's approach to addressing climate-related risks and opportunities within our corporate risk and governance frameworks. Updated transition risk and opportunity assessments within our next Climate Transition Plan to be published in 2025 will consider new mandatory climate-related reporting requirements.

## Managing transition risks and opportunities for our natural gas infrastructure assets

**Our business strategy aims to manage transition risks and opportunities for our gas infrastructure and thermal generation assets, while pursuing transition-related growth opportunities in areas such as contracted power generation, electricity transmission and future fuels.**

APA's natural gas infrastructure and gas power assets present risks to manage and opportunities to be realised. While there are a wide range of long-term demand scenarios, we see gas infrastructure playing an ongoing role in Australia's energy transition to firm renewables, support hard-to-abate industries and provide energy solutions for the resources sector.

In 2024 the Australian Government and the Australian Energy Market Operator emphasised the crucial role of natural gas in Australia's energy transition to ensure reliable energy supply and the need for new investment in domestic gas supply to manage regional supply shortfall risks.<sup>1,2</sup> According to the Australian Energy Market Operator, "as coal-fired power stations retire, renewable energy connected with transmission and distribution, firmed with storage, and backed up by gas-powered generation is the lowest-cost way to supply electricity to homes and businesses through Australia's transition to a net zero economy".<sup>3</sup>

In FY22, APA completed a stranded asset scenario analysis. We assessed a mix of four power generation and gas pipeline assets under several scenarios in support of the Paris Agreement. Insights from the analysis have been reflected in our business strategy and decision making. The analysis confirmed the need for additional capacity on the South West Queensland Pipeline and informed APA's progression with the Stage 2 expansion to add a further compressor station. The analysis also informed our strategy to explore further expansion of renewables in the Queensland North West Minerals Province (Mount Isa).

In FY23 we implemented an East Coast Gas Model to further integrate scenario analysis in business planning. The model forecasts gas market outcomes out to 2050, in alignment with APA's planning horizon for our [Climate Transition Plan](#). The model can support a range of demand scenarios and sensitivity analyses. We are applying the model in financial planning, including for carrying value assessments, useful asset life assessments, asset management planning and new investment proposals.

The East Coast Gas Model will support updated transition scenario analysis within our next Climate Transition Plan to be published in 2025.

1 Australian Government, Department of Industry, Science and Resources, [Future of Gas Strategy](#), May 2024.

2 Australian Energy Market Operator, [Gas Statement of Opportunities](#), March 2024.

3 Australian Energy Market Operator, [2024 Integrated System Plan for the National Electricity Market, A roadmap for the energy transition](#), Version 1.0, June 2024 (page 3).

## APA's climate-related transition risks

APA's exposure to climate-related transition risks, such as being unprepared for climate change or failing to respond adequately, has not materially changed over FY24. APA continues to engage with stakeholders and investors as we deliver the activities and commitments set out in our [Climate Transition Plan](#) and in developing the next Climate Transition Plan due for publication in 2025.

Transition Risks				
Legend: short term (S)(0-3 years), medium term (M)(4-10 years) and long term (L)(10+ years)				
Policy and legal risks				
Risk	Timeframe	Assets affected	Potential impacts	Key mitigations/controls
New climate-related policy action affecting APA operations				
Expanded carbon pricing or emissions regulation, changes in natural gas substitution policies or gas project approvals	S M L	Gas infrastructure and power generation	Financial impacts due to reduced demand and/or supply of natural gas	Implementation of Climate Transition Plan Customer-focused business strategy Scenario analysis applied in business planning Emerging issues management process Government engagement and submissions
Changes in government priorities, procurement processes, or R&D and deployment incentives for new technology and renewables	S M L	Electricity transmission, Pathfinder Program		
Regulatory compliance and climate-related litigation				
Non-compliance with emissions reporting or Safeguard Mechanism obligations	S M L	Group-wide	Fines Reputational damage Securityholder divestment	APA Greenhouse Gas Emissions Reporting Procedure Governance structures, including Portfolio Emissions Management Group and Safety and Sustainability Committee Emerging issues management process Annual Climate Report disclosures
Non-compliance with climate-related disclosure obligations, climate-related litigation	S M L	Group-wide		
Technology risks				
Risk	Timeframe	Assets affected	Potential impacts	Key mitigations/controls
Technology				
Competition for scarce skills or resources needed for new technology expansion	S M L	Electricity transmission, renewables, Pathfinder Program	Technology project delays Project financial non-performance	Workforce readiness assessment completed in FY23 Electricity transmission team recruitment in FY23 Partnership with EDF Group in FY24 to support electricity transmission opportunities Investment Committee process
Unsuccessful investments in experimental technologies	S M L	Pathfinder Program		
Market risks				
Risk	Timeframe	Assets affected	Potential impacts	Key mitigations/controls
Reduced demand for natural gas and gas transportation				
Faster than expected substitution of natural gas domestically or in the export market due to the energy transition, or development of new gas supply is more limited than expected	S M L	Gas Infrastructure assets	Financial impacts – reduced revenue and stranded assets	Scenario analysis applied in business planning Diversified business strategy Pathfinder Program

Reputational risks				
Risk	Timeframe	Assets affected	Potential impacts	Key Mitigations/Controls
<b>Social licence</b>				
Increased stakeholder concern over natural gas	S M L	Gas infrastructure, power generation	Securityholder divestment Public opposition to gas infrastructure expansion projects and electricity transmission lines	Engage with key stakeholders (landowners, producers, customers, government etc.) Monitor expectations, major trigger events within the community and APA's reputation score
Opposition to new asset developments	S M L	Group-wide	Challenges attracting and retaining talent Constrained access to capital and insurance	Community and Social Performance initiatives and programs working with First Nations Peoples Implementation of APA's Climate Transition Plan and annual reporting against progress
<b>Climate Transition Plan commitments fail to meet stakeholder expectations</b>				
Commitments or progress achieved fail to meet expectations	S M L	Group-wide	Securityholder divestment Reputational damage	Governance structures, including Sustainability Management Committee and Safety and Sustainability Committee
Stakeholder criticism for use of offsets towards targets, or APA is associated with an offset project or class of offsets that is inconsistent with our Offset Criteria	S M L	Group-wide	Challenges attracting and retaining talent Constrained access to capital and insurance Financial losses from write-offs of offset investments	Stakeholder engagement on Climate Transition Plan and Climate Reporting Annual reporting on Climate Transition Plan progress Offsets Criteria and scorecard

## APA's climate-related opportunities

Resource efficiency				
Opportunity	Timeframe	Asset class	Potential benefit	Management plans
Methane emission reduction	S M L	Gas transmission and storage	Reduced Scope 1 emissions Increased customer revenue and/or lower costs	Climate Transition Plan Incorporation of the Methane Guiding Principles
Fuel gas savings through compressor efficiency improvements	S M L	Gas transmission and storage	Reduced Scope 1 emissions Reduced customer costs	Climate Transition Plan
<b>Energy sources</b>				
Opportunity	Timeframe	Asset class	Potential benefit	Management plans
Renewable electricity	S M L	Group-wide	Reduced Scope 2 emissions	Maintain renewable electricity procurement strategy. Note: achieved 100% renewable electricity target for FY23 and FY24
Compressor electrification	S M L	Gas transmission and storage	Reduced Scope 1 emissions	Electrification feasibility studies ongoing
Substitution to biomethane, e.g. for compressor fuel gas	S M L	Gas transmission and storage	Reduced Scope 1 emissions	Pathfinder Program
Zero direct emission vehicles	S M L	Group-wide	Reduced Scope 1 emissions	Zero direct emission vehicle fleet goal by FY30 strategy

Products and services				
Opportunity	Timeframe	Asset class	Potential benefit	Management plans
Development and operation of electricity transmission assets to support increased need for renewable electricity	S M L	Electricity Transmission	Business growth Contribution to grid decarbonisation by enabling renewables	Business strategy, dedicated Electricity Transmission division and strategic partnership with EDF Group
Need for expanded gas generation capacity for grid firming and peaking	S M L	Contracted power generation, gas transmission and storage	Business growth Contribution to grid decarbonisation by enabling renewables	Business strategy Scenario analysis applied in business planning
Remote-grid renewables and bundled energy solutions which displace diesel use for mining and industrial customers	S M L	Contracted power generation, gas transmission	Business growth Contribution to customer decarbonisation	Business strategy Customer engagement on energy solutions
Markets				
Opportunity	Timeframe	Asset class	Potential benefit	Management plans
Government incentives and grants for renewable energy and decarbonisation projects	S M L	Gas transmission and storage	Subsidies/co-investment that de-risk future fuel investments	Participating in government initiatives through the Pathfinder Program
Renewable Energy Zones (REZs)	S M L	Electricity Transmission	Business growth opportunities from the tender for construction of transmission infrastructure	Participating in REZ tender processes
Increased electricity demand from mining sector to supply critical minerals and decarbonise operations	S M L	Contracted power generation, gas transmission	Business growth Contribution to customer decarbonisation	Business strategy
CO <sub>2</sub> pipeline transport to support carbon capture, use and storage and hydrogen opportunities	S M L	Gas transmission and storage	Reduced Scope 1 emissions Reduced end-user emissions Contribute to economy-wide decarbonisation Business growth	Pathfinder Program
Resilience				
Opportunity	Timeframe	Asset class	Potential benefit	Management plans
Supply chain emissions	S M L	Group-wide	Reduced Scope 3 emissions Improved resilience to transition risk in supply chain	Scope 3 goal to be developed in 2025
Biomethane, hydrogen and CO <sub>2</sub> transport to support carbon capture, utilisation and storage	S M L	Gas transmission and storage, contracted power generation	Improved resilience to transition risk due to reduced value chain (end-user) emissions	Pathfinder Program

## Physical climate risks

APA is exposed to a range of physical climate risks from extreme weather events and the incremental impacts of climate change. The physical impacts of climate change could have many and varied implications for the performance and integrity of assets across APA's portfolio, from solar and wind farms, to natural gas power generators and gas transmission.

Physical climate risks are assessed and catalogued in our corporate risk framework (refer to the *Risk management* section for further information). At the asset level, hazard management studies are performed and include consideration of physical climate risks in the creation of associated response and mitigation plans.

Risk	Timeframe	Asset class	Potential impacts	Key Mitigations/Controls
<p><b>Chronic risks:</b> Longer-term shifts in climate patterns (e.g. sustained higher temperatures that may cause sea level rise or chronic heat waves)</p>	S M L	Group-wide	<ul style="list-style-type: none"> <li>Impacts on health and safety of APA employees</li> <li>Changes in maintenance requirements</li> <li>Increased operating and maintenance costs due to operation of assets outside of intended environmental conditions</li> <li>Environmental breaches due to operation of assets outside of intended environmental conditions</li> <li>Decrease in asset performance</li> </ul>	Natural hazards management plans (including Working Outdoors Excessive Heat Protocol, Severe Weather Management Plan, Severe Weather Action Plan and related guidelines and training materials)
<p><b>Acute risks:</b> Event-driven risks, including increased severity of extreme weather events, such as flooding, cyclones and heatwaves</p>	S M L	Group-wide	<ul style="list-style-type: none"> <li>Impacts to health and safety of APA employees and the public</li> <li>Major service disruptions</li> <li>Increased cost of insurance premiums and potential inability to secure adequate coverage</li> <li>Reputational damage from service interruptions</li> <li>Environmental breaches due to asset damage</li> </ul>	Natural hazards management plans (including Bushfire, Cyclone and Flood Management Plans, Action Plans and associated protocols, guidelines and training materials)

Building on the earlier portfolio-level screening of exposures to physical climate risks across APA's assets (phase 1), we continued the engagement with a leading international consultant to support detailed physical climate risk assessments on five of our assets (phase 2). Assets were prioritised for deep dive assessments considering their exposure to present-day and future climate risks and their criticality. Non-climate factors considered included activity type, lifespan and location, asset replacement and business interruption costs, risk to people and the environment, energy system inter-dependencies and strategic plans.

The assets selected were:

- Diamantina Power Station Complex (gas-fired generation)
- South West Queensland Pipeline, SWQP (gas transmission)
- Mondarra Gas Storage
- Badgingarra Solar and Wind Farms
- Basslink (electricity transmission).

Climate indicators and hazards, and asset-specific exposures and vulnerabilities, were analysed for present-day and future time horizons (centred on 2050 and 2080); with future risks assessed for both ‘medium’ (SSP2/RCP4.5) and ‘high’ (SSP5/RCP8.5) emission scenarios.<sup>1</sup> The analysis used best-in-class climate datasets including downscaled CMIP6 climate projection data. The analysis considered 59 climate indicators and hazards across 10 categories:

- temperature
- water
- humidity
- wind
- flood
- wildfire
- landslide
- tropical cyclone
- lightning
- hail

Climate-related impact pathways were identified and validated, risks classified based on APA’s Enterprise Risk Management Ratings, and existing risk mitigations and residual risk levels assessed. Some of the key climate-related risks identified for each of the assets and related risk mitigations being implemented, are shown in the figure on page 31 and discussed in subsequent subsections.

APA has mitigation controls in place to address current and foreseeable climate-related risks, and monitors and updates its risk mitigation strategies to maintain resilience to ensure reliable energy production and operational stability.

**Diamantina Power Station Complex**

The primary risks to this asset from climate-related factors are high ambient temperatures that can decrease the efficiency of gas-fired generation and drought stress-related water scarcity which can impact the availability of process water used in such systems. The potential for high temperatures to impact operations is mitigated by using water-cooled electric air inlet chillers and implementing a mature inspection, testing and maintenance program. Mitigations to reduce water availability risks include sourcing water from multiple sources and maintaining onsite water storage for short duration supply interruptions. Water supply to the site has been sufficient during past regional droughts. A regional water supply security assessment by the Queensland Government and Mount Isa City Council concluded there to be a high level of water reliability in the region to at least 2041.<sup>2</sup>

**SWQP**

Of the climate-related risks and hazards assessed for SWQP, increased precipitation and flooding was identified as a primary risk. Flooding may cause loss of cover due to erosion with increased risk of corrosion and other integrity defects for below ground gas pipeline components beneath waterways.

Risk mitigations include UV protective coatings and cathodic protection to mitigate corrosion, and embedded pipeline maintenance and erosion control procedures. APA has conducted loss of cover surveys at river crossings identified through risk assessments for pipelines in New South Wales and is extending these surveys to Queensland and elsewhere. The frequency of such surveys can be increased to address any increase in risk identified.

**Mondarra Gas Storage**

An impact pathway to site operations was identified to be potential disruptions to onsite power generation due to high temperatures above 45°C. This risk is being managed by onsite procedures by maintenance personnel to address overheating of the generator engine alternators (GEA) used for power generation and by retaining a spare GEA for redundancy. Our enterprise risk procedures include monitoring of operations and re-evaluation of site-specific risk should risks increase or operations be impacted.

**Badgingarra Solar and Wind Farms**

Climate-related risks and hazards assessed for the Badgingarra Solar and Wind Farms included high ambient temperatures, wildfires, lightning strikes, high wind speeds and dust accumulation. They were concluded as being adequately mitigated by existing controls which include established inspection, testing and maintenance procedures, easement control and vegetation removal to mitigate risks from grass fires, maintenance of a spare transformer onsite, and ongoing monitoring of power loss due to dust accumulation

**Basslink**

Primary risks identified for Basslink were related to high ambient temperatures, bushfires and lightning hazards. A potentially significant impact pathway for Basslink relates to an interruption to operations should high temperatures (above 35°C) occur at George Town converter station in Tasmania. However, high temperatures have not historically been experienced at the site and are projected to be unlikely in future years. Despite the low probability of occurrence, this risk is being actively monitored by APA in accordance with APA’s enterprise risk management procedures. The risk was not found to present a commercial risk to APA.

An additional impact pathway relates to the potential for wildfire damage to overhead transmission lines and pylon systems. Wildfire is considered to present a major risk to overhead transmission without easement control. APA undertakes bushfire management planning and routinely maintains easements to create firebreaks and control bushfire risk. These controls are essential to mitigate the hazard posed by wildfires.

<sup>1</sup> Shared Socio-economic Pathways (SSP) and Representative Concentration Pathways (RCP) refer Inter-governmental Panel on Climate Change (IPCC) climate scenarios.  
<sup>2</sup> Queensland Government and Mount Isa City Council, Mount Isa regional water supply security assessment, 2019 [[https://www.rdmw.qld.gov.au/\\_data/assets/pdf\\_file/0003/1466670/mount-isa-rwssa.pdf](https://www.rdmw.qld.gov.au/_data/assets/pdf_file/0003/1466670/mount-isa-rwssa.pdf), accessed July 2024]. This assessment considered potential changes to water demand due to population growth and development and climate change.

Future climate-related emerging risks identified by physical climate risk deep dive assessments for five assets spanning APA's major activity types



**Badgingarra Wind and Solar Farms**

Climate hazard	Emerging risk	Existing mitigations/controls
Wildfires	– may traverse near or through the solar and wind farms	– easement control – bushfire management

**Mondarra Gas Storage**

Climate hazard	Emerging risk	Existing mitigations/controls
Temperatures above 45°C	– may result in shutdown of generator engine alternators that provide onsite power	– system includes redundant capacity – impact monitoring to inform further measures

**Basslink**

Climate risk/hazard	Emerging risk	Existing mitigations/controls
Temperatures above 35°C	– may cause a shutdown of operations at George Town converter station in Tasmania	– low likelihood of temperatures exceeding 35°C and risk is being monitored by APA
Wildfires	– may present increasing risk to overhead transmission and converter stations	– easement maintenance – bushfire management plan

**Diamantina Power Station Complex**

Climate risk/hazard	Emerging risk	Existing risk mitigations/controls
Temperatures above 35°C	– may decrease power generation system efficiency – may cause an overtemperature limit breach at the switchyard	– power generation plant includes two water-cooled electric air inlet chillers to mitigate temperature and humidity variations – servicing and maintenance arrangements of plant and switchyard

Drought stress	Existing risk mitigations/controls
– may impact the availability of raw water required for power generation	– multiple water supply sources maintained – onsite water storage for short duration interruptions

**South West Queensland Pipeline**

Climate risk/hazard	Emerging risk	Existing risk mitigations/controls
Increased rainfall and flooding	– may cause erosion and increased rate of corrosion and stress corrosion cracking of below ground components – may restrict access to the pipeline for maintenance	– UV protective coatings and cathodic protection to mitigate corrosion – erosion controls integrated within transmission pipeline operations – aerial access to perform remote work in inaccessible territories

CASE STUDY

# Climate-related initiatives on SWQP

The South West Queensland Pipeline (SWQP) is a bi-directional gas transmission pipeline (total pipeline length of 1,874 km) linking Wallumbilla in South East Queensland to Moomba in South Australia to support gas supply to the east coast market. A major gas transmission pipeline asset within APA's portfolio, the SWQP has 16 compression units, including hubs at Wallumbilla and Moomba. The SWQP is regulated under the Safeguard Mechanism, and in FY24 we undertook a range of work to further understand the abatement options, methane emissions and physical climate risks for this asset.

## Physical climate risk deep dive assessment for SWQP

A physical climate risk deep dive assessment was completed for the SWQP with climate indicators and hazards and asset-specific exposures and vulnerabilities analysed for present-day and future time horizons (2050, 2080) and 'medium' (SSP2/RCP4.5) and 'high' (SSP5/RCP8.5) emission scenarios. Climate impact pathways were identified and validated, and risk mitigations and residual risk levels assessed.

A primary risk was found to be related to increased precipitation and flooding which may cause loss of cover due to erosion and an increased rate of corrosion and other integrity defects for below ground gas pipeline components coinciding with river crossings. This highlighted the importance of APA's existing risk mitigations which include UV protective coatings and cathodic protection to mitigate corrosion, erosion control, routine pipeline maintenance and pigging operations, loss of cover surveys and arrangements for aerial access to perform remote work in the event of emergencies.

Risks and risk mitigation controls were also reviewed for drought, wildfires and high ambient temperatures.

**See the *Physical climate risk* section on page 29 of this report for further details.**

## Compressor fuel gas efficiency initiative

SWQP compressor fuel gas combustion emissions were reduced by around 4,500 t CO<sub>2</sub>-e through compressor optimisation.<sup>1</sup> These emissions reductions were achieved by developing and embedding processes, tools, and engineering guidance to achieve ongoing fuel gas efficiencies through the way in which assets are operated.

**Refer to the case study on the *Compressor fuel gas efficiency initiative* on page 40 for further details.**

## Enhanced methane measurement and leak detection and repair

We undertook enhanced methane measurements for the SWQP. This involved direct source-level measurements and engineering calculations across approximately 20,000 potential emissions sources. These measurements were compared with independent measurements from an aerial survey conducted by Bridger Photonics using Gas Mapping Light Detection and Ranging (LiDAR) technology fitted to a helicopter. This was the first deployment of Bridger Photonics' gas mapping LiDAR technology in Australia.

This work provided valuable information to improve our understanding of methane sources and abatement opportunities. No emission sources were detected from the two parallel pipelines. All emissions were from pipeline infrastructure sites along the SWQP (compressor stations, scraper and main line valve stations). Vented sources were identified as contributing the most to methane emissions, so confirming the importance of our valve upgrade, compressor methane recovery and compressor seal upgrade initiatives.

Ground level measurements detected methane at about 1.4% of potential emission sources with no methane fugitive leaks of process safety concern identified during the study. Around 13% of leaks could be and were immediately repaired during the measurement campaign with remaining leaks scheduled for repair in accordance with APA's Leak Management Protocol.

**Further details are provided in the *Improving methane emissions measurement to inform abatement plans case study* on page 38.**

<sup>1</sup> Emissions reductions due to the compressor fuel gas efficiency initiative targeting our SWQP, GGP and MSP assets, was determined by 1) calculating the difference in fuel gas intensity (t CO<sub>2</sub>-e/MWh) between the FY21 base year and the current year and multiplying this value by the FY21 pipeline gas throughput; then 2) subtracting the product from (1) from FY21 fuel gas emissions.



Legend:

— South West Queensland Pipeline

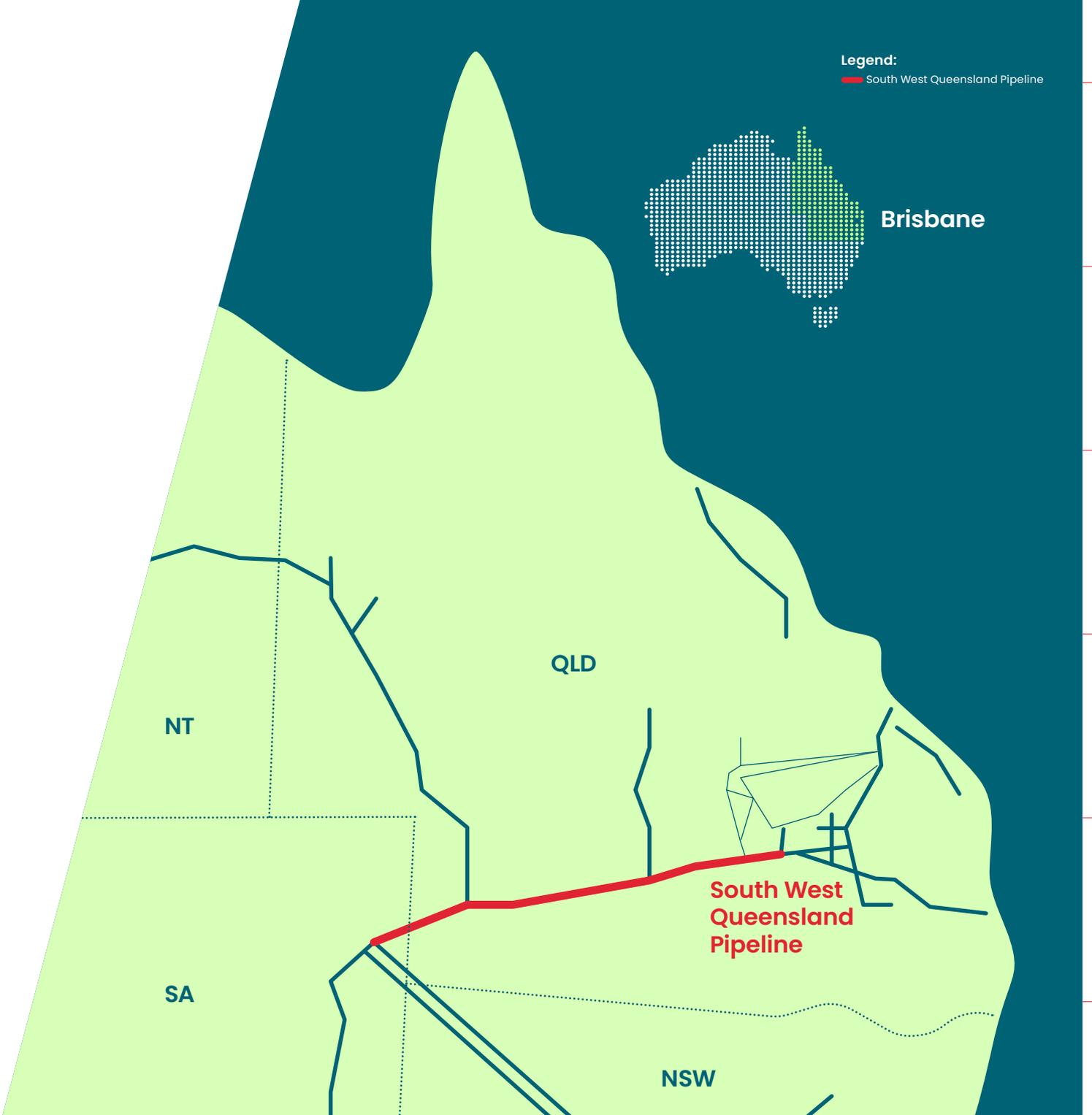


Image: Wallumbilla hub, QLD

## Wallumbilla Compressor electrification

Wallumbilla Hub is the interconnection point for nine key APA and non-APA owned pipelines in Queensland. These pipelines connect gas from the Surat and Bowen supply regions to various demand centres in Greater Brisbane, Gladstone, as well as southern markets via the South West Queensland Pipeline.

The [Climate Transition Plan](#) and a national compressor electrification feasibility study delivered in FY23 identified the electrification of select compressors at Wallumbilla as a potential opportunity to deliver emissions reductions to support progress to achieving the gas infrastructure interim target.

A comprehensive technical and commercial assessment has been undertaken for the Wallumbilla compressor electrification initiative. Updated cost estimates are higher than initial costs in the Climate Transition Plan and a Final Investment Decision (FID) for this initiative has been delayed as we await the outcome of the Australian Energy Regulator's regulatory review of the SWQP (refer to the *Wallumbilla compressor electrification* case study on page 19).

# Metrics and targets

To achieve our overarching net zero operational emissions goals, we made a series of interim commitments in our Climate Transition Plan. In FY24 we made continued progress towards achieving these commitments.



Image: Mondarra Gas Storage, WA

## FY24 progress: Gas infrastructure

### Greenhouse gas emissions reduction from gas infrastructure

Metric	Target	FY24 Performance
<b>Greenhouse gas emissions reduction from gas infrastructure</b> (% reduction in net Scope 1 and Scope 2 emissions relative to FY21 base year)	↓ 30% (net) by 2030	↓ 10% (net) ↓ 1.7% (gross)

Across APA's gas infrastructure assets, gross emissions in FY24 were 543,917 t CO<sub>2</sub>-e, which is a 1.7% reduction from FY21 levels of 553,512 t CO<sub>2</sub>-e (adjusted). Including the surrender of offsets, our net emissions were 498,327 t CO<sub>2</sub>-e, a 10% net reduction relative to FY21.

Gas transmission growth projects, to address market and customer requirements, included the East Coast Grid Stage 2 and Northern Goldfields Interconnect (NGI). The East Coast Grid Stage 2 uplifted capacity on the South West Queensland Pipeline and Moomba to Sydney Pipeline to support the north-south gas flows needed to balance market supply and demand. The NGI Pipeline supports Western Australia's resources sector with access to gas to support renewables as customers decarbonise.

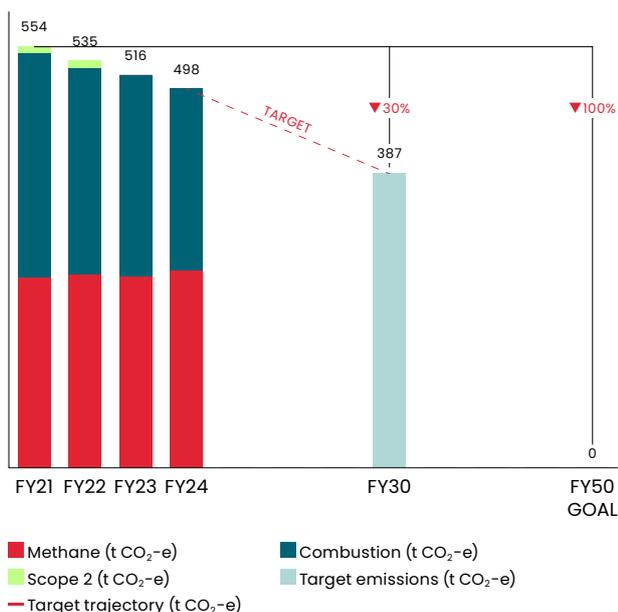
Excluding these growth projects, our gross emissions would have reduced by 8.0% from FY21 levels.

We delivered reductions in our gross greenhouse gas emissions primarily through the procurement of 100% renewable electricity<sup>1</sup> and as a result of our compressor efficiency optimisation initiative. Around 4,500 t CO<sub>2</sub>-e of abatement<sup>2</sup> was estimated to have been achieved by embedding processes to optimise compressor fuel gas efficiency on our South West Queensland (SWQP), Moomba to Sydney (MSP) and Goldfields Gas Pipeline (GGP) pipelines (Refer to the *Compressor fuel gas efficiency initiative* case study on page 40).

We made progress on a range of gas infrastructure abatement initiatives with a focus on moving through detail engineering and design and planning stages to piloting and implementation of initiatives at our operations. This included:

- engineering studies and delivery planning for the valve upgrade and compressor methane recovery initiatives
- implementation of ultra-low emissions compressor seal upgrades at our Young Lithgow (YL) and Culcairn compressor stations in New South Wales (refer to the *Compressor seal upgrade* case study on page 40)
- delivery of a comprehensive technical and commercial assessment for the Wallumbilla compressor electrification initiative (Final Investment Decision in FY25, following the outcome of the AER regulatory review process)
- developed a new leak management protocol to support leak detection and management at APA managed gas transmission pipelines and facilities
- trialled gas capture and recompression technology to reduce methane emissions from pipeline construction activities (refer to the *Gas capture and recompression technology trial* case study on page 40).

### Gas infrastructure emissions (adjusted) (net) (kt CO<sub>2</sub>-e)



<sup>1</sup> Through the purchase and surrender of large-scale generation certificates.

<sup>2</sup> Emissions reductions due to the compressor fuel gas efficiency initiative targeting our SWQP, GGP and MSP assets, was determined by 1) calculating the difference in fuel gas intensity (t CO<sub>2</sub>-e/MWh) between the FY21 base year and the current year and multiplying this value by the FY21 pipeline gas throughput; then 2) subtracting the product from (1) from FY21 fuel gas emissions.

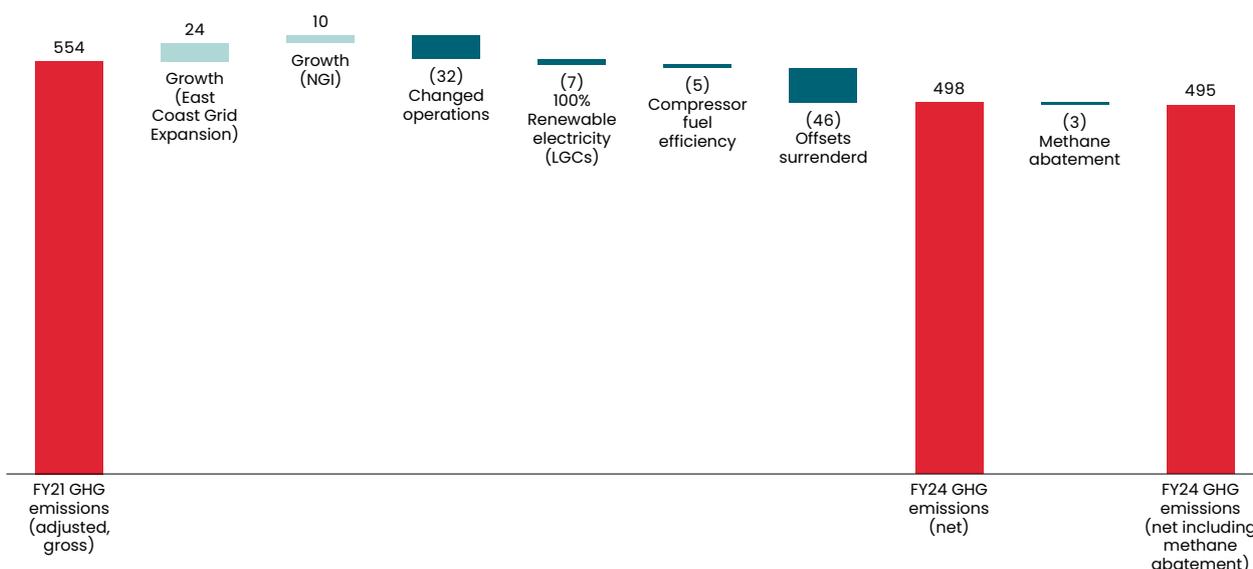
## METRICS AND TARGETS

Methane abatement was estimated to have been achieved through compressor seal upgrades at Young Lithgow and Culcairn compressor stations (around 2,900 t CO<sub>2</sub>-e), the use of a gas recovery system during a pipeline relocation project (14 t CO<sub>2</sub>-e), leak detection and repair at SWQP during the enhanced methane measurement study (<1 t CO<sub>2</sub>-e) (refer to pages 38–39).<sup>1</sup> This methane abatement is not able to be accounted for in our assured emissions reporting based on APA's existing regulatory measurement methods under National Greenhouse Emissions Reporting (NGER).

The waterfall chart below shows changes in our emissions in FY24 relative to FY21, including:

- increased emissions due to growth projects
- emissions reductions from changed operations (principally lower overall fuel gas usage for compression due to demand and associated changes in compressor operations)
- emissions reductions, including reductions accounted for in our assured emissions reporting, and estimated methane abatement not accounted for in this reporting
- offsets surrendered.

### Gas infrastructure emissions and emission reductions for FY24, relative to FY21 (kt CO<sub>2</sub>-e)<sup>2</sup>



### Reducing methane emissions

Metric	Target	FY24 Performance
<b>Operational methane emissions reductions</b> (% reduction in operational methane emissions relative to FY21 base year)	↓ ≥30% in operational methane emissions by 2030	↑ 3.7% (gross) relative to FY21* * Methane emissions reductions achieved are not yet accounted for in our reported emissions

Improving APA's management of methane emissions supports achieving our gas infrastructure and methane emissions targets. Methane abatement achievements are not able to be accounted for within APA's existing regulatory measurement techniques which are based on National Greenhouse Emissions Reporting (NGER) Method 1. We have studied enhanced methane measurement methods using both top-down and bottom-up approaches to explore how we develop the data needed to report progress towards our 2030 methane target.

Refer to the *improving methane emissions measurement to inform abatement plans* case study on page 38.

Our methane emissions in FY24 were 9,252 tonnes, 3.7% higher relative to our FY21 base year methane emissions of 8,920 tonnes (adjusted). This increase was principally due to the Northern Goldfields Interconnect (NGI) growth project which accounted for an increase of about 240 tonnes.

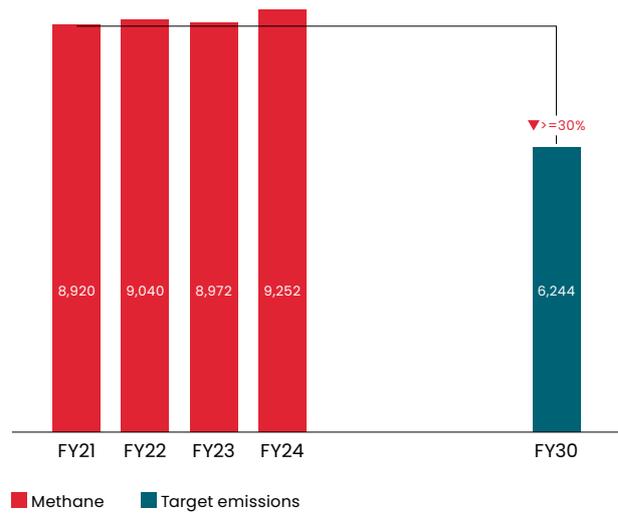
<sup>1</sup> These emissions reductions are calculated for FY24 relative to the emissions that would have occurred in this year in the absence of the initiative. Further information is provided in the relevant case studies.

<sup>2</sup> Emissions associated with growth projects include emissions associated with the East Coast Grid Expansion (specifically the Cromarty and Dulbydilla compressors on SWQP and the Milne and Round Hill compressors on the MSP) and the Northern Gasfields Interconnect (includes fugitive methane emissions and the Ambania compressor station). Emissions reductions due to changed operations are mainly due to reduced compressor fuel gas consumption as a result of changed demand. The surrender of large generation certificates, compressor fuel efficiency emissions reductions and offsets are accounted for within our assured accounts. Estimated methane abatement achieved through reciprocating compressor seal packing and leak detection and repair are not captured in our assured emissions reporting.

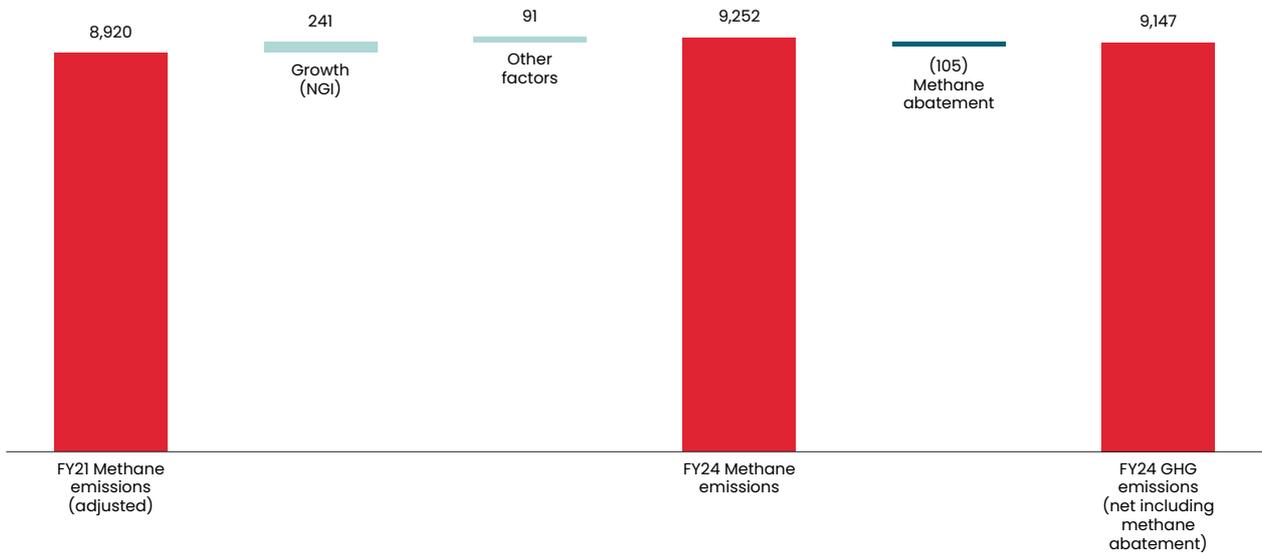
The NGI Pipeline connects the Dampier to Bunbury Natural Gas Pipeline to the Goldfields Gas Pipeline, supporting Western Australia’s resources sector with access to gas to support renewables as customers decarbonise.

Our operations and infrastructure construction teams delivered methane abatement by implementing compressor seal upgrades at two compressor stations (105 tonnes) and using a gas recovery system during a pipeline relocation project (0.5 tonnes) (refer page 40). A new gas leak management protocol was developed to guide leak detection and repair across APA gas infrastructure assets, with initial implementation during the enhanced methane measurement study for SWQP of methane abatement (<0.1 tonnes) (refer page 32). This methane abatement is not accounted for in our reported methane emissions.

### Methane emissions (adjusted) (tonnes)



### Methane emissions (adjusted) and methane abatement for FY24, relative to FY21 (tonnes)<sup>1</sup>



We developed and commenced implementation of our Methane Action Plan to systematically advance our methane mitigation and enhanced measurement actions. Our enhanced methane measurement study at SWQP provided further insight into methane sources associated with our gas transmission pipeline operations and confirmed the benefits of our valve upgrade and compressor methane recovery initiatives

in development. Refer to the *Improving methane emissions measurement to inform abatement plans* case study on page 38.

We submitted a [Methane Guideline Principles MGP Signatory Report](#) on our methane measurement, mitigation and advocacy actions.

For a complete breakdown of APA’s climate data refer to our [FY24 Climate Data Book](#).

<sup>1</sup> Methane emissions associated with growth are related to the Northern Gasfields Interconnect (NGI). Methane abatement shown, due to reciprocating compressor seal packing and leak detection and repair on SWQP, are not accounted for within our assured emissions reporting. Methane abatement from the use of a gas recovery system during a pipeline relocation project is not included in the methane abatement estimate as this methane source is not captured within our reported emissions.



Deployment of Gas Mapping LiDAR technology on a helicopter for the aerial survey as part of the enhanced methane measurement at SWQP

CASE STUDY

## Improving methane emissions measurement to inform abatement plans

**Consistent with our Methane Guiding Principles commitments, APA is continuing to explore advanced methane measurement and leak detection approaches. Our FY24 actions built on previous work in FY23 that included a ground level methane leak survey on GGP and high spatial resolution aircraft monitoring of the GGP, MSP and SWQP (refer to the [Climate Report 2023](#)).**

In FY24 this work focused on enhanced methane measurement on the South West Queensland Pipeline (SWQP), trialling alternative aerial detection technologies and informing our gas infrastructure emissions reduction roadmap. We selected the SWQP due to it being a major gas transmission pipeline with a total of 16 compression units located along the pipeline, including hubs at Wallumbilla and Moomba and covered under the Safeguard Mechanism.

We completed direct source-level measurements and engineering calculations across the SWQP<sup>1</sup>. These measurements were then reconciled with independent measurements from an aerial survey conducted by Bridger Photonics by helicopter using gas mapping Light Detection and Ranging (LiDAR) technology. This technology targets measured methane emissions to a sensitivity of 0.5 kg/hour with 90% probability.

Our focus for the work was on assessing emissions from fugitive methane sources<sup>2</sup>, incomplete

combustion<sup>3</sup> and venting<sup>4</sup> sources to support our planned methane abatement actions. The methodology applied to complete this work was consistent with the methodology that would be applied under the Oil and Gas Methane Partnership 2.0 (OGMP 2.0) reporting framework.

The measurement work confirmed there were no emission sources detected from APA's two parallel pipelines and those emission sources that were identified are already the focus of our emissions reduction plans.

More detailed findings from the SWQP enhanced methane measurement work were as follows:

- no emission sources were detected from the two parallel pipelines, a total pipeline length of 1,874 km
- all emissions were from pipeline infrastructure sites along the SWQP – compressor stations, scraper and main line valve stations
- no methane fugitive leaks of process safety concern were identified
- fugitive methane emissions were comparatively low, with methane detected at about 1.4% of the approximately 20,000 potential sources. About 40 leaks that could be repaired immediately were addressed during the measurement campaign, with remaining leaks scheduled to be addressed in accordance with APA's Leak Management Protocol

1 Incomplete combustion emissions were based on engineering calculations rather than direct measurements.

2 Fugitive emissions related to the unintentional release of methane.

3 Incomplete combustion of methane occurs in fuel-burning equipment where not all methane is converted to CO<sub>2</sub>, resulting in methane slip being released into the atmosphere.

4 The main sources of vented emissions include compressor blowdowns, compressor seals and gas driven pneumatic equipment (e.g. high-bleed valves).

- vented emissions were the highest source of methane emissions, validating the importance of emissions reduction initiatives underway including valve upgrade, compressor methane recovery, and compressor seal upgrade. Venting is the intentional continuous or intermittent release of methane into the atmosphere, which is typically required by equipment design, operation, construction, commissioning, or maintenance. During the study, we observed vented emissions primarily from equipment designed to vent, such as process control valves, compressor unit seals, and compressor start/stop vents
- incomplete combustion emissions were also noted to be comparatively low with no such emissions detected during steady-state compressor operations.

Overall, this voluntary initiative confirmed the value of enhanced methane measurement to identify opportunities for abatement and optimise planned initiatives. Enhanced methane emissions measurement is, however, an iterative process in which we will continue to learn and refine our approach, including as new technologies and approaches become available.

While further verification and assurance steps are required, the measurement work indicated that total methane emissions from these activities on the SWQP are potentially higher than our current NGER Method 1 reporting method. NGER Method 1 is based on pipeline length multiplied by a standard emissions factor and is applied

across all natural gas transmission pipeline infrastructure types, including those with and without compression facilities.

We have focused our methane measurement work on this asset initially as the level of compression facilities means that it has the potential for a higher level of methane emissions than other parts of the network, and therefore has greater abatement opportunities in line with our emissions reduction plans. Based on this, the outcome from the measurement work was expected.

It is important to note that the direct methane measurement at SWQP is specific to that asset and cannot be accurately extrapolated across the APA gas transmission network. Measurement work focused on standard operations and did not capture potential emissions from maintenance operations and from unplanned incidents and emergency situations.

The enhanced methane measurement work was a voluntary initiative, with the learnings able to be applied across our portfolio. APA welcomes the Australian Government's announcement in August 2024 to establish an expert methane reporting panel 'to ensure the ongoing reporting for methane and other greenhouse gases is accurate and transparent'. APA will draw on the results of our methane measurement work and continue to collaborate with the industry to advance enhanced methane measurement techniques in Australia, as well as advocate for direct methane measurement options within regulatory reform processes.



▲ Ground-based, source-level methane measurements during the enhanced methane measurement study at SWQP, QLD

CASE STUDY

## Compressor fuel gas efficiency initiative

**Through this initiative emissions reductions are being achieved by embedding processes, tools and engineering guidance to achieve ongoing fuel gas efficiencies through the way in which we operate our compressor stations.**

Compressor fuel gas optimisation models have been established to assist APA Integrated Operations Centre (IOC) controllers in their decision making to drive fuel gas reduction. It also provides a platform to facilitate performance reviews internally within the IOC and as part of Asset Performance Meetings.

We developed operational plans based on historical fuel gas consumption data calibrated against pipeline throughput capability for each configuration of compressions on our key pipelines with compression. Our data models support operators to assess and manage asset performance, with asset management optimisation performance indicators in place to track actual fuel gas intensities against optimum values.

The reduction in fuel gas usage via compressor optimisation implemented on the Moomba Sydney Pipeline (MSP), Goldfields Gas Pipeline (GGP), and South West Queensland Pipeline (SWQP) was estimated to deliver a 4,500 t CO<sub>2</sub>-e emissions reduction in FY24.<sup>1</sup>



Wallumbilla Hub compressor stations, QLD

CASE STUDY

## Gas capture and recompression technology trialled

**In September 2023, APA trialled a vacuum compressor unit while rerouting part of the Parmelia Gas Pipeline (PGP) to accommodate a new railway line in Ellenbrook, Western Australia.**

The project required gas to be safely decompressed and removed from a redundant section of pipeline following the rerouting. Rather than venting or flaring gas from the pipeline section, we deployed the vacuum compressor unit to enable gas to be captured, recompressed and reinjected into the PGP system.

Total methane emissions from the operation were reduced by 97% compared to if the gas was directly vented, with avoided emissions estimated to be approximately 0.5 tonnes of methane based on pipeline pressure measurements and engineering calculations.

CASE STUDY

## Compressor seal upgrade initiative

**Traditional piston rod packing within our reciprocating compressors use segmented ring sets to create a seal.**

However, this seal is not perfect and allows some process gas to be emitted from the cylinders of our reciprocating compressors resulting in fugitive methane emissions.

Ultra-low emissions packing that uses solid rings to significantly reduce emissions were installed at our Young Lithgow (YL) and Culcairn compressor stations in New South Wales. We calculated the methane emissions reductions to be approximately 105 tonnes of methane in FY24 as a result of reduced seal leakage rates at YL and Culcairn compressor stations based on seal packing specifications from the technology suppliers. These methane emissions reductions are not captured within our reported emission estimates due to our current reporting methods.

<sup>1</sup> Emissions reductions due to the compressor fuel gas efficiency initiative targeting our SWQP, GGP and MSP assets, was determined by 1) calculating the difference in fuel gas intensity (t CO<sub>2</sub>-e/MWh) between the FY21 base year and the current year and multiplying this value by the FY21 pipeline gas throughput; then 2) subtracting the product from (1) from FY21 fuel gas emissions.



Port Hedland Solar Farm (under construction), WA ▲

.....  
**CASE STUDY**

## Port Hedland Solar Farm and Battery Energy Storage System

**Construction is underway on a new 47 MW solar farm and 35 MW (36.7 MWh) battery energy storage system (BESS) proximate to and connected to the Port Hedland Power Station, a 210 MW gas generation complex which supplies electricity for port operations in the Pilbara mining region.**

The solar and BESS assets are expected to be operational at the end of 2024. They will provide reliable and affordable energy to a key mining customer, while reducing their emissions from electricity generation by around 50%. The BESS is being developed with \$1.5 million in support from the Western Australian Government's Clean Energy Future Fund.

The Pilbara Energy System development pipeline includes further expansions at Port Hedland, including the potential addition of another 47 MW of solar and approximately 60 MW of reciprocating gas engines.

The proposed reciprocating gas engines will meet growing customer electricity demand while improving the overall thermal efficiency and emissions intensity of the power station and enabling the addition of more renewable energy. The reciprocating engines are faster to start, synchronise and ramp with the network when compared to open cycle gas turbines, allowing them to respond in combination with the BESS more rapidly to sudden changes in renewable energy output when compared to conventional open cycle gas turbines (e.g. during cloudy conditions).

APA's investments at Port Hedland are an example of our focus on bundled energy solutions that help to lower emissions while providing reliable, 24-hour electricity supply to customers through a combination of gas generation, renewables and battery storage.

## FY24 progress: Power generation infrastructure

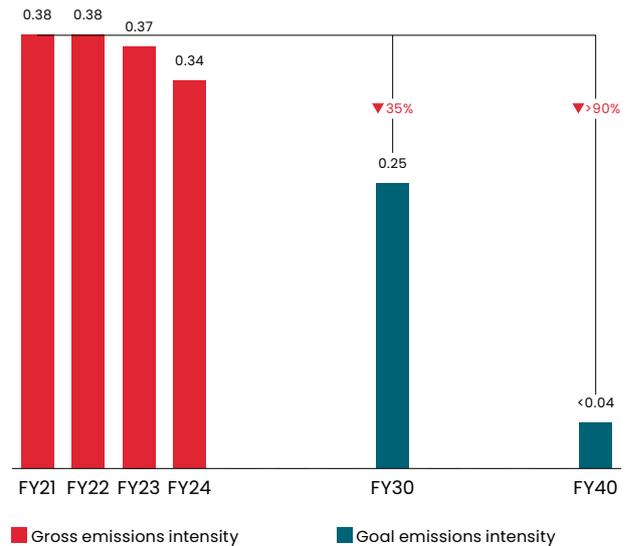
Metric	Goal	FY24 Performance
<b>Greenhouse gas emissions intensity reduction from power generation infrastructure</b> (% gross emissions intensity reduction)	↓ 35% by 2030	↓ 11.3%

We re-baselined our base year emissions intensity for power generation to account for the Alinta Energy Pilbara acquisition. This change resulted in an increase in the FY21 base year intensity from 0.29 to 0.38 t CO<sub>2</sub>-e/MWh. In FY24 gross emissions intensity for power generation decreased by 11.3% (0.38 t CO<sub>2</sub>-e/MWh to 0.34 t CO<sub>2</sub>-e/MWh) relative to the adjusted FY21 base year intensity. This result is due to lower emissions intensity on Newman Power Station (relative to FY21) due to the implementation of reciprocating gas engines, the commissioning of Dugald River Solar Farm and Daandine Power Station being under care and maintenance.

Progress was made on the construction of the 47 MW Port Hedland Solar and 35MW Port Hedland Battery which are expected to be operational by the end of 2024 (refer page 41). Further investment in renewables in the Pilbara and elsewhere is expected to support progress towards our emissions intensity goals for power generation (refer page 21).

For a complete breakdown of APA's climate data refer to our [FY24 Climate Data Book](#).

### Power generation infrastructure emissions intensity (adjusted) (gross) (t CO<sub>2</sub>-e/MWh)



▲ Newman Power Station, WA

## FY24 progress: Electricity transmission

### Enabling renewables through transmission infrastructure development

Metric	Goal	FY24 Performance
Renewable infrastructure enabled through electricity transmission investment (MW)	Contribute positively to grid decarbonisation measured by MW of enabled renewable infrastructure	Established strategic partnership with EDF Group to pursue electricity transmission opportunities Completed the Alinta Energy Pilbara acquisition which includes >200 km operating transmission lines with an additional >600 km development pipeline

APA continues to invest in and pursue electricity transmission opportunities as a strategic priority. In FY24 we established a partnership with EDF Group to support competitive bids to build the electricity transmission lines needed to connect customers and communities to renewable energy zones in New South Wales and Victoria. Our focus was on the New England Renewable Energy Zone (REZ) and VicGrid opportunities.

We are also expanding our electricity transmission assets as part of our investment in remote grids to connect our customers to firmed renewables. In FY24 APA added over 200 km of transmission lines to our portfolio as part of the Alinta Energy Pilbara acquisition. This system includes a mix of operating assets (solar, battery, gas generation and transmission), together with a development pipeline of 1 GW+ renewables and 60MW gas generation and 600 km of electricity transmission.

### Reducing emissions we can control

Supporting Action	FY24 Performance
Active program to reduce emissions we can control and apply best practice management techniques to manage line losses	<p>↓ 98% in emissions we can control<sup>1</sup></p> <p>(primarily achieved through the purchase and surrender of large-scale generation certificates to meet our 100% renewable electricity procurement target)</p>

To support our overall electricity transmission goal of contributing positively to grid decarbonisation, our [Climate Transition Plan](#) commits us to reducing emissions we can control and applying best practice techniques to managing line losses. Emissions from line losses are assessed to be out of our control in existing infrastructure. For new greenfield infrastructure, we have committed to applying best practice technology.

Our electricity transmission emissions (excluding line losses) comprise:

- carbon dioxide, methane and nitrous oxide (principally associated with the use of backup electricity generation, fleet vehicles and the use of electricity)
- sulphur hexafluoride (SF<sub>6</sub>), which is an insulating gas contained in electrical equipment.

Our 100% renewable electricity procurement target, addressed through the purchase and surrender of large-scale generation certificates, has maintained

the substantial percentage reduction in these emissions which started in FY23 when compared to our FY21 base year. Our total Scope 1 and Scope 2 emissions in FY24 were 98% lower than in FY21.

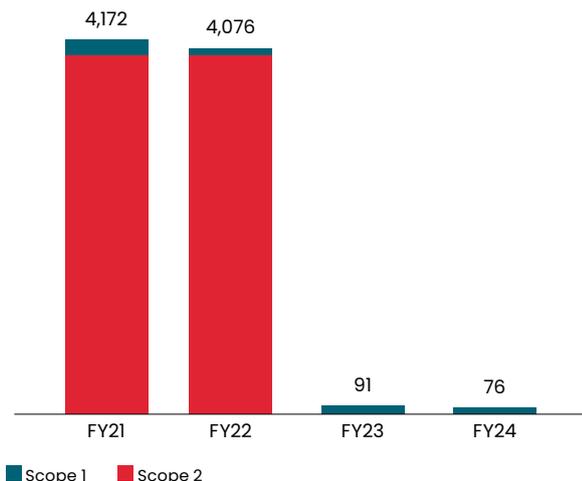
We continued to implement actual measured SF<sub>6</sub> emissions in FY24 and this supported greater insight into our emissions and options for managing them. SF<sub>6</sub> accounted for 55% of our Scope 1 emissions, with the balance comprising primarily carbon dioxide emissions. Measures implemented to manage SF<sub>6</sub> emissions include: active monitoring and alarms, maintaining substation equipment and ensuring educational awareness on the criticality of the gas across the maintenance team.

For a complete breakdown of APA's climate data refer to our [FY24 Climate Data Book](#).

<sup>1</sup> Line losses are the major source of emissions from electricity transmission and are included in APA's emission's inventory. Reductions are largely determined by the rate of grid decarbonisation, not by direct APA intervention. On this basis line losses are not included in our electricity transmission infrastructure goal.

## METRICS AND TARGETS

### Electricity transmission infrastructure emissions (excl. line losses) (adjusted) (t CO<sub>2</sub>-e)



### FY24 progress: Renewable electricity procurement

Metric	Target	FY24 Performance
<b>Renewable electricity as a percentage of total electricity consumed</b> (% of renewable electricity)	100% from FY23 onwards	100% Achieved

APA met the 100% renewable electricity target for the first time in FY23 by surrendering large-scale generation certificates (LGCs) to reach zero Scope 2 emissions for purchased and acquired electricity. To continue delivering our 100% renewable target in FY24, APA surrendered 15,200 LGCs from Stockyard Hill Windfarm in Victoria's Central Highlands.

APA will continue to assess the best options for meeting the 100% renewable electricity procurement target as conditions change including bundled power purchase agreements. We developed an FY24–FY30 Renewable Electricity Procurement Strategy which sets out a phased approach, sourcing LGCs from the market in the near term and exploring power purchase agreements and/or the use of self-generated LGCs over time.

### FY24 progress: Zero direct emission vehicle fleet

Metric	Goal	FY24 Performance
<b>Zero direct emissions vehicles</b> (% of fleet)	100% by 2030	In progress 2.0% of fleet (8 of 401 vehicles) transitioned

In FY24 we increased our electric vehicle leases to a total of eight (2.0% of APA's fleet), progressed the installation of charging infrastructure at our Dandenong facility and approved an FY25–FY30 Electric Vehicle Strategic Approach.

Our approach to increasing electric vehicles across our fleet in line with this 2030 goal takes into account the broader challenges in availability across the Australian market. Importantly, most of our fleet is made up of light commercial and four-wheel drive vehicles, where Zero Direct Emission Vehicle (ZDEV) solutions are not yet available in Australia. Achievement of our goal is therefore uncertain and our progress will also depend in part on supportive policy settings and the successful widespread availability of ZDEV public charging and/or refuelling infrastructure across Australia, considering the remote locations where APA operates.

APA will pursue our 2030 goal through a staged approach that addresses these challenges:

- **short term (FY24–FY25):** APA will assess vehicle leases for EV/hybrid transitions as leases expire, using a set of evaluation criteria
- **medium term (FY25–26):** we will monitor the availability of charging infrastructure in particular in remote regions and opportunity for deployment at our own sites
- **long term (from FY27):** as suitable EV solutions are commercialised and public charging infrastructure is rolled out, APA will accelerate the transition of our fleet as vehicle leases expire.



### FY24 progress: Value chain emissions and contribution to broader economy-wide decarbonisation

APA recognises the importance of reducing our value chain emissions and the role we can play in working with our customers, partners and suppliers in achieving this outcome.

#### Scope 3 emissions

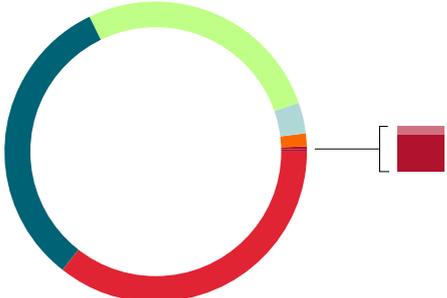
**Scope 3 goal being developed**

Aligned with our Climate Transition Plan commitment, we are working to deliver our Scope 3 goal in 2025.

#### Scope 3 emissions

APA's largest sources of Scope 3 emissions are fuel- and energy-related activities (Category 3), purchased goods and services (including capital goods) (Category 1 and 2) and investments (Category 15). Together these three categories contributed around 95% of APA's Scope 3 emissions. Emissions from the use of sold products (Category 11) has decreased, principally due to gas sale contracts expiring. Overall our gross Scope 3 emissions were 664,598 t CO<sub>2</sub>-e in FY24, which is approximately 6% lower compared to FY20 when we estimated our Scope 3 emissions for the first time. Our net Scope 3 emissions were 656,841 t CO<sub>2</sub>-e in FY24, with an equivalent volume of 7,757 t CO<sub>2</sub>-e of ACCUs surrendered to fully offset our business travel.

#### Breakdown of APA's FY24 Scope 3 emissions (gross) by category



For a complete breakdown of APA's climate change data refer to our FY24 Climate Data Book.

### Development of our Scope 3 emissions reduction plan

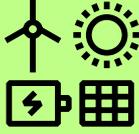
APA made progress on our Scope 3 emissions reduction plan and towards the development of our Scope 3 goal. Building on the pathways established in FY23, we identified new opportunities to mitigate emissions throughout our value chain.

Establishing a greater understanding and more robust quantification of APA's Scope 3 opportunities is an important step to support the development of a credible Scope 3 goal and emissions reduction plan. We have developed a Scope 3 business as usual (BAU) emissions forecast and reviewed our Scope 3 baseline, examining calculation methodologies, data accuracy and completeness. Progress was made on uplifting our data inputs and emissions for purchased goods and services, waste, energy and fuel related activities and employee commuting.

Our value chain emissions program focuses on developing and implementing our Scope 3 emissions reduction plan and goal, in addition to fostering collaborations throughout our value chain. We have also engaged a leading global sustainability advisory firm to assist us to identify and prioritise a list of key Scope 3 emissions reduction options informed by consultation with targeted value chain stakeholders.

Further information on areas identified for improvement to enable Scope 3 emissions data and emission reduction opportunities to be more accurately assessed and reported are detailed by focus area.

**Scope 3 emissions focus areas and reduction opportunities**

 <p><b>Upstream</b> (Core corporate activities)</p>	 <p><b>Upstream</b> (Energy activities)</p>	 <p><b>Downstream</b></p>
<p><b>Operational change</b></p> <ul style="list-style-type: none"> <li>• Procurement decarbonisation strategy</li> <li>• Business travel emissions</li> <li>• Reducing waste to landfill</li> <li>• Employee commuting</li> </ul>	<ul style="list-style-type: none"> <li>• Reductions in operational emissions</li> </ul>	<ul style="list-style-type: none"> <li>• Engage with customers and operators of owned assets</li> </ul>
<p>Initial focus on quick wins</p>	<p>Align Scope 1 and Scope 2 reduction opportunities</p>	<p>Targeted engagement of customers and operators of owned assets</p>

**Scope 3 emissions focus areas**

**Upstream – core**

Core business activities include the purchase of goods and services, waste and business travel. Category 1 purchased goods and services (including capital goods) contributed about 32% of our Scope 3 emissions in FY24. Building on the priority areas for this category we have developed requirements to support Scope 3 emissions being considered within APA's procurement process for material categories.

We have also enhanced our reporting of Category 1 emissions and developed contract clauses to further uplift our data maturity through receipt of supplier-specific data. We have engaged with some of our higher emitting suppliers, in addition to our waste suppliers, to support access to improved data. Receiving consolidated data from our main waste suppliers has enhanced the accuracy and comprehensiveness of our waste data and will enable more targeted plans to reduce waste to landfill.

We have maintained our commitment to fully offset all business travel. As a result, we surrendered an equivalent volume of 7,757 t CO<sub>2</sub>-e of ACCUs.

**Upstream fuel and energy emissions**

Upstream emissions from fuel and energy consumption contributed 36% of APA's Scope 3 emissions in FY24.

Our procurement of 100% renewable electricity, through the purchase and surrender of large-scale generation certificates, reduced emissions in this category by 1,377 t CO<sub>2</sub>-e in FY24 compared to if this procurement approach was not implemented.

**Downstream emissions**

Downstream emissions associated with emissions from products we sell and owned but not operated assets (Categories 11 and 15), were inventoried to be about 30% of APA's Scope 3 emissions in FY24. We engaged with the operators of significant assets we own, but do not operate, to identify potential areas for emissions reduction and enhanced emissions measurement and reporting, and to progress opportunities for collaboration. This collaboration is crucial for understanding the full scope of our indirect emissions and developing effective mitigation strategies, as well as improving emissions measurement and reporting practices. APA will continue to work with the operators of the assets we own to progress the Scope 3 emissions reduction opportunities that have been identified.

**End-user emissions from transported product**

In our [Climate Transition Plan](#) we committed to continue disclosing estimates of our end-user emissions. These emissions result from the end use consumption (combustion) of natural gas that APA transports but does not take ownership of and therefore does not sell to the end-user. End-user emissions were 64.0 Mt CO<sub>2</sub>-e in FY24, which is of a similar order to our FY23 emissions and lower than in FY20 due to lower volumes of gas delivered. Further information is provided in the [FY24 Greenhouse Gas Emissions and Energy Calculation Methodology](#).

For a complete breakdown of APA's climate change data refer to our [FY24 Climate Data Book](#).

## Value chain activities

APA advanced several key activities across the gas supply chain in FY24:

- *Climate Leaders Coalition's [Credible Transition to Net Zero](#)* published in November 2023. APA actively participated to help identify and share lessons learned by organisations as they work to determine a credible transition within a rapidly evolving regulatory environment.
- *Australian Pipelines and Gas Association (APGA) [Methane and Gas Combustion Emissions Reduction Project](#)*: As an active member of the APGA Gas Infrastructure Emissions Reduction Working Group, APA co-funded this project to assess methane and combustion-related emission abatement opportunities for gas transmission nationally. The report provides valuable insights into reducing emissions across the natural gas value chain.
- *Net Zero Australia Initiative*: APA sponsored the Net Zero Australia initiative, which delivered its final report, [Net Zero Mobilisation report: How to make net zero happen](#), in July 2023. The report highlighted the critical role of gas power generation and outlined various pathways to achieve a Net Zero Australia. APA's sponsorship underscores our commitment to supporting research and initiatives that inform the energy transition.
- *BCG's Report on Gas Infrastructure*: APA partnered to commission and co-fund BCG's [The Role of Gas Infrastructure in Australia's Energy Transition](#) report, which found that 'renewifying' the electricity grid by prioritising the removal of coal and electrifying liquid fuels used in light transport is essential. This report aligns with APA's vision of leveraging existing gas infrastructure to support the energy transition and achieve significant emissions reductions.

## Investing in future fuels and technologies through our Pathfinder Program

APA's Future Energy team is working with customers to develop future energy pathways and infrastructure via the Pathfinder Program. We continue to improve our understanding of the market for renewable hydrogen and its role in enabling hard-to-abate industries, like metals and chemicals production, to decarbonise. We engage with our customers to explore the feasibility of large-scale renewable hydrogen projects in Australia and investigate the technical requirements and economics of transporting renewable hydrogen via pipelines.

We continue to assess the ability of our pipeline assets to transport hydrogen through ongoing investments in research, in partnership with the Future Fuels Cooperative Research Centre (CRC)

and others. This included conducting stage 3 of the Pathfinder PGP Conversion Project with a focus on detailed safety studies and conversion plans. In parallel to this project, we progressed a feasibility study for the Parmelia Green Hydrogen Project under the Memorandum of Understanding (MoU) between APA and Wesfarmers Chemicals, Energy and Fertilisers (WesCEF) (Refer to the *ARENA funding for PGP Green Hydrogen Feasibility Study* case study on page 48). APA also supported the development of international hydrogen pipeline standards and an Australian Hydrogen Pipeline Systems Code of Practice published in June 2024.<sup>1</sup>

Carbon capture, utilisation and storage (CCUS) has a potential role to support the decarbonisation of the Australian economy, particularly for hard-to-abate industrial sectors. CO<sub>2</sub> transportation via pipelines will underpin CCUS deployment. APA continued to actively pursue opportunities for CO<sub>2</sub> pipeline transportation, both greenfield pipelines and repurposing of existing assets.

In November 2023, APA signed an MoU with Santos to explore the development of potential carbon dioxide pipelines for Santos' Moomba Carbon Capture and Storage Facility.<sup>2</sup> Under the MoU, APA and Santos will assess the potential to unlock decarbonisation opportunities by connecting heavy CO<sub>2</sub> emitters and/or CO<sub>2</sub> import locations to the Santos-operated facility in Moomba, South Australia via CO<sub>2</sub> pipelines. The partnership will include an assessment of carbon capture and storage pipeline routes from key emission sources in Gladstone, Port Bonython, and Greater Sydney to the Moomba facility in the Cooper Basin.<sup>3</sup>

The MoU with Santos is part of our broader concept assessment process for CO<sub>2</sub> pipeline networks. Progress in deploying this emerging technology will depend on a range of factors, including partner and customer timelines, market demand and the approval of related projects.

Our Pathfinder Program continues to investigate emerging technologies and renewable gases such as biomethane to support delivery of sustainable energy solutions for our customers. In March 2024, the Future Energy team launched an expression of interest (EOI) initiative seeking to source biomethane supplies to displace emissions from natural gas and power generation infrastructure. Supplier selection criteria included life cycle environmental reviews and social procurement considerations such as alignment with APA's First Nations Reconciliation Action Plan (RAP). The process has been highly successful in identifying multiple biomethane project opportunities in key regional communities where APA operates, and these opportunities are currently being advanced through our stage-gate project planning and execution model.

<sup>1</sup> Australia's Hydrogen Pipeline Systems Code of Practice is now complete and available – Future Fuels CRC

<sup>2</sup> APA, *APA and Santos has signed a memorandum of understanding to explore development of potential carbon capture and storage pipelines* (Media Release, 22 November 2023).

<sup>3</sup> These opportunities are subject to necessary internal and external approvals and a longer-form project agreement being negotiated and finalised by the parties.

CASE STUDY

# ARENA funding for PGP Green Hydrogen Feasibility Study

APA partnered with Wesfarmers Chemicals, Energy and Fertilisers (WesCEF) to progress feasibility work on the PGP Green Hydrogen Project, securing \$1.33 million in funding from the Australian Renewable Energy Agency (ARENA) in November 2023.<sup>1</sup>

The feasibility study explores the potential to produce and transport green hydrogen via the PGP to WesCEF's ammonia production facilities at the Kwinana Industrial Area south of Perth. The project offers the opportunity to deliver large-scale green hydrogen to Kwinana – a land-constrained established industrial precinct – and creates options for hydrogen use in industry decarbonisation and growth.

An aspect of the project includes identifying a project configuration based on the preferred variable renewable energy sites, hydrogen production facility locations and other factors. A further aspect comprises evaluating additional offtake opportunities for the hydrogen output of the project within the Kwinana Industrial Area, which has implications for the sizing of the production facility. The project also involves identifying and conducting early engagement with relevant stakeholders and the development of a regulatory and approvals pathway for the deployment of greenfield hydrogen projects in Western Australia.

Please refer to the ARENA Project page for more information.<sup>2</sup>

## Contributing to decarbonisation in the broader economy

APA's ongoing efforts in expanding access to contracted renewables is helping to support the energy transition. By investing in infrastructure and collaborating with governments and our value chain, we are facilitating the integration of renewable energy sources into the grid. An example of this is the Kurri Kurri Lateral Pipeline that will connect to the Hunter Power Project. According to Snowy Hydro, by providing firm energy the Hunter Power Project will enable an estimated 1,500 to 2,000 MW of renewables and avoid approximately 5.8 Mt CO<sub>2</sub>-e of emissions per year.<sup>3</sup>

Some of the largest miners in the Pilbara have set 2030 targets ranging from a 30–50% emissions reductions relative to their respective base years, with one miner targeting 'real zero' emissions by 2030. A consistent theme in the decarbonisation plans of these mining companies is to reduce their reliance on diesel, with the electrification of plant and equipment being pursued in many cases to support this objective. APA is the largest commercial energy operator in the Pilbara and we anticipate that decarbonisation plans in the region are likely to result in considerable growth in renewables, backed by gas firming. This firming is needed to support the reliable energy supply needed for continuous and safe mining operations (refer to the *Supporting mining customers to electrify their operations and displace diesel use* case study on page 50).

We see an opportunity to bundle solutions and provide reliable, lower emissions energy to our customers while placing downward pressure on cost. We anticipate that transitioning from natural gas and diesel baseload to gas-firmed renewables in the Pilbara will help resource industries to significantly reduce their emissions, and that further investment from APA will help accelerate the decarbonisation of the region (refer to page 50). The timing and staging of infrastructure development in the Pilbara is subject to customer demand, approvals processes and commercial considerations.

APA's investment in hydrogen and CO<sub>2</sub> transportation research is not only relevant for potential decarbonisation opportunities within our value chain, but may also contribute to decarbonisation opportunities within the broader economy. Through our Pathfinder Program, we are investigating the necessary infrastructure and technologies to support hydrogen as a key energy carrier. Additionally, our research efforts in CO<sub>2</sub> transportation aim to support carbon capture and storage solutions which have a role to play in helping Australia to reach its net zero by 2050 target.

<sup>1</sup> APA, 'ARENA funding boost for the *Parmelia Green Hydrogen Project*' (Media Release, 21 November 2023).

<sup>2</sup> ARENA, '*Parmelia Green Hydrogen Project Feasibility Study*' Project Page, 24 January 2024).

<sup>3</sup> SnowyHydro, *What is the Hunter Power Project?* (accessed 7 September 2024).

## FY24 progress: Safeguard compliance, data management and carbon pricing

### Safeguard Mechanism readiness and compliance

From FY24, three of APA's Safeguard Mechanism covered facilities (Goldfields Gas Pipeline, Newman Power Station and the South West Queensland Pipeline) are subject to declining facility baselines under the scheme. APA is required to surrender ACCUs or Safeguard Mechanism Credits (SMCs) for any above-baseline emissions from these facilities. We have progressed a range of readiness activities to prepare for this policy change, including submitting Safeguard Emissions Intensity Determination Applications to the Clean Energy Regulator for these three facilities which meet legislated assurance requirements.

We identified some technical challenges with the emissions baseline calculations for gas transmission pipelines and worked with other pipeline operators and the Australian Pipeline Gas Association (APGA) to make recommendations for improvement to the Department of Climate Change, Energy, Environment and Water (DCCEEW). Fuel combustion emissions baseline calculations for transmission pipelines are now based on gas throughput, a metric that better incentivises overall emissions reductions for transmission pipelines and which can be measured reliably with existing equipment.<sup>1</sup>

Consistent with our [Climate Transition Plan](#), and where it is reasonable to do so, APA is prioritising emissions avoidance and reduction to meet Safeguard Mechanism baselines.

Compliance obligations for Safeguard Facilities are expected to be confirmed by the Clean Energy Regulator following the completion of National Greenhouse and Energy Reporting (NGER) submissions in October 2024. APA has already surrendered 6,253 ACCUs based on our expected FY24 compliance obligation for GGP (refer to the [FY24 Climate Data Book](#) for detail). Any residual compliance requirements will be met prior to the regulatory deadline in March 2025 and reported on in our 2025 climate disclosures.

### Enhancing our greenhouse gas emissions data and disclosures

The [FY24 Climate Data Book](#) includes a range of additional disclosures. The [FY24 Greenhouse Gas Emissions and Energy Calculation Methodology](#) provides the basis for how we compile our emissions inventories.

APA continued to enhance its approaches to disclosures by uplifting our assurance levels to reasonable assurance for key operational emissions disclosure items in FY24.

We also commenced delivery of the Emissions Data Reporting Project (EDRP) to enhance our emissions data and reporting platform. We completed a tender process for the software platform and implementation services, and initiated data migration and the build-out of reporting functions. The EDRP platform is anticipated to go live in phases during FY25. When completed, we are targeting partially automated, end-to-end reporting for Scope 1, Scope 2 and Scope 3 and End-user emissions, as well as enhanced forecasting and scenario modelling capabilities. The new platform will allow APA to reduce reporting lead times and increase the frequency of internal reporting on emissions performance and progress towards our targets and goals.

### Our internal carbon abatement price

APA's internal carbon abatement price, which is updated six-monthly, is set at \$94/t CO<sub>2</sub>-e for FY25. This is anticipated to increase to \$115 t CO<sub>2</sub>-e (real) in 2030. It reflects a 100% premium relative to market prices for the Australian Carbon Credit Unit, to ensure we are clearly incentivising the avoidance and reduction of emissions, resorting to offsets only when reasonable to do so.<sup>2</sup>

#### APA internal carbon abatement price (real)

**\$94/t CO<sub>2</sub>-e in FY25**

Increasing to

**\$115/t CO<sub>2</sub>-e in 2030**

<sup>1</sup> Whereas fuel gas combustion emissions are addressed through the natural gas throughput production variable, methane emissions are addressed by the 'kilometres of natural gas transmission pipeline' production variable analogous to NGERs Method 1.

<sup>2</sup> We define 'reasonable' as circumstances where the marginal cost of emissions mitigation is above our internal carbon abatement. The internal carbon abatement price is based on a 10-year rolling average (five years historical and five years forward-looking) which combines the unit cost for APA's existing carbon offset contracts and nature-based ACCU prices (historical and forecast). A 100% premium is then applied to determine the internal carbon abatement price.

.....  
CASE STUDY

# Supporting our mining customers in the Pilbara to electrify their operations and displace diesel use<sup>1,2</sup>

**Decarbonising operations within Western Australia's minerals-rich Pilbara region is expected to increase renewable electricity generation in the region to 14.8 TWh per year by 2050.<sup>3</sup>**

This includes addressing diesel combustion from heavy haul trucks, machinery and locomotives supported by electrification. In 2023, around 2,500 million litres of diesel were assessed to have been consumed across all mines in the Pilbara region, resulting in an estimated 6.8 Mt CO<sub>2</sub>-e of emissions.<sup>5</sup>

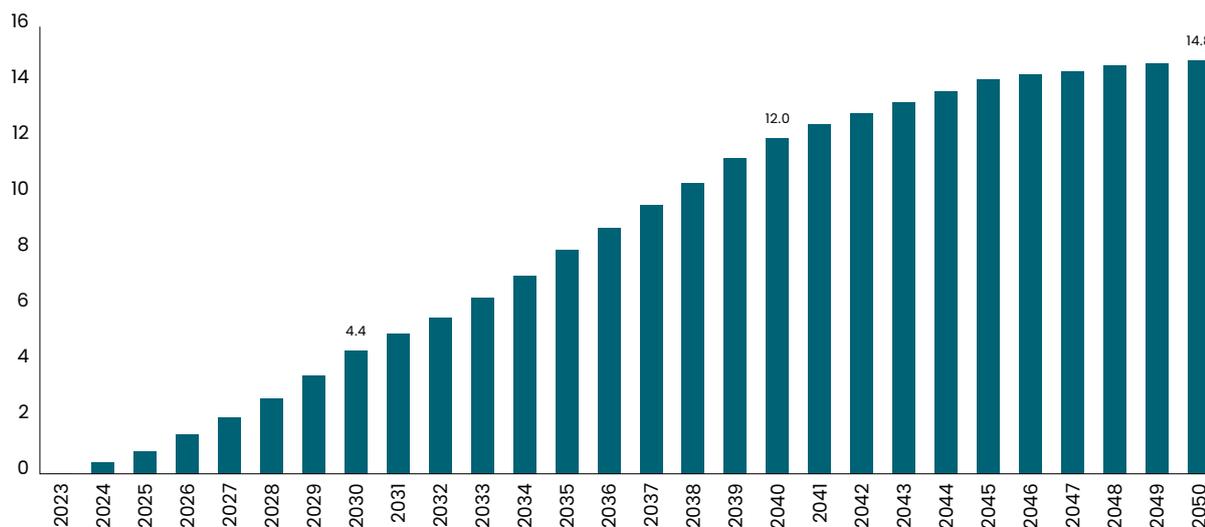
According to BCG analysis, about two thirds of the 2050 forecast electricity demand in the Pilbara will be due to the transition away from diesel fuel.<sup>3,5</sup>

Achieving this transition will require large-scale investments in renewables supporting increasing emissions reductions due to the displacement of diesel. With a 1 GW+ development pipeline of solar, wind and battery storage projects in the Pilbara, APA is well positioned to contribute to this regional decarbonisation effort. Our gas generation assets at Newman and Port Hedland also have a role to play in supporting customers' transition to electrification, with gas power generation helping to firm variable renewable output and ensure reliable 24/7 energy supply necessary for globally competitive mining operations.

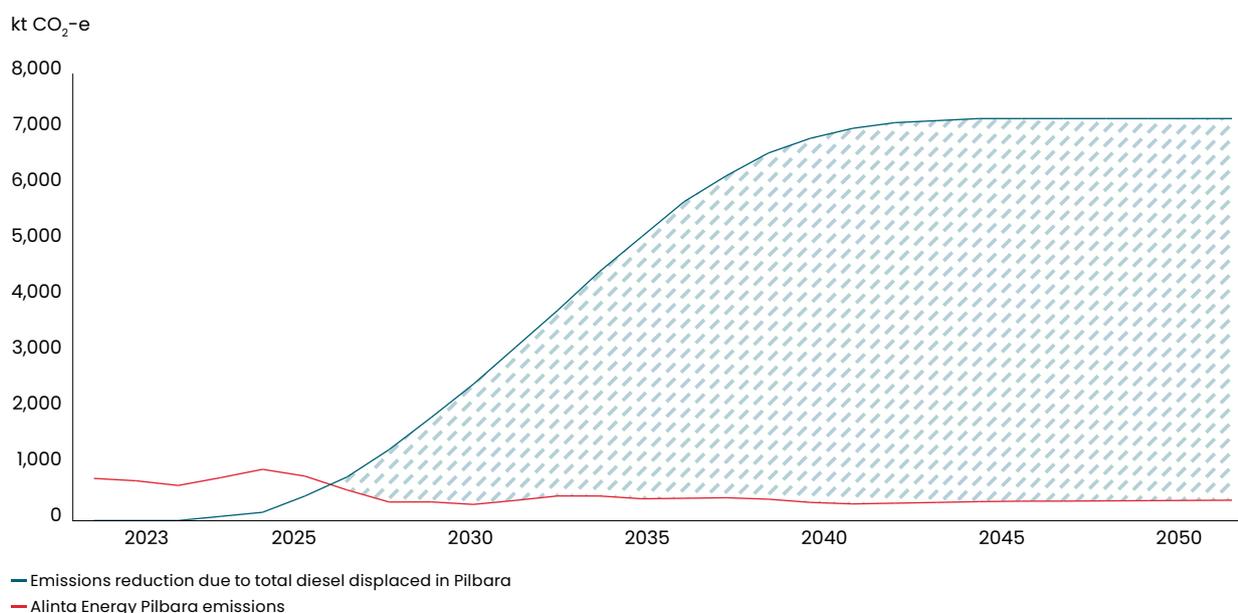


Newman Power Station, WA ▲

## Renewable electricity generation forecast (TWh) in the Pilbara region to 2050<sup>3</sup>



## Diesel displacement from iron ore producers estimated to decrease emissions by about 7.2 Mt CO<sub>2</sub>-e per year by 2050<sup>4</sup> around 20 times the emissions forecast for Pilbara Energy in 2050<sup>6</sup>



— Emissions reduction due to total diesel displaced in Pilbara  
 — Alinta Energy Pilbara emissions

1 Disclaimer for Boston Consulting Group (BCG) analysis cited in this case study: This case study contains information provided to APA by BCG, including details on analysis undertaken by BCG for APA. That information was provided solely for APA for limited purposes agreed between APA and BCG and shall not be copied or given to any other person or entity ("Third Party") without the prior written consent of BCG. Further, Third Parties may not, and it is unreasonable for any Third Party to, rely on that information for any purpose whatsoever. To the fullest extent permitted by law (and except to the extent otherwise agreed by BCG in writing), BCG shall have no liability whatsoever to any Third Party, and any Third Party hereby waives any rights and claims it may have at any time against BCG with regard to that information, including the accuracy or completeness thereof. Receipt and review of this Presentation shall be deemed agreement with and consideration for the foregoing. BCG does not provide fairness opinions or valuations of market transactions, and the information provided by BCG should not be relied on or construed as such. Further, any financial evaluations, projected market and financial information, and conclusions contained in the information provided by BCG are based upon standard valuation methodologies, are not definitive forecasts, and are not guaranteed by BCG. BCG has used public and/or confidential data and assumptions provided to BCG by APA in undertaking its analysis and has not independently verified the data and assumptions used in its analysis. Changes in the underlying data or operating assumptions will clearly impact the analysis and conclusions. Additionally, BCG does not provide legal, accounting, or tax advice. APA is responsible for obtaining independent advice concerning these matters. This advice may affect the information provided by BCG. Further, BCG has made no undertaking to update the information it has provided, notwithstanding that such information may become outdated or inaccurate.

2 This case study is based on point-in-time analysis done for the Pilbara prior to APA's acquisition of Alinta Energy Pilbara. The assumptions underpinning the analysis and the emissions forecast for Alinta Energy Pilbara should not be taken as indicative of APA's future development plans for the region. The timing and staging of APA's infrastructure development in the Pilbara region is subject to customer demand, approvals processes and commercial considerations.

3 BCG analysis – Forecast includes the North West Interconnected System (NWIS, including Rio Tinto's Pilbara Iron network), FMG's Pilbara Energy Connection network, and BHP/Pilbara Energy's Newman network, and excludes isolated power stations servicing isolated mines and towns of the NWIS, and isolated power stations servicing mines, towns and associated infrastructure to the west of the NWIS. Expectations relating to Pilbara electricity supply and demand are based on a number of key assumptions including, but not limited to, iron ore production rates, electricity supply generation mix, miners' achievement of decarbonisation goals, miners' preferences for security of electricity supply future technology costs and advancements and the ability to secure required project approvals. There can be no assurance that these projections are accurate and actual outcomes may differ materially from such projections because events and actual circumstances frequently do not occur as projected.

4 2500Mt estimate is based on BCG analysis. Includes haul, rail, and heavy mobile equipment including ancillary vehicles, excavators, drills, shovels and draglines. Emissions estimate is based on APA calculations using the 2023 National Greenhouse Account Factor for diesel oil.

5 BCG analysis – Extent and timing of displacement will be subject to miner decarbonisation ambitions and technology evolution.

6 Excludes the Goldfields Gas Transmission Pipeline. Based on internal APA modelling and information provided by Alinta Energy management. Emissions reductions are subject to various risks, including that development projects (including renewable generation assets) are delayed or not delivered on time.

# Risk management

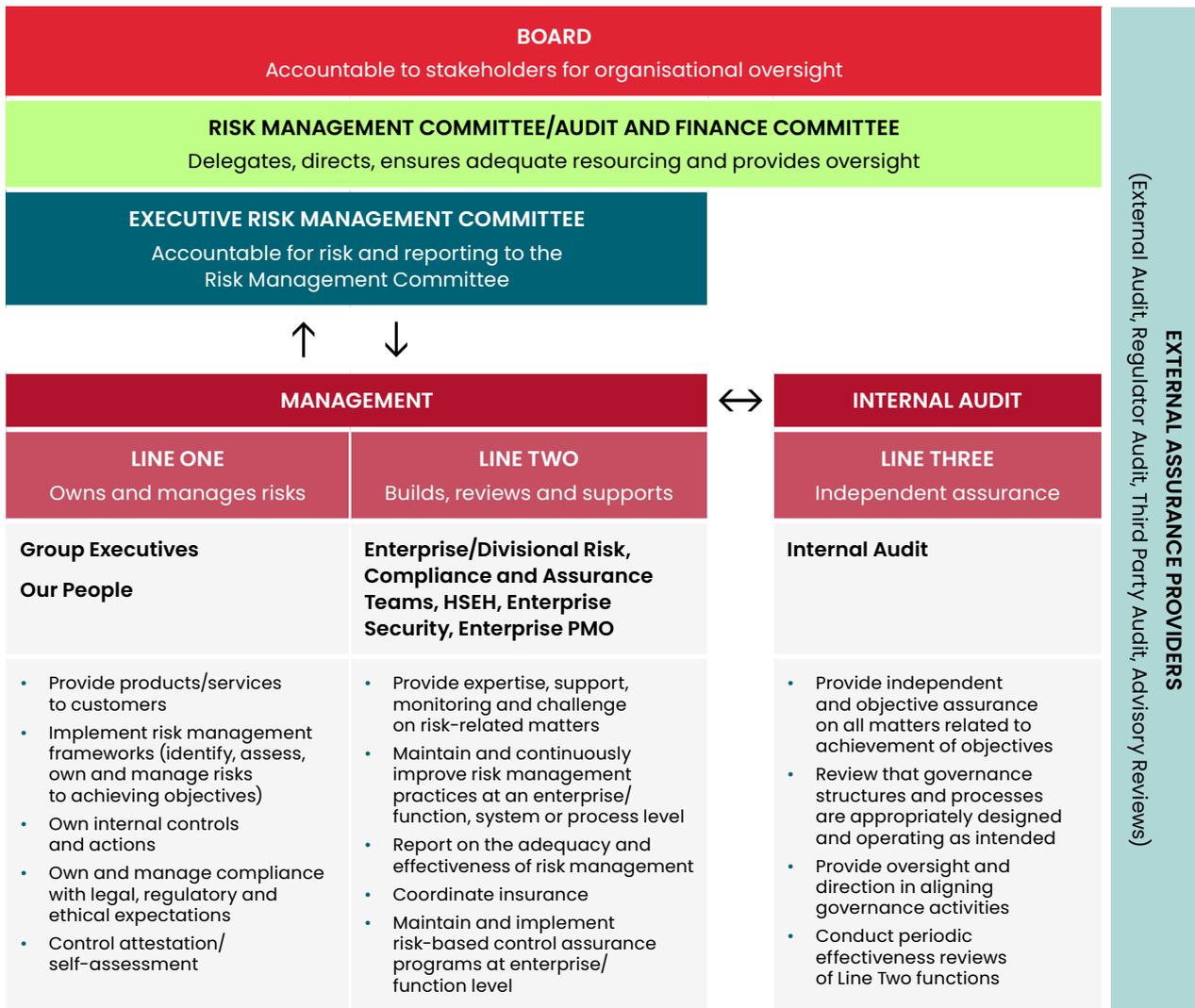
Our risk management framework promotes cohesive and accountable decision making on climate-related risks.

## Climate-related risks and the APA risk management framework

**Our risk management framework supports the identification, management, escalation and reporting of climate-related risks. By implementing an effective risk management framework, APA's Board and Executive Leadership Team ensure strategies are in place to manage potential threats and opportunities.**

APA adopts a 'Three Lines' model for managing risks and controls to promote the behaviours and decision making that underpins an appropriate and cohesive risk culture.

In the first line, every employee is accountable for day-to-day risk management and decision making within approved risk appetite guidelines. In the second line APA's enterprise and risk teams review and monitor Line 1 risk management activities and report on the adequacy of risk management to the Executive Leadership Team and the Board's Risk Management Committee. In turn, this allows for independent assurance by the third line.



**Key:** ↑ Accountability, reporting   ↓ Delegation, direction, resources, oversight   ↔ Alignment, communication, coordination, collaboration

## Processes for identifying and assessing climate-related risks

In line with APA’s risk management framework, we assess climate-related risks at a Group-wide, divisional, asset and project level. Risk assessments are informed by scenario analysis, including our asset resilience analysis and portfolio physical climate risk assessment. Refer to *Our strategy* section for further information.

Climate-related risks are categorised under transition risks (market, technology, policy and legal, and reputational risks) and physical risks (acute and chronic) and mapped to our overall corporate risk categories (strategic, operational, compliance and financial). In line with TCFD recommendations, we consider risks across three time horizons: short-term (impacts expected within next three years); medium-term (impacts expected in four to ten years); and long-term. The short-term horizon corresponds mainly to risks and opportunities impacting APA’s existing operations and active projects; the medium-term horizon mainly impacts on project investment decisions and five-to-10 year strategic target-setting; and the long-term horizon aligns with the formulation of our broader business strategy and planning for energy transition and technology trends.

When undertaking risk assessments, we assign ratings based on APA’s Enterprise Risk Matrix of likelihood and impact. Likelihood ratings are assigned on a five-point scale (from rare to frequent), with guidelines based on frequency of occurrence (for chronic, recurrent events like extreme temperature days) or probability (for single, acute events, e.g. a severe cyclone).

Impacts are also rated on a five-point scale (from minimal to catastrophic), taking into account the expected consequences for health and safety, environment, heritage and social outcomes; operational capability; our people; regulatory compliance; reputation and customer relations; and financial impact.

In FY24, we started reporting on ‘Climate and Net Zero’ as an enterprise level risk within quarterly reporting to the Risk Management Committee.

## Processes for managing climate-related risks

Climate-related risks are managed in accordance with APA’s risk management framework. Risks are assigned an inherent rating based on their likelihood and impact in the absence of controls, and a residual rating once adjusted for controls. Where current controls are not able to manage the residual risk rating to the acceptable target levels, risk treatment options are to be applied. Despite implementing actions to manage a risk to target levels, cases will arise where the residual risk rating cannot be reduced further by actions over a period of time.

### APA’s climate-related risk approach



Examples of Financial Impacts	Transition Risk	Financial Drivers and Potential/Future Climate Change Impacts
Revenue	Market and technology shifts	Consumer and market demand (e.g. consumers demanding shifting to greener alternatives)
Capex	Challenging policy and legal requirements Increasing reputational pressure	Property, plant or equipment related costs (e.g. emission reduction technologies)
Operating expenses	Changing policy and legal requirements	Regulatory and compliance costs (e.g. emissions monitoring, carbon pricing)



Image: Badgingarra Solar and Wind farms, WA

# Governance

APA's Board and Executive Leadership Team are committed to pursuing the targets, goals and supporting actions in APA's Climate Transition Plan in accordance with good corporate governance, including transparency and accountability. We believe robust corporate governance policies and practices enable APA to create long-term value for securityholders and meet the expectations of other stakeholders.

## Our Board's oversight of climate-related risks and opportunities

### Our corporate governance framework

The APA Board is responsible for reviewing and considering the potential impacts of sustainability-related risks and opportunities, including climate change, across our organisation. Our risk-based governance framework enables critical climate-related risks and opportunities to be escalated through the Executive Leadership Team or (with the support of our Board Committees) to the Board.

Our Directors engage with our securityholders and other stakeholders to provide awareness of APA's climate-related risks and opportunities, and to enable feedback on our climate change approach.

They use a range of formal and informal channels, including our annual meeting and engagements with securityholders and other key stakeholders. In FY24, we undertook an extensive program of equity market engagement with institutional investors, potential institutional investors and proxy advisors.

To assist with its responsibilities the Board has established five standing committees and approved their charters. The specific responsibilities of the Board and each standing committee are detailed in APA's [FY24 Corporate Governance Statement](#).

### Climate-related governance structure



APA Board Committees and climate-related actions in FY24

Role	Key FY24 climate-related oversight topics
<b>APA Group Board</b>	
<p>The Board is accountable to our securityholders for the proper management of APA's business and affairs.</p>	<p>Oversaw and monitored APA's progress against the commitments detailed in our <a href="#">Climate Transition Plan</a>, supported by the Safety and Sustainability Committee.</p> <p>Approved the <a href="#">Climate Report 2023</a>.</p>
<b>Safety and Sustainability Committee</b>	
<p>Assists the Board to oversee safety and sustainability matters, including with respect to the health and safety of APA's people, contractors, and the public, and environment and cultural heritage priorities.</p> <p>Meets quarterly with additional out-of-cycle meetings as required.</p> <p>Sustainability and Climate are standing agenda items.</p>	<p>Monitored APA's identification of sustainability risks, opportunities and strategies for the business.</p> <p>Reviewed APA's environmental performance and greenhouse gas emission inventory and tracking performance indicator trends.</p> <p>Oversaw the preparation of APA's sustainability reporting (including assurance activities and processes for verification of the integrity of that reporting).</p> <p>Approved the review of APA's Sustainability Policy and Climate Change Policy.</p> <p>Received quarterly climate-related updates including information about:</p> <ul style="list-style-type: none"> <li>• performance against targets and goals</li> <li>• emission reduction technologies</li> <li>• progress on <a href="#">Climate Transition Plan</a> commitments</li> <li>• climate-related emerging issues including policy developments</li> <li>• approaches to emissions measurement (particularly methane)</li> <li>• investor engagement</li> <li>• management governance</li> <li>• spend of the net zero emissions reduction initiatives.</li> </ul> <p>Oversaw the development and recommendation to the Board of APA's FY25–FY27 Sustainability Roadmap including the approach and outcome of the sustainability materiality assessment.</p> <p>Oversaw the planning for the next iteration of the Climate Transition Plan for 2025.</p> <p>Monitored the gap analysis and readiness activities for the upcoming Australian Sustainability Reporting Standards.</p>
<b>Audit and Finance Committee</b>	
<p>Assists the Board to oversee APA's corporate reporting and internal controls, including monitoring the effectiveness, performance, independence and objectivity of the internal and external auditors.</p>	<p>Received an update on APA's readiness for adoption of the mandatory climate and sustainability reporting disclosures under the proposed Australian Sustainability Reporting Standards – Disclosure of Climate-related Financial Information Exposure Draft.</p> <p>Reviewed the assurance and verification process for the APA Climate Reporting suite.</p>
<b>Risk Management Committee</b>	
<p>Assists the Board to monitor, oversee and assess the implementation and effectiveness of APA's risk management and compliance policies and frameworks, risk appetite, and strategies to manage material risks and the effectiveness.</p>	<p>Regularly monitored the performance of the business, including strategic enterprise risks related to the energy market transition, against APA's Risk Appetite Statement, including the approval of a revised Risk Appetite Statement.</p> <p>This included targeted discussions on assets and transactions, and their risks as they pertain to sustainability, including climate.</p>

## Board FY24 focus areas

The APA Board and its relevant Committees regularly consider climate-related issues and opportunities through business planning and strategy reviews, investment decisions, policy-setting and monitoring progress against commitments.

The Charters that outline the accountabilities of the Board and its relevant Committees with regard to overseeing climate-related risks and opportunities can be found on the corporate governance pages of [APA's website](#).

Key Board actions on climate-related matters in FY24 included:

- approving APA's [Climate Report 2023](#)
- monitoring progress against APA's Climate Transition Plan through quarterly updates from the Safety and Sustainability Committee
- approving executive short-term incentives that included a climate-related KPI (People and Remuneration Committee) and executive performance against this KPI
- approving the review of APA's Climate Change Policy
- reviewing quarterly climate-related updates including information about climate-related risks, opportunities and progress.

## Board skills and diversity

APA's Board determines and periodically reviews the mix of skills, experience and backgrounds required to effectively govern APA's business while considering the expertise and diversity of existing Directors. When appointing a new Director, the Board considers candidates who will balance and complement those qualities and address any potential skills gaps required given APA's strategic direction.

The skills and experience of our Directors in respect to climate and sustainability matters positions APA well to actively participate in and support Australia's energy transition. As at 30 June 2024, all of our Directors (in FY24) have direct skills, knowledge and experience related to the energy transition and sustainability and climate-related matters. The Directors also recognise they must continue to learn about and assess relevant climate-related matters and risks as they evolve. To help drive APA's strategy in electricity transmission and future energy solutions, in FY24 the Board appointed Nino Ficca. Nino brings extensive experience in strategic and operational roles within the energy section, including a deep understanding of electricity transmission and distribution.

The Board's collective knowledge is supplemented by management briefings and internal and external subject matter experts on topics such as climate, the energy transition and sustainability.

In FY24 the Board adopted a graded reporting style to the Board skills matrix whereby Directors assessed their competency against each skill according to a rating of High, Practiced and Awareness. The Board skills matrix in APA's [Corporate Governance Statement 2024](#) includes a full breakdown of Directors' skills and experience, and level of competency, in areas of strategic importance to APA.

## Executive remuneration linked to climate-related performance

The CEO and all Executive Leadership Team (ELT) members had at least 10% of their FY24 Short-Term Incentive (STI) determined based on APA's performance against priorities aligned with implementing APA's [Climate Transition Plan](#). Refer to APA's [FY24 Remuneration Report](#) contained in APA's [Annual Report 2024](#) for further information on the STI.

Similarly, for the FY25 STI all ELT will have at least 10% of their STI outcome determined based on achievement of APA's FY25 climate priorities.

## Management's role in assessing and managing climate-related risks and opportunities

Our sustainability plans take account of both opportunities and risks, with a view to building long-term competitive advantage and resilience for APA.

We have established a **Sustainability Management Committee** (SMC) to oversee and manage APA's sustainability performance.

In FY24, the SMC oversaw the development of the FY25–FY27 Sustainability Roadmap, which encompasses key metrics within the [Climate Transition Plan](#). It also received regular updates that included:

- information about our sustainability performance in line with our Sustainability Roadmap
- progress against commitments in our Climate Transition Plan
- emerging issues, policy developments, approaches to emissions measurement (particularly methane) and investor engagement.

Management also provided quarterly climate-related updates to our Safety and Sustainability Committee.

APA's Investment Committee also considers the Climate Transition Plan when assessing investment decisions.

## Governance of APA's Climate Transition Plan

APA's Sustainability Team stewards our approach to climate and advises on integrating climate change objectives into APA's business strategy, decision making and business processes. The Team is also responsible for APA climate policies, frameworks and standards, building organisational capability related to climate change, informing management of climate-related issues, technical advice and support, internal and external reporting and change and communication management.

Key management structures governing the delivery of the [Climate Transition Plan](#):

- Sustainability Management Committee
- Portfolio Emissions Management Group.

In FY24, we established an internal Advisory Group to oversee the development of our next Climate Transition Plan to be released in 2025. This group, involving leaders from across the business, will assist in ensuring that appropriate consideration is given to strategic issues and implications and will advise the Executive Leadership Team as the accountable Management decision-making body.

### Business process controls

The [Climate Transition Plan](#) highlighted several key business processes as priority areas for the development or update of critical controls to manage climate-related risk.

In FY24, we established further business process controls to support our emissions reduction activities. This included an emissions reduction ideation to implementation process to support an ongoing pipeline of mitigation options and the development of a new gas leak management protocol to improve methane management across our gas transmission assets.

### Transparency and assurance

APA is committed to providing securityholders and other external stakeholders with timely, credible and transparent reporting. Australia's energy transition is a dynamic area so we are continually enhancing our reporting to better meet stakeholder expectations.

In our [Climate Transition Plan](#), we committed to reporting annually on progress against our targets, goals and supporting actions. Our Climate Report suite is published annually. It includes our Climate Data Book, which provides comprehensive climate-related data, and our Greenhouse Gas Emissions and Energy Calculation Methodology which allows stakeholders to see the methodology we apply when calculating our data.

This Climate Report Suite is prepared internally by relevant subject matter experts, verified by relevant APA executives and senior managers, and approved by the APA Board prior to disclosure. For our FY24 Climate Data, we have obtained reasonable assurance on key voluntary operational emissions disclosure items and limited assurance on a range of other metrics including Scope 3 emissions. Refer to the Assurance Statement on pages 68–72 for further details.

### Public policy and advocacy

Australia's energy transition is an industry-wide challenge, and wherever practical, APA shares information with our industry peers, relevant government agencies and industry bodies.

We advocate for public policy positions that are consistent with those in our Climate Change Policy and Climate Transition Plan, both as an individual business and as a member of industry associations.

In FY24, APA's advocacy planning and activity addressed:

- setting new emissions targets and associated sectoral pathways ahead of Australia's next Nationally Determined Contributions (NDC) in 2025
- new legislation on climate financial-related disclosure
- new sustainable finance strategy and upcoming sustainable finance taxonomy
- setting new emission intensity baseline for new entrants in the Safeguard Mechanism scheme
- the Australian Government's Future Gas Strategy
- enhanced methane measurement methods
- Australian and state governments' strategies and incentives on hydrogen
- engagement with governments, regulators, senior departmental officials, and the Australian Energy Market Commission.

### Membership of associations

APA participates in business and industry associations where there is an opportunity to provide business leadership on national issues, insights and advocacy to public policy processes, and contribute to the enhancement of industry standards through the exchange of best practice learning and development.

We review our industry memberships annually against APA's membership criteria. These cover a range of elements, including climate-related matters, and we review a membership where it no longer meets these criteria. Decisions about joining a new association are managed by APA's Sustainability and Corporate Affairs division.

APA's climate-related membership of associations and signatories includes:

- Associations:
  - Australian Climate Leaders Coalition
  - Australian Hydrogen Council
  - Bioenergy Australia
  - Clean Energy Council
  - Future Fuels Cooperative Research Centre
  - Materials and Embodied Carbon Leaders' Alliance
  - South Australian H2 Hub
  - The Global Compact Network Australia.
- Signatories:
  - United Nations Global Compact
  - Methane Guiding Principles.

For a full list of APA memberships, see the [APA Annual Report 2024](#).

# Task Force on Climate-related Financial Disclosures

TCFD index table

TCFD Guidance for All Sectors			
TCFD recommended disclosure	TCFD disclosure guidance	APA response/reference	
<b>Governance</b>	Disclose the organisation's governance around climate-related risks and opportunities.	a. Describe the board's oversight of climate-related risks and opportunities.	<i>Governance section, Our Board's oversight of climate-related risks and opportunities, page 57-59</i>
		b. Describe management's role in assessing and managing climate-related risks and opportunities.	<i>Governance section, Management's role in assessing and managing climate-related risks and opportunities, pages 59-60</i> <i>Risk management section, pages 52-55</i>
<b>Strategy</b>	Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning where such information is material.	a. Describe the climate-related risks and opportunities the organisation has identified over the short, medium and long term.	<i>Our strategy section, Reflecting climate-related risks and opportunities in our strategy, page 25</i>
		b. Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.	<i>Our strategy section, Reflecting climate-related risks and opportunities in our strategy, page 25</i> <i>Risk management section, Climate-related risks and the APA risk management framework, page 53</i>
		c. Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	<i>Our strategy section, Reflecting climate-related risks and opportunities in our strategy, page 25</i> <i>Our strategy section, APA's Climate Transition Plan, pages 15-17</i>
<b>Risk management</b>	Disclose how the organisation identifies, assesses, and manages climate-related risks.	a. Describe the organisation's processes for identifying and assessing climate-related risks.	<i>Risk management section, Processes for identifying and assessing climate-related risks, page 54</i>
		b. Describe the organisation's processes for managing climate-related risks.	<i>Risk management section, Processes for managing climate-related risks, page 54</i>
		c. Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.	<i>Risk management section, Climate-related risks and the APA risk management framework, page 53</i>
<b>Metrics and targets</b>	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	a. Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.	<i>Metrics and targets section, pages 34-51</i>
		b. Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks.	<i>Metrics and targets section, pages 34-51</i> <i>Additional information section, pages 62-67</i>
		c. Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.	<i>Strategy section, Delivering our Climate Transition Plan commitments, pages 18-23</i> <i>Metrics and targets section, pages 34-51</i> <i>Additional information section, pages 62-67</i>

Refer to APA's [FY24 Climate Data Book](#) for a full index of APA's response/reference to the TCFD disclosure recommendations, including TCFD supplementary guidance for non-financial groups.

# Additional information

## Expanded climate-related performance information

In our [Climate Transition Plan](#), we established measurable and comparable key climate metrics to monitor and report against (refer to the *Metrics and targets* section for further information).

Where there are no targets in the Plan, we have chosen to further increase transparency through additional reporting on key metrics, as contained in this section. This provides our Board, management and external stakeholders with a fuller picture of APA's climate-related performance.

### FY24 progress and performance against additional key climate metrics

Key climate metric	UoM	Information source
<b>GHG emissions and energy</b>		
Absolute Scope 1, Scope 2 and Scope 3 and end-user emissions:		
• Scope 1		
• Scope 2	t CO <sub>2</sub> -e	
• Scope 3		
• Delivered end-user emissions		
Power generation emissions intensity	t CO <sub>2</sub> -e/MWh	Refer to APA's <a href="#">FY24 Climate Data Book</a>
Energy production and consumption	PJ	
Percentage of Scope 1 emissions covered under emissions-limiting regulations	%	
<b>Climate-related risks and opportunities</b>		
Percentage of revenue from assets that support the transition to a low carbon economy	%	Transition risk and opportunity metrics to be considered as part of the next Climate Transition Plan
Percentage of revenue from activities vulnerable to transition risk	%	
Capital and operating expenditure on climate-related risks and opportunities	\$	Refer to <i>Our strategy</i> section, page 10
<b>Carbon prices</b>		
Internal carbon price	\$/t CO <sub>2</sub> -e	Refer to <i>Metrics and targets</i> section, page 34
Internal carbon abatement price	\$/t CO <sub>2</sub> -e	
<b>Offsets</b>		
Other Offset Holdings Surrendered	#	APA's <a href="#">FY24 Climate Data Book</a> , 'Offsets' tab
<b>Climate-linked executive remuneration</b>		
Percentage of executive remuneration linked to climate-related objectives	%	Refer to <i>Governance</i> section, page 56

## Greenhouse gas emissions data summary

### Operational GHG emissions by asset class and total, including performance against targets and goals<sup>1</sup>

Year-end 30 June	UoM	FY24	FY23	FY22	FY21
<b>Gas infrastructure</b>					
Scope 1	t CO <sub>2</sub> -e	543,917	598,218	617,205	558,744
Scope 2 (market method)	t CO <sub>2</sub> -e	-	-	10,636	8,660
<b>Total Scope 1 and Scope 2 (market method) (gross)</b>	<b>t CO<sub>2</sub>-e</b>	<b>543,917</b>	<b>598,218</b>	<b>627,840</b>	<b>567,404</b>
<b>Total Scope 1 and Scope 2 (adjusted) (gross)</b>	<b>t CO<sub>2</sub>-e</b>	<b>543,917</b>	<b>533,237</b>	<b>554,925</b>	<b>553,512</b>
<b>Gas Infrastructure emissions change compared to base year (adjusted) (gross)</b>	<b>t CO<sub>2</sub>-e</b>	<b>(9,595)</b>	<b>(20,275)</b>	<b>1,412</b>	<b>-</b>
	<b>%</b>	<b>-1.7%</b>	<b>-3.7%</b>	<b>0.3%</b>	<b>-</b>
Carbon offsets surrendered	#	(45,590)	(7,363)	(19,537)	-
Carbon offsets surrendered for the true-up <sup>2</sup>	#	-	(9,400)	-	-
<b>Total Scope 1 and Scope 2 (adjusted) (net)</b>	<b>t CO<sub>2</sub>-e</b>	<b>498,327</b>	<b>516,474</b>	<b>535,388</b>	<b>-</b>
<b>Gas infrastructure emissions change compared to base year (net)</b>	<b>t CO<sub>2</sub>-e</b>	<b>(55,185)</b>	<b>(37,038)</b>	<b>(18,124)</b>	<b>-</b>
	<b>%</b>	<b>-10.0%</b>	<b>-6.7%</b>	<b>-3.3%</b>	<b>-</b>
<b>Power generation infrastructure</b>					
Scope 1	t CO <sub>2</sub> -e	1,361,334	781,029	875,741	871,083
Scope 2 (market method)	t CO <sub>2</sub> -e	-	-	2,566	2,138
<b>Total Scope 1 and Scope 2 (market method) (gross)</b>	<b>t CO<sub>2</sub>-e</b>	<b>1,361,334</b>	<b>781,029</b>	<b>878,307</b>	<b>873,221</b>
<b>Total Scope 1 and Scope 2 (adjusted) (gross)</b>	<b>t CO<sub>2</sub>-e</b>	<b>1,361,334</b>	<b>1,512,622</b>	<b>1,657,281</b>	<b>1,488,179</b>
Power generation intensity (adjusted)	t CO <sub>2</sub> -e/MWh	0.34	0.37	0.38	0.38
<b>Power generation emissions intensity change compared to base year (adjusted) (gross)</b>	<b>t CO<sub>2</sub>-e/MWh</b>	<b>(0.044)</b>	<b>(0.017)</b>	<b>0.001</b>	<b>-</b>
	<b>%</b>	<b>-11.3%</b>	<b>-4.5%</b>	<b>0.2%</b>	<b>-</b>
ACCUs issued	#	53,575	-	-	-
<b>Total Scope 1 and Scope 2 (adjusted) (net)</b>	<b>t CO<sub>2</sub>-e</b>	<b>1,414,909</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Electricity transmission infrastructure</b>					
Scope 1	t CO <sub>2</sub> -e	76	91	31	152
Scope 2 (market method) – line loss <sup>3</sup>	t CO <sub>2</sub> -e	129,718	137,643	76,737	68,264
Scope 2 (market method) – grid electricity	t CO <sub>2</sub> -e	-	-	2,755	2,729
<b>Total Scope 1 and Scope 2 (market method including line losses) (gross)</b>	<b>t CO<sub>2</sub>-e</b>	<b>129,794</b>	<b>137,733</b>	<b>79,523</b>	<b>71,145</b>
<b>Total Scope 1 and Scope 2 (market method excluding line losses) (gross)</b>	<b>t CO<sub>2</sub>-e</b>	<b>76</b>	<b>91</b>	<b>2,786</b>	<b>2,881</b>
<b>Total Scope 1 and Scope 2 (adjusted including line losses) (gross)</b>	<b>t CO<sub>2</sub>-e</b>	<b>129,794</b>	<b>137,733</b>	<b>151,111</b>	<b>142,733</b>
<b>Total Scope 1 and Scope 2 (adjusted excluding line losses) (gross)</b>	<b>t CO<sub>2</sub>-e</b>	<b>76</b>	<b>91</b>	<b>4,076</b>	<b>4,172</b>
<b>Electricity transmission emissions (Scope 1 and Scope 2 (adjusted excluding line loss) change compared to base year (gross))</b>	<b>t CO<sub>2</sub>-e</b>	<b>(4,095)</b>	<b>(4,081)</b>	<b>(96)</b>	<b>-</b>
	<b>%</b>	<b>-98%</b>	<b>-98%</b>	<b>-2%</b>	<b>-</b>
<b>Total</b>					
Scope 1	t CO <sub>2</sub> -e	1,905,327	1,379,338	1,492,977	1,429,979
Scope 2 (market method) – line loss	t CO <sub>2</sub> -e	129,718	137,643	76,737	68,264
Scope 2 (market method) – grid electricity	t CO <sub>2</sub> -e	-	-	15,956	13,527
<b>Total Scope 1 and Scope 2 (market method) (gross)</b>	<b>t CO<sub>2</sub>-e</b>	<b>2,035,046</b>	<b>1,516,981</b>	<b>1,585,670</b>	<b>1,511,770</b>
<b>Total Scope 1 and Scope 2 (adjusted) (gross)</b>	<b>t CO<sub>2</sub>-e</b>	<b>2,035,046</b>	<b>2,183,593</b>	<b>2,363,316</b>	<b>2,184,424</b>
Carbon offsets surrendered	#	(45,590)	(16,763)	(19,537)	-
ACCUs issued	#	53,575	-	-	-
<b>Total Scope 1 and Scope 2 (adjusted) (net)</b>	<b>t CO<sub>2</sub>-e</b>	<b>2,043,031</b>	<b>2,166,830</b>	<b>2,343,779</b>	<b>2,184,424</b>

## ADDITIONAL INFORMATION

### Operational Scope 1 GHG emissions by greenhouse gas split by asset class and total<sup>4</sup>

Year-end 30 June	UoM	FY24	FY23	FY22	FY21
<b>Total</b>					
Methane (CH <sub>4</sub> ) (adjusted)	t	9,252	8,972	9,040	8,920

### Scope 3 GHG emissions by category

Year-end 30 June	UoM	FY24	FY23	FY22	FY21	FY20
<b>Upstream (gross)</b>						
Category 1: Purchased goods and services (including capital goods)	t CO <sub>2</sub> -e	213,459	325,956	280,898	171,425	137,726
Category 3: Fuel and energy-related activities	t CO <sub>2</sub> -e	238,590	205,675	215,237	214,642	418,351
Category 5: Waste	t CO <sub>2</sub> -e	759	1,104	1,023	1,660	1,833
Category 6: Business travel	t CO <sub>2</sub> -e	7,757	5,646	2,265	1,832	4,739
Category 7: Employee commuting <sup>5</sup>	t CO <sub>2</sub> -e	2,451	2,812	2,512	2,316	1,886
<b>Downstream (gross)</b>						
Category 11: Use of sold products	t CO <sub>2</sub> -e	23,103	52,375	111,331	159,610	144,367
Category 15: Investments	t CO <sub>2</sub> -e	178,479	221,716	240,205	220,186	-
<b>Total Upstream and Downstream (gross)</b>	<b>t CO<sub>2</sub>-e</b>	<b>664,598</b>	<b>815,284</b>	<b>853,473</b>	<b>771,671</b>	<b>708,901</b>
Carbon offsets surrendered – due to 100% business travel being offset	#	(7,757)	(5,646)	-	-	-
<b>Total Upstream and Downstream (net)</b>	<b>t CO<sub>2</sub>-e</b>	<b>656,841</b>	<b>809,638</b>	<b>853,473</b>	<b>771,671</b>	<b>708,901</b>

### End-user GHG emissions

Year-end 30 June	UoM	FY24	FY23	FY22	FY21	FY20
End-user emissions (upstream and downstream)	t CO <sub>2</sub> -e	64,035,270	62,329,409	66,834,654	66,286,223	68,286,483

Refer to APA's [FY24 Climate Data Book](#) for further information.

<sup>1</sup> All calculations are based on Scope 2 market method, except when indicated otherwise.

<sup>2</sup> A true-up occurs where there is any variance between the pre-assured actuals on which the unit amount is calculated, and assured actuals disclosed.

<sup>3</sup> Where there has been no voluntary surrender of LGCs, there will be minor differences in the Scope 2 emissions value calculated between the location-based and market-based methods. This is in part due to the residual mix factor being applied at a national level rather than on a state-by-state basis. Where this is the case i.e. there has been no voluntary surrender of LGCs, we assume the location-based method calculation value also represents the market-based method calculation value. APA has not surrendered LGCs for electricity transmission line losses in the reporting period.

<sup>4</sup> These values are not adjusted due to re-baselining activity and use the Global Warming Potentials (GWP) from the Intergovernmental Panel on Climate Change Assessment Report 5 based on a 100-year timeframe.

<sup>5</sup> Work from home emissions are included in Category 7: Employee commuting for FY24.

## Glossary

Term	Definition
Abatement	Measures that companies take to prevent, reduce or eliminate sources of GHG emissions within their value chain.
Absolute emissions	For a particular reporting period total aggregate greenhouse gas emissions specific to a particular emission Scope or across different Scopes. Is not relative or comparative in contrast with Emissions intensity (see below).
Assets	An item of value owned or operated by APA e.g. transmission, generation or other.
Australian Carbon Credit Unit (ACCU)	An ACCU is a unit issued to a person by the Clean Energy Regulator (Regulator) by making an entry for the unit in an account kept by the person in the electronic Australian National Registry of Emissions Units (Registry). Each ACCU issued represents one tonne of carbon dioxide equivalent (t CO <sub>2</sub> -e) stored or avoided by a project.
Avoid	The avoidance of emissions through decisions APA makes when (1) investing in a new entity or asset or (2) designing new or when making major modifications to assets.
Base year	A historic datum (a specific year or an average over multiple years) against which a company's emissions are tracked over time.
Baseline	A hypothetical scenario for what GHG emissions, removals or storage would have been in the absence of the GHG project or project activity.
Base year emissions recalculation (re-baselining)	Recalculation of emissions in the base year to reflect a change in the structure of the company, or to reflect a change in the accounting methodology used. This ensures data consistency over time, i.e. comparisons of like with like over time.
Capex	Capital expenses. Money spent to buy or improve fixed assets.
Carbon offsets (carbon credits, offsets)	Broadly refers to a reduction in GHG emissions – or an increase in carbon storage (e.g. through land restoration or the planting of trees) – used to compensate for emissions that occur elsewhere.
Climate risk	In reference to the materiality matrix, this topic refers to the assessment, management and disclosure of risks and opportunities associated with climate change.
Climate Transition Plan	APA's <a href="#">Climate Transition Plan</a> updates, consolidates and transparently communicates APA's commitments and performance in managing climate change risks and opportunities, as the energy transition accelerates.
CO <sub>2</sub> -e (carbon dioxide equivalent)	The universal unit of measurement to indicate the global warming potential (GWP) of each GHG, expressed in terms of the GWP of one unit of carbon dioxide (CO <sub>2</sub> ). It is used to evaluate releasing (or avoiding releasing) different GHGs against a common basis.
Coupled Model Intercomparison Project (CMIP)	CMIP is an international scientific collaboration under the United Nations World Climate Research Program. CMIP6 data are the most current global climate model data available and provide the foundation for the Intergovernmental Panel on Climate Change's Sixth Assessment Reports.
Decarbonise, decarbonisation	Removing or reducing the amount of greenhouse gases emitted into the atmosphere.
Electrification	Electrification is the process of converting an energy-consuming device, system, or sector from non-electric sources of energy to electricity, such as in homes, buildings, industry, agriculture and transportation.
Emissions (GHG emissions)	Known as greenhouse gas (GHG) emissions. These are the aggregate anthropogenic carbon dioxide equivalent emissions of carbon dioxide (CO <sub>2</sub> ), methane (CH <sub>4</sub> ), nitrous oxide (N <sub>2</sub> O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF <sub>6</sub> ). All are expressed in carbon dioxide equivalent (CO <sub>2</sub> -e).
Emissions intensity	For a particular reporting period, total aggregate greenhouse gas emissions per unit for some activity or output specific to a particular emission Scope or across different Scopes. For example, emissions per throughput of gas is an intensity measure.
End-user emissions	End-user emissions are emissions (upstream and downstream) that result from the end use consumption (combustion) of natural gas that APA transports through its wholly-or-partially-owned pipelines but does not take ownership of and therefore does not sell to the end-user.
Energy transition	Energy transition means reducing reliance on greenhouse gas intensive sources of energy to decarbonise the economy and support the achievement of climate-related targets and goals.
Financial Stability Board (FSB)	International body that monitors and makes recommendations about the global financial system.
Financial year (FY)	Period between 1 July to 30 June.

## ADDITIONAL INFORMATION

Term	Definition
Flaring	The controlled combustion of gas that takes place during production and processing of natural gas.
Fuels of the future, Future fuels	A wide range of carbon-neutral fuels produced using renewable or other energy sources such as biogas and hydrogen.
Fugitives (Fugitive emissions)	The unintentional release of gas in connection with, or because of, the extraction, processing, storage or delivery of natural gas.
Global warming potential (GWP)	Global warming potentials (GWPs) are values that allow direct comparison of the impact of different greenhouse gases in the atmosphere by comparing how much energy one tonne of a gas will absorb compared to one tonne of carbon dioxide.
Goal	An ambition to seek an outcome for which there is no current pathway(s), but for which efforts will be pursued towards addressing that challenge, subject to certain assumptions or conditions.
Greenhouse gas (GHG)	Gas that can trap heat when emitted within the atmosphere. The greenhouse gases included under the GHG Protocol are carbon dioxide (CO <sub>2</sub> ), methane (CH <sub>4</sub> ), nitrous oxide (N <sub>2</sub> O), hydrofluorocarbons (HFCs), perfluorocarbons (PCFs), sulphur hexafluoride (SF <sub>6</sub> ) and nitrogen trifluoride (NF <sub>3</sub> ).
Greenhouse Gas Protocol (GHG Protocol)	The Greenhouse Gas Protocol establishes comprehensive global standardised frameworks to measure and manage greenhouse gas emissions from private and public sector operations, value chains and mitigation actions.
Green hydrogen	Hydrogen produced using renewable energy
Gross emissions	Total GHG emissions for a reporting period with no adjustment due to the application of offsets surrendered.
Hard-to-abate	Any sector for which the transition to net zero has no near-term decarbonisation pathways, including due to the lack of commercially viable technology.
Internal Carbon Abatement Price	The Internal Carbon Abatement Price sets the threshold price for APA's preparedness to pay for abatement and alternative design solutions to avoid or reduce emissions.
Internal Carbon Price	The carbon price which APA Group determines as the rolling average market price for carbon. It is based on the Australian Carbon Credit Unit price.
Large-scale generation certificate (LGC)	A large-scale generation certificate (LGC) represents 1 MWh of electricity generated from an eligible renewable electricity source.
Lower emissions	The characteristic of having lower levels of associated potential GHG emissions when compared to historical and/or current conventions or analogues, for example relating to an otherwise similar resource, process, system, product or service, or activity.
Marginal abatement cost	Net Present Value (NPV) divided by emissions reduced or avoided.
Methane Guiding Principles (MGPs)	The Methane Guiding Principles (MGPs) is a voluntary, international multi-stakeholder partnership between industry and non-industry organisations. It has a focus on priority areas for action along the natural gas supply chain, from production to the final consumer.
Mitigation	Refers to efforts to reduce or prevent emission of greenhouse gases. Mitigation can mean using new technologies and renewable energies, making older equipment more energy efficient, or changing management practices or consumer behaviour.
Net emissions	Gross GHG emissions for a reporting period reduced/increased by the number of carbon offsets surrendered/issued.
Net zero	Achieving an overall balance between greenhouse gas emissions produced and greenhouse gas emissions taken out of the atmosphere.
NGER, NGER Act	National Greenhouse and Energy Reporting Act 2007, and associated legislation/regulations.
NGERS	National Greenhouse and Energy Reporting Scheme.
Operational control	A company has operational control over an operation if the company or one of its subsidiaries has the full authority to introduce and implement its operating policies at the operation. This aligns with the definition of operational control provided in both the GHG Protocol and section 11 of the NGER Act.
Operational emissions	Scope 1 and Scope 2 emissions for assets (facilities) under APA's operational control.
Operational methane emissions	Scope 1 methane emissions for assets under APA's operational control
Organisational boundary	Relates to assets under APA's operational control.

Term	Definition
Paris Agreement	An international agreement adopted under the United Nations Framework Convention on Climate Change in 2015. Under the Paris Agreement, the global temperature goal is to keep warming to 'well below' 2 degrees Celsius compared with pre-industrial levels, and to 'pursue efforts to limit the temperature rise to 1.5 degrees Celsius'.
Permanence	Period for which carbon is stored.
Physical climate risk	Physical risks emanating from climate change can be event-driven (acute) such as increased severity of extreme weather events (e.g. cyclones, droughts, floods, and fires). They can also relate to longer-term shifts (chronic) in precipitation and temperature and increased variability in weather patterns (e.g. sea level rise).
Re-baselining	See Base year emissions recalculation (re-baselining).
Reduce	Reducing greenhouse gas emissions through the way we operate our assets as well as modifications to plant and infrastructure.
Remote-grid	A power generation facility that is not connected to the National Electricity Market (NEM), the South West Interconnected System (SWIS), the North West Interconnected System (NWIS), or the Darwin to Katherine Interconnected System (DKIS).
Renewable electricity	Electricity generated from renewable energy sources, as defined within the Australian Government's Renewable Energy (Electricity) Act 2000.
Renewable energy	Energy from renewable energy sources, as defined within the Australian Government's Renewable Energy (Electricity) Act 2000
Renewable gas	Carbon-neutral gas substitutes that do not generate additional greenhouse gas emissions when burnt.
Representative Concentration Pathways (RCPs)	Four independent pathways comprising sets of projections of radiative forcing that serve as inputs to climate modelling, pattern scaling and atmospheric chemistry modelling. These are based on the forcing of greenhouse gases and other forcing agents.
Safeguard Mechanism	Requires Australia's highest greenhouse gas emitting facilities to keep their emissions below an emissions limit (baseline). If a Safeguard facility exceeds their baseline, they must manage their excess emissions. Applies to facilities that emit more than 100,000 t CO <sub>2</sub> -e of covered emissions in a financial year (the Safeguard threshold). The Safeguard Mechanism is administered through the NGRS.
Scenario	A plausible description of how the future may develop based on a coherent and internally consistent set of assumptions about key driving forces (e.g. rate of technological change, prices) and relationships. Note that scenarios are neither predictions nor forecasts but are useful for providing a view of the implications of developments and actions.
Scope 1 emissions	Direct emissions that occur from sources owned or controlled by a company, e.g. combustion of natural gas within a compressor.
Scope 2 emissions	Indirect emissions not directly generated by the reporting organisation but used due to its operations, such as consumption of purchased electricity/fuel or electricity line loss.
Scope 3 emissions	All indirect emissions (not included in Scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.
Shared Socioeconomic Pathways (SSPs)	Used alongside the Representative Concentration Pathways (RCPs) to analyse the feedback between climate change and socioeconomic factors, such as world population growth, economic development, and technological progress.
Target	An intended outcome in relation to which we have identified one or more pathways for delivery of that outcome, subject to certain assumptions or conditions.
TCFD	<b>Task Force on Climate-related Financial Disclosures.</b> An initiative of the Financial Stability Board (FSB) to improve and increase reporting of climate-related financial information.
t CO <sub>2</sub> -e	Tonne (t) CO <sub>2</sub> -e (carbon dioxide equivalent).
Transition risk	Risks related to the transition to a lower carbon economy. They can be grouped into four categories: policy and legal risk; technological risk; market risk (e.g. consumer preferences); and reputational risk.
Value chain emissions	Emissions from the upstream and downstream activities associated with the operations of the reporting company, including end-user emissions.
Zero direct emissions vehicle (ZDEV)	Zero direct emission vehicles are vehicles which do not use petrol or diesel, have no tailpipe, and therefore do not directly emit greenhouse gas (GHG) emissions. There are two types of ZDEVs – battery electric vehicles (BEVs) and Hydrogen Fuel Cell Electric Vehicles (HCEVs).

# Assurance statement



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**Independent Assurance Practitioner’s Report to the Directors of APA Group Limited in relation to the Climate Report for the year ended 30 June 2024**

**Conclusions**

*Limited Assurance engagement*

We have undertaken a limited assurance engagement on selected climate data and disclosures included in APA Group Limited’s (“APA Group”) Climate Report for the year ended 30 June 2024. Based on the procedures performed and the evidence obtained, nothing has come to our attention that causes us to believe that the climate data and disclosures presented below (“Limited Assurance Subject Matter Information”), have not been prepared, in all material respects, in accordance with the applicable Reporting Criteria defined below.

Limited Assurance Subject Matter Information	Disclosure Location	Reporting criteria
Metrics disclosed in tab “GHG Emissions” of APA’s Climate Data Book as referenced in APA’s Climate Report for the year ended 30 June 2024 (FY24):		
<ul style="list-style-type: none"> <li>Zero direct emission vehicles (No of ZDEVs)</li> <li>Percentage of Scope 1 GHG emissions covered under an emissions-limiting regulation (%)</li> </ul>	Operational GHG emissions by asset class and total, including performance against targets and goals, subsection ‘Total’	FY24 Greenhouse Gas Emissions and Energy Calculation Methodology as referenced in the Climate report
<ul style="list-style-type: none"> <li>Category 1: Purchased goods and services (including capital goods) (t CO<sub>2</sub>-e)</li> <li>Category 3: Fuel and energy related activities (t CO<sub>2</sub>-e)</li> <li>Category 5: Waste (t CO<sub>2</sub>-e)</li> <li>Category 6: Business travel (t CO<sub>2</sub>-e)</li> <li>Category 7: Employee commuting (t CO<sub>2</sub>-e)</li> <li>Category 11: Use of sold products (t CO<sub>2</sub>-e)</li> <li>Category 15: Investments (t CO<sub>2</sub>-e)</li> <li>Total upstream and downstream – net (t CO<sub>2</sub>-e)</li> </ul>	Scope 3 GHG emissions by category	
<ul style="list-style-type: none"> <li>End User GHG emissions (t CO<sub>2</sub>-e)</li> </ul>	End User GHG emissions	

*Reasonable assurance engagement*

We have undertaken a reasonable assurance engagement on selected climate data and disclosures included in APA Group’s Climate Report for the year ended 30 June 2024. In our opinion the climate data and disclosures presented below (“Reasonable Assurance Subject Matter Information”) have been prepared, in all material respects, in accordance with the applicable Reporting Criteria defined below.

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Reasonable Assurance Subject Matter Information	Disclosure Location	Reporting criteria
Metrics disclosed in tab "GHG Emissions" of APA's Climate Data Book as referenced in APA's Climate Report for the year ended 30 June 2024 (FY24):		
Gas Infrastructure <ul style="list-style-type: none"> <li>• Scope 1 (t CO<sub>2</sub>-e)- gross</li> <li>• Scope 2 (market method) (t CO<sub>2</sub>-e) – gross</li> <li>• Scope 2 (location method) (t CO<sub>2</sub>-e) - gross</li> <li>• Total Scope 1 and Scope 2 (t CO<sub>2</sub>-e) – adjusted net</li> </ul>	Operational GHG emissions by asset class and total, including performance against targets and goals	FY24 Greenhouse Gas Emissions and Energy Calculation Methodology as referenced in the Climate report
Power Generation Infrastructure <ul style="list-style-type: none"> <li>• Scope 1 (t CO<sub>2</sub>-e) - gross</li> <li>• Scope 2 (market method) (t CO<sub>2</sub>-e) - gross</li> <li>• Scope 2 (location method) (t CO<sub>2</sub>-e) - gross</li> <li>• Total Scope 1 and Scope 2 (t CO<sub>2</sub>-e) – adjusted gross</li> <li>• Power generation intensity (t CO<sub>2</sub>-e / MWh)</li> <li>• Total Scope 1 and Scope 2 (t CO<sub>2</sub>-e) – adjusted net</li> </ul>		
Electricity Transmission Infrastructure <ul style="list-style-type: none"> <li>• Scope 1 (t CO<sub>2</sub>-e) - gross</li> <li>• Scope 2 (market method) – line loss (t CO<sub>2</sub>-e) - gross</li> <li>• Scope 2 (market method) – grid electricity (t CO<sub>2</sub>-e) - gross</li> <li>• Scope 2 (location method) – line loss (t CO<sub>2</sub>-e) - gross</li> <li>• Scope 2 (location method) – grid electricity (t CO<sub>2</sub>-e) – gross</li> <li>• Total Scope 1 and Scope 2 (adjusted excluding line losses) – gross</li> </ul>		
Total <ul style="list-style-type: none"> <li>• Scope 1 (t CO<sub>2</sub>-e) – gross</li> <li>• Scope 2 (market method) – line loss (t CO<sub>2</sub>-e) - gross</li> <li>• Scope 2 (market method) – grid electricity (t CO<sub>2</sub>-e) - gross</li> <li>• Scope 2 (location method) – line loss (t CO<sub>2</sub>-e) – gross</li> <li>• Scope 2 (location method) – grid electricity (t CO<sub>2</sub>-e) - gross</li> <li>• Total Scope 1 and Scope 2 (t CO<sub>2</sub>-e) - (adjusted) (net)</li> <li>• Renewable electricity as a percentage of grid electricity consumed (%)</li> </ul>		
Total <ul style="list-style-type: none"> <li>• Methane (CH<sub>4</sub>) (t CO<sub>2</sub>-e)</li> </ul>	Operational scope 1 GHG emissions by greenhouse gas split by asset class and total	
Gas Infrastructure <ul style="list-style-type: none"> <li>• Total Scope 1 and Scope 2 (market method) (gross) (t CO<sub>2</sub>-e)</li> </ul>	Equity Share GHG emissions by asset class and total	
Power Generation Infrastructure <ul style="list-style-type: none"> <li>• Total Scope 1 and Scope 2 (market method) (gross) ((t CO<sub>2</sub>-e)</li> <li>• Power generation intensity (t CO<sub>2</sub>-e/MWh)</li> </ul>		
Electricity Transmission Infrastructure <ul style="list-style-type: none"> <li>• Total Scope 1 and Scope 2 (market method) (gross) (t CO<sub>2</sub>-e)</li> </ul>		

Assurance statement (continued)



Reasonable Assurance Subject Matter Information	Disclosure Location	Reporting criteria
Total <ul style="list-style-type: none"> <li>Total Scope 1 and Scope 2 (market method) (t CO<sub>2</sub>-e)</li> </ul>	Equity Share GHG emissions by asset class and total	FY24 Greenhouse Gas Emissions and Energy Calculation Methodology as referenced in the Climate report
Metrics disclosed in tab "Energy" of APA's Climate Data Book as referenced in APA's Climate Report for the year ended 30 June 2024:		
<ul style="list-style-type: none"> <li>Energy consumed total (PJ)</li> <li>Energy consumed net (PJ)</li> <li>Energy produced (PJ)</li> </ul>	Energy consumption and production data by business lines: Power Generation Infrastructure, Gas Infrastructure, and Electricity Transmission Infrastructure	FY24 Greenhouse Gas Emissions and Energy Calculation Methodology as referenced in the Climate report

**Basis for Conclusions**

We conducted our assurance engagements in accordance with Standard on Assurance Engagements ASAE 3000 *Assurance Engagements Other than Audits or Reviews of Historical Financial Information* ("ASAE 3000"), issued by the Auditing and Assurance Standards Board.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our limited assurance conclusion and reasonable assurance opinion.

**Management and the Directors of APA Group Limited's Responsibilities**

Management and the directors are responsible for:

- ensuring that the Limited Assurance Subject Matter Information and Reasonable Assurance Subject Matter Information presented in the Climate Report for the year ended 30 June 2024 are prepared in accordance with the applicable Reporting Criteria;
- confirming the measurement or evaluation of the underlying subject matter against the applicable Reporting Criteria, including that all relevant matters are reflected in the Limited Assurance Subject Matter Information and Reasonable Assurance Subject Matter Information; and
- designing, establishing and maintaining an effective system of internal control over its operations and financial reporting, including, without limitation, systems designed to assure achievement of its control objectives and its compliance with applicable laws and regulations.

**Our Independence and Quality Management**

We have complied with relevant ethical requirements, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour including those contained in APES 110 *Code of Ethics for Professional Accountants (including Independence Standards)*.

The firm applies Auditing Standard ASQM 1 *Quality Management for Firms that Perform Audits or Reviews of Financial Reports and Other Financial Information, or Other Assurance or Related Services Engagements*, which requires the firm to design, implement and operate a system of quality management



including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

#### **Assurance Practitioner's Responsibilities**

##### *Limited Assurance*

Our responsibility is to express a limited assurance conclusion on APA Group's Limited Assurance Subject Matter Information, presented in the Climate Report for the year ended 30 June 2024, as evaluated against the applicable Reporting Criteria, based on the procedures we have performed and the evidence we have obtained. ASAE 3000 requires that we plan and perform our procedures to obtain limited assurance about whether, anything has come to our attention that causes us to believe that the Limited Assurance Subject Matter Information, presented in the Climate Report, is not prepared, in all material respects, in accordance with the applicable Reporting Criteria.

A limited assurance engagement in accordance with ASAE 3000 involves identifying areas where a material misstatement of the Limited Assurance Subject Matter Information is likely to arise, addressing the areas identified and considering the process used to prepare the Limited Assurance Subject Matter Information. A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both the risk assessment procedures, including an understanding of internal control, and the procedures performed in response to the assessed risks.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. Accordingly, we do not express a reasonable assurance opinion about whether the Limited Assurance Subject Matter Information presented in the Climate Report, has been prepared, in all material respects, in accordance with the applicable Reporting Criteria.

##### *Reasonable Assurance*

Our responsibility is to express an opinion on APA Group's Reasonable Assurance Subject Matter Information, presented in the Climate Report, as evaluated against the applicable Reporting Criteria. ASAE 3000 requires that we plan and perform this engagement to obtain reasonable assurance about whether the Reasonable Assurance Subject Matter Information, presented in the Climate Report, is free from material misstatement.

A reasonable assurance engagement in accordance with ASAE 3000 involves performing procedures to obtain evidence about the Reasonable Assurance Subject Matter Information. The nature, timing and extent of procedures selected depend on the assurance practitioner's professional judgement, including the assessment of the risks of material misstatement in the Reasonable Assurance Subject Matter Information. In making those risk assessments, we consider internal control over the Reasonable Assurance Subject Matter Information relevant to the engagement.

##### *Our Procedures*

Our procedures included, but not limited to:

- Performing enquiries and interviews with a selection of APA Group's management concerning the overall governance structure, corporate sustainability strategy and policies used for managing and reporting sustainability performance across the business;
- Performing enquiries and interviews with a selection of APA Group's management responsible for respective data to understand the process for preparing the Limited Assurance Subject Matter Information and Reasonable Assurance Subject Matter Information in accordance with the Reporting Criteria;
- Applying analytical and other procedures including assessing relationships between the Limited Assurance Subject Matter Information and Reasonable Assurance Subject Matter Information and other financial and non-financial data;
- Performing recalculations of Limited Assurance Subject Matter Information and Reasonable Assurance Subject Matter Information to confirm quantities stated are replicable and prepared in accordance with the Reporting Criteria;

## Assurance statement (continued)

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- Analysing and inspecting on a sample basis, the key systems, processes and procedures and controls relating to the collation, validation, presentation and approval process of the Reasonable Assurance Subject Matter Information;
- Inspecting underlying evidence on a sample basis to corroborate that the Limited Assurance Subject Matter Information and Reasonable Assurance Subject Matter Information is prepared and reported in line with the applicable reporting criteria; and
- Evaluating the appropriateness of presentation of the Limited Assurance Subject Matter Information and Reasonable Assurance Subject Matter Information, including the accompanying reports and narrative, with regard to the applicable Reporting Criteria, and for consistency with our findings.

#### *Inherent Limitations*

Because of the inherent limitations of an assurance engagement, together with the inherent limitations of any system of internal control there is an unavoidable risk that it is possible that fraud, error, or non-compliance with laws and regulations, where there has been concealment through collusion, forgery and other illegal acts may occur and not be detected, even though the engagement is properly planned and performed in accordance with Standards on Assurance Engagements.

Emissions quantification is subject to inherent uncertainty because incomplete scientific knowledge has been used to determine emissions factors and the values needed to combine emissions due to different gases.

Additionally, non-financial data may be subject to more inherent limitations than financial data, given both its nature and the methods used for determining, calculating and sampling or estimating such data.

#### **Other information**

The directors are responsible for the other information. The other information comprises the information included in the Climate Report for the year ended 30 June 2024, but does not include the Limited Assurance Subject Matter Information and Reasonable Assurance Subject Matter Information. Our responsibilities do not extend to other information and we do not express any form of assurance conclusion thereon. Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the Limited Assurance Subject Matter Information and Reasonable Assurance Subject Matter Information or our knowledge obtained in the engagement, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude there is a material misstatement of this other information, we are required to report this fact. We have nothing to report in this regard.

#### **Restricted use**

The Reporting Criteria used for the assurance engagements was designed for a specific purpose of the directors' reporting selected climate data and disclosures in the APA Group's Climate Report for the year ended 30 June 2024. As a result, the climate data and disclosures may not be suitable for another purpose.

This report has been prepared for use by the directors for the purpose of providing assurance over selected climate data and disclosures included in the APA Group's Climate Report for the year ended 30 June 2024. We disclaim any assumption of responsibility for any reliance on this report to any person other than the directors of APA Group, or for any purpose other than that for which it was prepared.

*Deloitte Touche Tohmatsu*

DELOITTE TOUCHE TOHMATSU

*Chi Woo*

Chi Woo  
Partner  
Chartered Accountants  
Sydney, 19 September 2024



