



PUBLIC DISCLOSURE STATEMENT


**ORIGIN ENERGY LIMITED
ORIGIN GO ZERO LPG
PRODUCT CERTIFICATION
CY2022**

Australian Government
Climate Active
Public Disclosure Statement



An Australian Government Initiative



NAME OF CERTIFIED ENTITY	Origin Energy Limited
REPORTING PERIOD	1 January 2022 – 31 December 2022
DECLARATION	<p><i>To the best of my knowledge, the information provided in this public disclosure statement is true and correct and meets the requirements of the Climate Active Carbon Neutral Standard.</i></p>  <p>Amber Fennell General Manager, LPG Date 23.10.2023</p>



Australian Government
**Department of Climate Change, Energy,
the Environment and Water**

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Version March 2023.



1.CERTIFICATION SUMMARY

TOTAL EMISSIONS OFFSET	4,801.98 tCO2-e
THE OFFSETS USED	20% ACCUs, 80% VCU
RENEWABLE ELECTRICITY	80.14%
CARBON ACCOUNT	Prepared by: Origin Energy Ndevr Environmental prepared the initial certification
TECHNICAL ASSESSMENT	03 December 2020 Timothy Harding Ndevr Environmental Next technical assessment due: 03 December 2024
THIRD PARTY VALIDATION	Type 3 27 November 2020 Tim Grant Lifecycles (Life Cycle Strategies Pty Ltd)

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2. CARBON NEUTRAL INFORMATION

Description of certification

This Public Disclosure Statement (PDS) relates to Origin Energy Limited (Origin)'s ongoing carbon neutral certification, for its Liquefied Petroleum Gas (LPG) product under Climate Active. This product is now marketed and sold as "Origin Go Zero LPG", previously referred to in the CY2021 PDS as "Green LPG".

The emissions reported in this PDS are for CY2022. CY2022 data is based on actual sales from the various market segments applicable to "Origin Go Zero LPG". Total emissions for "Origin Go Zero LPG" sold are calculated to be 4,801.98 t CO₂-e in CY2022. This is higher than CY2021, due to higher product uptake and partly due to LPG Scope 3 emission factor update from 3.6 kg CO₂e/GJ to 20.2 kg CO₂e/GJ.

Product description

The "Origin Go Zero LPG" product allows customers to offset greenhouse gas emissions associated with the sourcing, transmission, distribution, retailing and consumption of LPG.

"Origin Go Zero LPG" is offered as an opt-in product to Origin's LPG customers across all current and future market segments, including residential, small business, commercial and industrial customers. LPG is mostly purchased by Origin domestically with some international purchases. LPG is sourced by Origin by ships, trucks, and tankers from suppliers' refineries and ports. It is distributed by Origin to customers via ships, with trucks for cylinders and tankers for larger customers.

The emissions boundary for this product entails relevant cradle-to-grave emissions. Further details are provided in Section 3, including quantified and non-quantified emissions. It includes all activities associated with sourcing, transmission, distribution, retailing and consumption of LPG, for customers who opt-in to the product.

The functional unit is tonnes (t) of LPG usage, with emissions expressed as tonnes of CO₂-e (t CO₂-e) per tonne of LPG.

3. EMISSIONS BOUNDARY

Inside the emissions boundary

All emission sources listed in the emissions boundary are part of the carbon neutral claim.

Quantified emissions have been assessed as 'attributable processes' of a product or service. These attributable processes are services, materials and energy flows that become the product or service, make the product or service and carry the product or service through its life cycle. These attributable emissions have been quantified in the carbon inventory.

Non-quantified emissions have been assessed as attributable and are captured within the emissions boundary, but are not measured (quantified) in the carbon inventory. All material emissions are accounted for through an uplift factor. Further detail is available at Appendix C.

Outside the emissions boundary

Non-attributable emissions have been assessed as not attributable to a product or service. They can be **optionally included** in the emissions boundary and therefore have been offset, or they can be listed as outside of the emissions boundary (and are therefore not part of the carbon neutral claim). Further detail is available at Appendix D.

Inside emissions boundary

Quantified

LPG consumed by opt-in customers by state during the reporting period, end use combustion

LPG sold – extraction, processing, and distribution

Origin retailing activities, including:

Construction Materials and Services

Electricity

ICT services and equipment

Office equipment & supplies

Postage, courier and freight

Professional services

Stationary Energy (gaseous fuels)

Transport (Air)

Transport (Land and Sea)

Waste

Working from home

Non-quantified

Corporate water use related to LPG retailing is excluded.

Optionally included

N/A

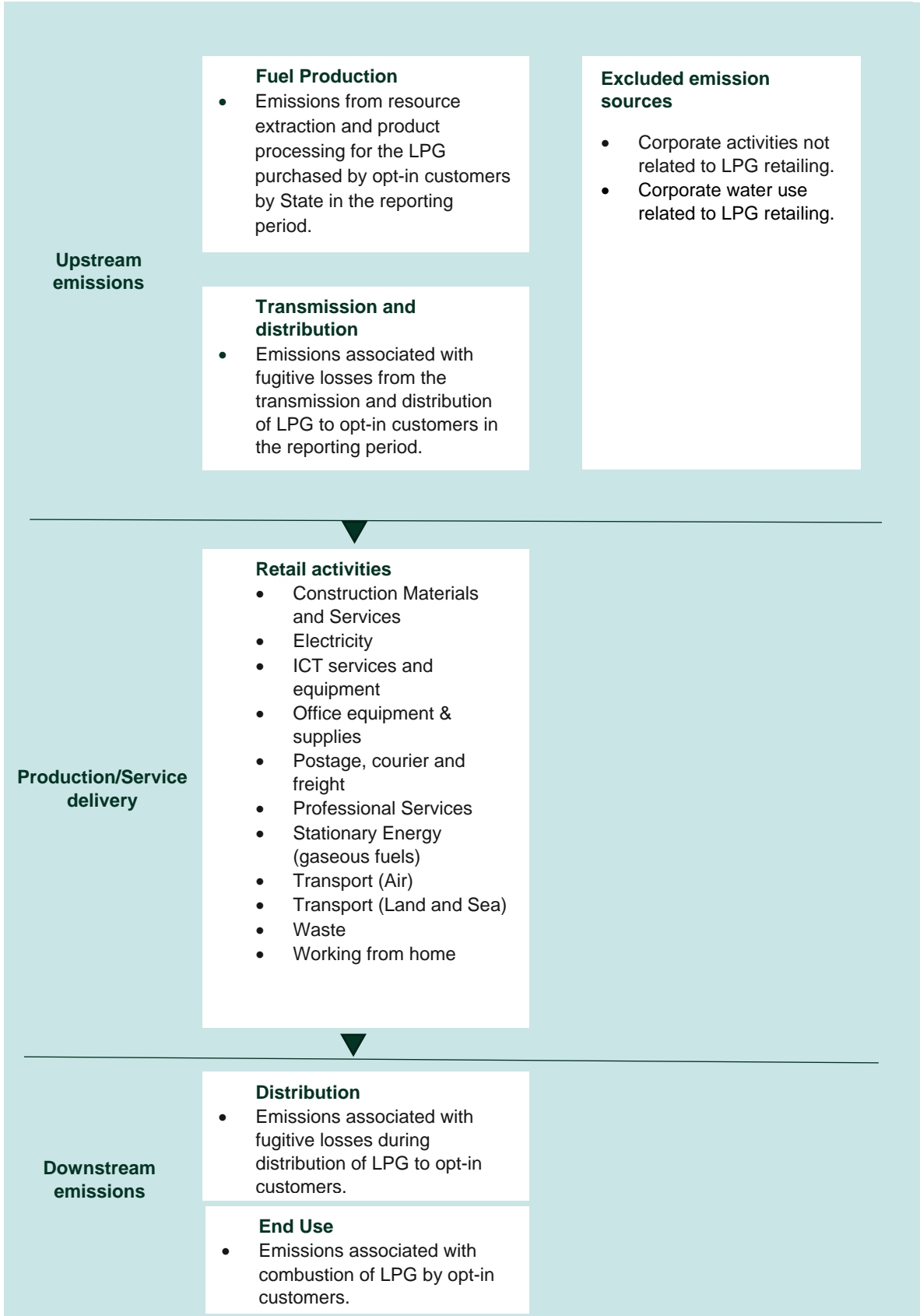
Outside emission boundary

Non-attributable

Corporate activities not related to LPG retailing.

Product process diagram

Cradle-to-grave



4. EMISSIONS REDUCTIONS

Emissions reduction strategy

Climate change is one of the most significant challenges facing society today and Origin's strategy is anchored in a belief in decarbonisation and the opportunities created by the energy transition.

In August 2022, Origin released its first Climate Transition Action Plan (CTAP), which outlines the company's ambition to lead the energy transition through cleaner energy and customer solutions. Our ambition is supported by three strategic objectives to drive decarbonisation and evolve our portfolio, which are:

1. Unrivalled customer solutions to help customers to decarbonise:
 - We are providing customers with a growing portfolio of simple, affordable lower-carbon products and cleaner energy solutions, including rooftop solar and batteries, renewable energy, EV solutions, renewable power PPAs, load and demand management, as well as our Origin Go Zero Electricity, Origin Go Zero Natural Gas, and Origin Go Zero LPG products, which are certified carbon neutral by Climate Active.
 - We aim to grow a portfolio of carbon credits that will be offered to customers to support them to achieve their decarbonisation commitments.
 - Grow scale at Octopus, which is number two in the UK market by customer accounts, supplying electricity sourced from 100 per cent renewable energy including wind, hydroelectric and solar power.
2. Accelerate renewable and cleaner energy by growing our portfolio of renewables and cleaner energy:
 - We aim to grow renewables and storage capacity to within our generation portfolio to 4 GW by 2030.
 - We aim to grow our Virtual Power Plant – which we expect to play an increasingly important role in helping us optimise the supply and demand balance in the electricity market – to 2 GW under management by FY2026.
 - Investments in future fuels – we are exploring both domestic and export market opportunities for hydrogen and ammonia through a number of projects, while recognising the early-stage nature of the hydrogen market in Australia and the technology advancements required.
3. Deliver reliable energy through the transition while reducing emissions from our existing operations:
 - Accelerate Eraring closure - In February 2022, we announced plans to accelerate our exit from coal-fired power generation at the Eraring Power Station to potentially as early as August 2025. Bringing forward our exit from coal-fired power generation is the most significant step we expect to take towards achieving our emissions targets.
 - Reduce emissions from our gas operations. As upstream operator for Australia Pacific LNG, we aim to reduce fugitive emissions by replacing equipment and devices with more efficient and advanced technologies, retrofitting facilities to reduce methane venting, and using targeted planning and the implementation of artificial intelligence tools.

- Exiting upstream exploration portfolio. In November 2022, we completed the sale of our interest in the Beetaloo Basin exploration project, and we have also entered into agreements to exit our interests in the Canning and Cooper-Eromanga Basins.

The CTAP also includes targets to accelerate emissions reduction across Origin and create value for shareholders, towards a long-term ambition to be net zero emissions by 2050. Origin's climate ambitions and targets outlined in the CTAP include:

- ambition to achieve net zero Scope 1, 2 and 3 emissions across the value chain by 2050
- medium-term target to reduce Scope 1, 2 and 3 equity emissions intensity by 40 per cent by 2030, from a FY2019 baseline
- medium-term target to reduce absolute Scope 1, 2 and 3 equity emissions by 20 million tonnes by 2030, from a FY2019 baseline¹

We believe our medium-term emissions intensity target and our long-term net zero emissions ambition are consistent with the goals of the Paris Agreement to limit the increase in the average global temperature to 1.5°C above pre-industrial levels²

Our CTAP also outlined an updated short-term target to reduce cumulative Scope 1 equity emissions by eight million tonnes CO₂-e between FY2021 and FY2023, from a FY2017 baseline. We achieved this target with a cumulative reduction of 9.1 million tonnes CO₂-e between FY2021 and FY2023.

Our latest [Sustainability Report](#) outlines our progress on our CTAP.

¹ The CTAP excluded from the medium-term targets the potential future emissions from any development of new gas fields like the Beetaloo Basin. As noted above, Origin completed its sale of its interest in the Beetaloo Basin in November 2022 and has executed agreements to exit interests in the Canning and Cooper-Eromanga Basins.

² Pursuant to the methodology set out in the CTAP

Emissions reduction actions

To date our LPG business has undertaken the following emission reduction actions:

1. Transitioning our light vehicle sales fleet to electric vehicles where practicable. This initiative aims to reduce our fuel use and lower Scope 1 emissions. LPG currently has 121 light vehicles. Seven vehicles have been converted from petrol to Electric (EV's), 15 are hybrids and up to 10 EV's are on order. The seven EV's have helped reduce Scope 1 emissions. Supply chain challenges have delayed the transition to EVs. Origin aims to have 35 per cent EV's within our LPG fleet in the next three years.

2. Encouraging our customers to fuel switch from coal and / or diesel use in machinery to LPG, which is a lower emitting fuel than coal or diesel. We are building a pipeline of customers for this initiative, which will lower our customers' Scope 1 emissions. We have identified a pipeline of opportunities where there is a possibility of a customer converting from coal or diesel to LPG. We expect that this pipeline will continue to develop and grow. Of our existing customer base approximately 5 per cent of our volume is from conversion.
3. Installing tank telemetry technology at customer sites to better manage inventory levels, which results in fewer visits to customer sites. This initiative aims to improve fleet efficiency and decrease vehicle use, which will reduce our Scope 1 emissions related to fuel use. Over a rolling 12 month period to March 2023, the fleet has used 7 per cent less litres of fuel due to telemetry and improved efficiencies. This initiative has resulted a reduction in Scope 1 emissions.
4. In addition, our Homer LPG Ships are using less diesel, due to being dual fuel, higher efficiency ships. In CY2022, this initiative has resulted in emissions reductions compared to ships run solely on diesel in the prior period.

5. EMISSIONS SUMMARY

Emissions over time

Emissions since base year		Total tCO ₂ -e	Emissions intensity of the functional unit
Base year/Year 1:	2021	3,601.48	3.1980 t CO ₂ -e per tonnes
Year 2:	2022	4,801.98	4.0103 t CO ₂ -e per tonnes

Significant changes in emissions

Emission source name	Previous year emissions (t CO ₂ -e)	Current year emissions (t CO ₂ -e)	Detailed reason for change
LPG- QLD Scope 3 EPT + T&D of LPG - Extraction, Processing, Transmission and Distribution	138.35	775.82	NGA Nov 22 increased scope 3 emission factor for LPG from 3.6 to 20.2 kgCO ₂ -e/GJ
LPG- NSW Scope 1 Emissions associated with combustion of LPG	583.38	787.68	Sales of carbon neutral LPG in NSW increased in CY2022

Use of Climate Active carbon neutral products and services

N/A

Emissions summary

Emission source	Sum of Scope 1 (t CO2-e)	Sum of Scope 2 (t CO2-e)	Sum of Scope 3 (t CO2-e)	Sum of Total Emissions (t CO2-e)
Construction Materials and Services	0.0000	0.0000	0.0006	0.00
Electricity	0.0000	0.0311	0.0041	0.04
ICT services and equipment	0.0000	0.0000	0.3691	0.37
LPG sold (Scope 1: Emissions associated with combustion of LPG)	3599.1567	0.0000	0.0000	3599.16
LPG sold (Scope 3: Emissions associated with extraction, processing, transmission and distribution of LPG)	0.0000	0.0000	1199.7189	1199.72
Office equipment & supplies	0.0000	0.0000	0.1427	0.14
Postage, courier and freight	0.0000	0.0000	0.5054	0.51
Professional Services	0.0000	0.0000	0.7933	0.79
Stationary Energy (gaseous fuels)	0.0076	0.0000	0.0015	0.01
Transport (Air)	0.0000	0.0000	0.2420	0.24
Transport (Land and Sea)	0.0329	0.0000	0.3182	0.35
Waste	0.0000	0.0000	0.3343	0.33
Working from home	0.0000	0.0000	0.3180	0.32
Total	3599.1972	0.0311	1202.7481	4801.98

No uplift factors were included in the emissions total.

Emissions intensity per functional unit	4.0103 tCO2-e per tonnes
Number of functional units to be offset	1,197 tonnes
Total emissions to be offset	4,802 t CO2-e

6. CARBON OFFSETS

Offsets retirement approach

This certification has taken an in arrears offsetting approach. The total emission to offset is 4,802 t CO₂-e. The total number of eligible offsets used in this report is 4,802. Of the total eligible offsets used, 1,467 were previously banked and 3,335 were newly purchased and retired. There are no eligible offsets remaining and therefore none have been banked for future use.

Co-benefits

Origin has purchased offsets from projects in Australia which have been used in this report. These projects are the **Boonora Downs Human-Induced Regeneration Project** and **Osterley Downs Native Forest Protection Project** located in New South Wales, as well as **Carbon Conscious Carbon Capture Project 2** located in the Wheatbelt in Western Australia.

Origin has also purchased offsets which have been used in this report from international projects accredited under the Verified Carbon Standard (VCS) and Climate, Community and Biodiversity Standard (CCB) Standard. These include: **Southern Cardamom REDD+ project** and **The Rimba Raya Biodiversity Reserve project**.

Offsets retired for Climate Active Carbon Neutral Certification

Project description	Type of offset units	Registry	Date retired	Serial number (and hyperlink to registry transaction record)	Vintage	Stapled quantity	Eligible quantity retired (tCO ₂ e)	Eligible quantity used for previous reporting periods	Eligible quantity banked for future reporting periods	Eligible quantity used for this reporting period	Percentage of total (%)
Boonora Downs Human-Induced Regeneration Project	ACCUs	ANREU	30 Nov 2020	Serial numbers: 3,806,227,661 - 3,806,228,395	2020-21	0	735	721	0	14	0.29
Osterley Downs Native Forest Protection Project	ACCUs	ANREU	30 Nov 2020	Serial numbers: 3,804,544,120 - 3,804,544,652	2020-21	0	533	0	0	533	11.10
Carbon Conscious Carbon Capture Project 2	ACCUs	ANREU	20 April 2023	Serial numbers: 3,764,391,848 - 3,764,392,260	2017-18	0	413	0	0	413	8.60
Rimba Raya Biodiversity Reserve Project	VCU's	VERRA	20 April 2023	Serial numbers 9840-145735982-145738903-VCS-VCU-263-VER-ID-14-674-01012016-31122016-1 Public URL: https://registry.verra.org/myModule/rpt/myrpt.asp?r=206&h=201779	2016	0	2,922	0	0	2,922	60.85
Southern Cardamom REDD+ Project	VCU's	VERRA	21 Sept 2021	Serial numbers: 9778-134285763-134287027-VCS-VCU-263-VER-KH-14-1748-01012016-31122016-1	2016	0	1,265	345	0	920	19.16

				Public URL: https://registry.verra.org/mymodule/rpt/CertificateInfo.asp?b=1&rhid=134650							
Total offsets retired this report and used in this report										4,802	
Total offsets retired this report and banked for future reports										0	

Eligible offsets retirement summary

Type of offset units	Eligible quantity (used for this reporting period)	Percentage of total
Australian Carbon Credit Units (ACCU)s	960	20%
Verified Carbon Units (VCUs)	3,842	80%

7. RENEWABLE ENERGY CERTIFICATE (REC) SUMMARY

Renewable Energy Certificate (REC) Summary

N/A

The following RECs have been surrendered to reduce electricity emissions under the market-based reporting method.

1. Large-scale Generation certificates (LGCs)*	N/A
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* LGCs in this table only include those surrendered voluntarily (including through PPA arrangements), and does not include those surrendered in relation to the LRET, GreenPower, and jurisdictional renewables.

Project supported by LGC purchase	Project location	Eligible unit type	Registry	Surrender date	Accreditation code	Certificate serial number	Generation year	Fuel source	Quantity (MWh)
Total LGCs surrendered this report and used in this report									

APPENDIX A: ADDITIONAL INFORMATION

N/A

APPENDIX B: ELECTRICITY SUMMARY

There are two international best-practice methods for calculating electricity emissions – the location-based method and the market-based method. Reporting electricity emissions under both methods is called dual reporting.

Dual reporting of electricity emissions is useful, as it provides different perspectives of the emissions associated with a business's electricity usage.

Location-based method

The location-based method provides a picture of a business's electricity emissions in the context of its location, and the emissions intensity of the electricity grid it relies on. It reflects the average emissions intensity of the electricity grid in the location (State) in which energy consumption occurs. The location-based method does not allow for any claims of renewable electricity from grid-imported electricity usage.

Market-based method

The market-based method provides a picture of a business's electricity emissions in the context of its renewable energy investments. It reflects the emissions intensity of different electricity products, markets and investments. It uses a residual mix factor (RMF) to allow for unique claims on the zero emissions attribute of renewables without double-counting.

For this certification, electricity emissions have been set by using the **market-based approach**.

Market Based Approach Summary			
Market Based Approach	Activity Data (kWh)	Emissions (kg CO2-e)	Renewable Percentage of total
Behind the meter consumption of electricity generated	0	0	0%
Total non-grid electricity	0	0	0%
LGC Purchased and retired (kWh) (including PPAs)	0	0	0%
GreenPower	97	0	52%
Climate Active precinct/building (voluntary renewables)	0	0	0%
Precinct/Building (LRET)	21	0	11%
Precinct/Building jurisdictional renewables (LGCs surrendered)	0	0	0%
Electricity products (voluntary renewables)	0	0	0%
Electricity products (LRET)	0	0	0%
Electricity products jurisdictional renewables (LGCs surrendered)	0	0	0%
Jurisdictional renewables (LGCs surrendered)	0	0	0%
Jurisdictional renewables (LRET) (applied to ACT grid electricity)	0	0	0%
Large Scale Renewable Energy Target (applied to grid electricity only)	31	0	17%
Residual Electricity	37	35	0%
Total renewable electricity (grid + non grid)	149	0	80%
Total grid electricity	186	35	80%
Total electricity (grid + non grid)	186	35	80%
Percentage of residual electricity consumption under operational control	100%		
Residual electricity consumption under operational control	37	35	
Scope 2	33	31	
Scope 3 (includes T&D emissions from consumption under operational control)	4	4	
Residual electricity consumption not under operational control	0	0	
Scope 3	0	0	

Total renewables (grid and non-grid)	80.14%
Mandatory	27.72%
Voluntary	52.42%
Behind the meter	0.00%
Residual scope 2 emissions (t CO2-e)	0.03
Residual scope 3 emissions (t CO2-e)	0.00
Scope 2 emissions liability (adjusted for already offset carbon neutral electricity) (t CO2-e)	0.03
Scope 3 emissions liability (adjusted for already offset carbon neutral electricity) (t CO2-e)	0.00
Total emissions liability (t CO2-e)	0.04
<i>Figures may not sum due to rounding. Renewable percentage can be above 100%</i>	

Operations in Climate Active buildings and precincts

Operations in Climate Active buildings and precincts	Electricity consumed in Climate Active certified building/precinct (kWh)	Emissions (kg CO ₂ -e)
100 Barangaroo Avenue NSW	21	0
<i>Climate Active carbon neutral electricity is not renewable electricity. These electricity emissions have been offset by another Climate Active member through their building or precinct certification. This electricity consumption is also included in the market based and location-based summary tables. Any electricity that has been sourced as renewable electricity by the building/precinct under the market-based method is outlined as such in the market based summary table.</i>		

Location Based Approach Summary						
Location Based Approach	Activity Data (kWh) total	Under operational control			Not under operational control	
Percentage of grid electricity consumption under operational control	100%	(kWh)	Scope 2 Emissions (kg CO ₂ -e)	Scope 3 Emissions (kg CO ₂ -e)	(kWh)	Scope 3 Emissions (kg CO ₂ -e)
ACT	0	0	0	0	0	0
NSW	21	21	15	1	0	0
SA	36	36	9	3	0	0
VIC	68	68	58	5	0	0
QLD	61	61	45	9	0	0
NT	0	0	0	0	0	0
WA	0	0	0	0	0	0
TAS	0	0	0	0	0	0
Grid electricity (scope 2 and 3)	186	186	126	18	0	0
ACT	0	0	0	0		
NSW	0	0	0	0		
SA	0	0	0	0		
VIC	0	0	0	0		
QLD	0	0	0	0		
NT	0	0	0	0		
WA	0	0	0	0		
TAS	0	0	0	0		
Non-grid electricity (behind the meter)	0	0	0	0		
Total electricity (grid + non grid)	186					

Residual scope 2 emissions (t CO ₂ -e)	0.13
Residual scope 3 emissions (t CO ₂ -e)	0.02
Scope 2 emissions liability (adjusted for already offset carbon neutral electricity) (t CO ₂ -e)	0.11
Scope 3 emissions liability (adjusted for already offset carbon neutral electricity) (t CO ₂ -e)	0.02
Total emissions liability (t CO₂-e)	0.13

APPENDIX C: INSIDE EMISSIONS BOUNDARY

Non-quantified emission sources

The following emissions sources have been assessed as attributable, are captured within the emissions boundary, but are not measured (quantified) in the carbon inventory. These emissions are accounted for through an uplift factor. They have been non-quantified due to one of the following reasons:

1. **Immaterial** <1% for individual items and no more than 5% collectively
2. **Cost effective** Quantification is not cost effective relative to the size of the emission but uplift applied.
3. **Data unavailable** Data is unavailable but uplift applied. A data management plan must be put in place to provide data within 5 years.
4. **Maintenance** Initial emissions non-quantified but repairs and replacements quantified.

Relevant non-quantified emission sources	Justification reason
N/A	

Excluded emission sources

Attributable emissions sources can be excluded from the carbon inventory, but still considered as part of the emissions boundary if they meet **all three of the below criteria**. An uplift factor may not necessarily be applied.

1. A data gap exists because primary or secondary data cannot be collected (**no actual data**).
2. Extrapolated and proxy data cannot be determined to fill the data gap (**no projected data**).
3. An estimation determines the emissions from the process to be **immaterial**.

	No actual data	No projected data	Immaterial
Water use at corporate sites related to LPG retailing	Water invoices are generally included in lease arrangement.	Water usage for one building cannot be applied to other sites due to sites not being comparable.	Based on existing historical data and assumptions for our sites, we confirmed that the emissions attributable to this product is immaterial < 1%.

Data management plan for non-quantified sources

There are no non-quantified sources in the emission boundary that require a data management plan.

APPENDIX D: OUTSIDE EMISSION BOUNDARY

Non-attributable emissions sources summary

Non-attributable emissions have been assessed as not attributable to a product or service (do not carry, make or become the product/service) and are therefore not part of the carbon neutral claim. To be deemed attributable, an emission must meet two of the five relevance criteria. Emissions which only meet one condition of the relevance test can be assessed as non-attributable and therefore are outside the carbon neutral claim. Non-attributable emissions are detailed below.

1. **Size** The emissions from a particular source are likely to be large relative to other attributable emissions.
2. **Influence** The responsible entity could influence emissions reduction from a particular source.
3. **Risk** The emissions from a particular source contribute to the responsible entity's greenhouse gas risk exposure.
4. **Stakeholders** The emissions from a particular source are deemed relevant by key stakeholders.
5. **Outsourcing** The emissions are from outsourced activities that were previously undertaken by the responsible entity or from outsourced activities that are typically undertaken within the boundary for comparable products or services.

Emission sources tested for relevance	Size	Influence	Risk	Stakeholder	Outsourcing	Justification
Corporate activities not related to LPG retailing	Y	N	N	N	N	Size: The emissions source is likely to be large compared to other attributable emissions, however it does not become part of this product.
Water use at corporate sites related to LPG retailing	N	Y	N	Y	N	Influence: Origin can influence the water use at its corporate sites, which could reduce emissions. However the emissions relating to this product is immaterial. Stakeholders: Emissions from water use are likely deemed relevant by key stakeholders, however the emissions relating to this product is immaterial.



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