



# **PUBLIC DISCLOSURE STATEMENT**


**ORIGIN ENERGY LIMITED  
GREEN LPG  
PRODUCT CERTIFICATION  
CY2021 -TRUE UP**

Australian Government  
**Climate Active**  
**Public Disclosure Statement**



An Australian Government Initiative



NAME OF CERTIFIED ENTITY	Origin Energy Limited
REPORTING PERIOD	1 January 2021 – 31 December 2021 True Up
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 <a href="#">29/06/2022</a></p>



**Australian Government**  
**Department of Industry, Science,  
Energy and Resources**

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Version March 2022. To be used for FY20/21/CY2021 reporting onwards.



# 1.CERTIFICATION SUMMARY

TOTAL EMISSIONS OFFSET	3,601.48 tCO2-e
THE OFFSETS BOUGHT	20% ACCUs, 80% VCUs
RENEWABLE ELECTRICITY	79.87%
TECHNICAL ASSESSMENT	03 December 2020 Timothy Harding Ndevr Environmental Next technical assessment due: 03 December 2023
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 will be marketed and sold as "Green LPG".

This is the first year of certification of Origin's "Green LPG" product. The emissions reported in this PDS are for CY2021, being the base and the first year of certification. CY2021 data is based on actual sales from the various market segments applicable to "Green LPG". Total emissions for "Green LPG" are calculated to be 3,601.48 t CO<sub>2</sub>-e in CY2021. This number is lower than the initial certification forecast for CY2021, due to lower than forecasted product uptake.

*"Carbon neutral certified products tackle a key component of Origin's scope 3 emissions and are the latest addition to our comprehensive climate change commitments."*

### Product/Service description

"Green LPG" product will allow customers to offset greenhouse gas emissions associated with the sourcing, transmission, distribution, retailing and consumption of this LPG product.

"Green LPG" will be 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 this LPG product through the Residential, Small business, Business Energy Team (C&I sales), customers who opt-in to the product.

The functional unit is tonnes (t) of LPG usage, by opt-in customers, with emissions expressed as tonnes of CO<sub>2</sub>-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' that become the product, make the product and carry the product through its life cycle. These 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:

Advertising  
Computers  
Entertainment  
Freight  
Plant & Equipment  
Postage  
Printing & Stationery  
Repairs and Maintenance  
Telephone  
Employee Commute  
Work from home  
Office electricity consumption  
Office natural gas consumption  
Waste  
Business travel

### Non-quantified

N/A

### Optionally included

N/A

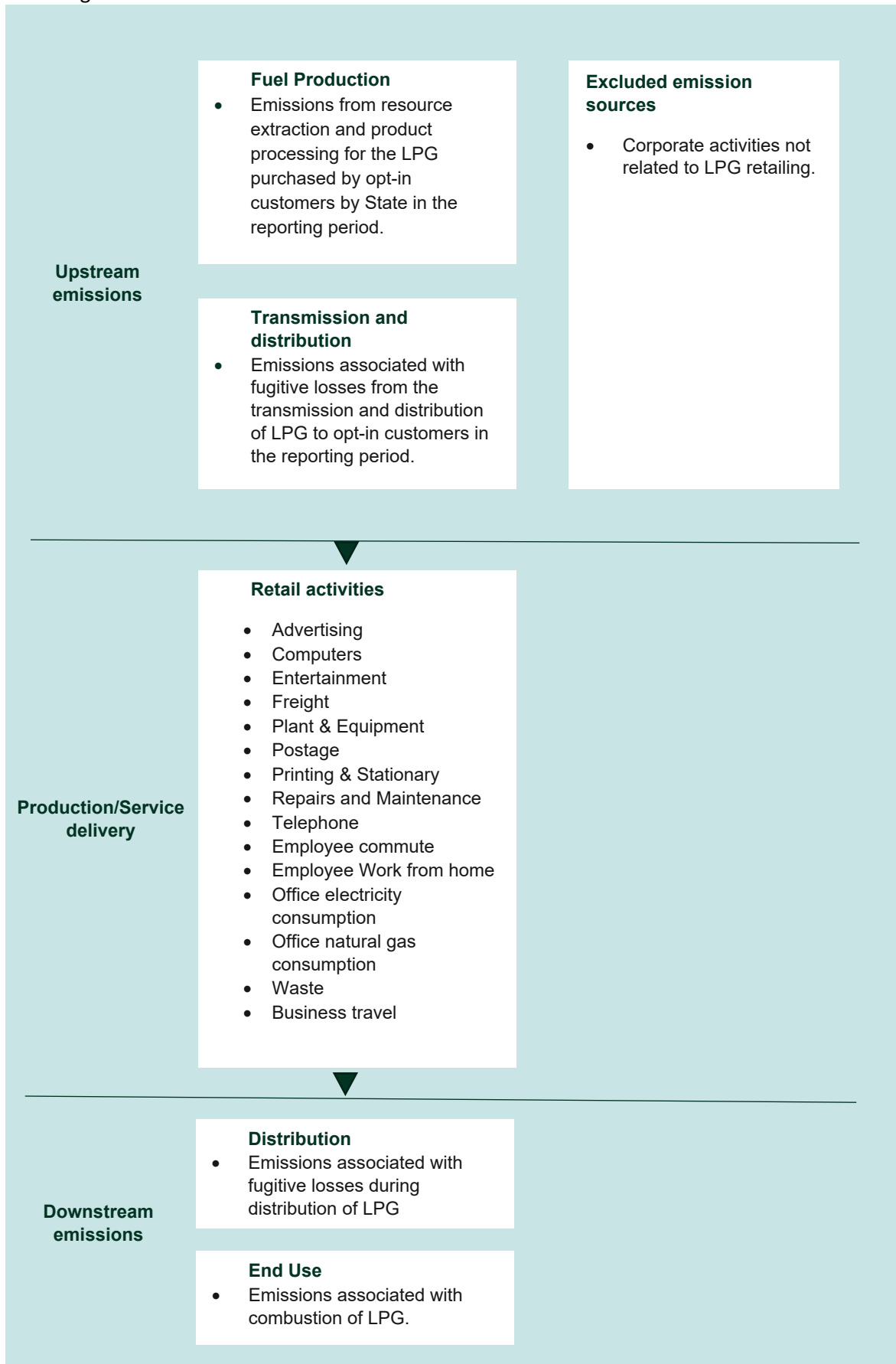
## Outside emission boundary

### Non-attributable

Corporate activities not related to LPG retailing.

# Product/service process diagram

Cradle-to-grave



## **Data management plan for non-quantified sources**

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



# 4. EMISSIONS REDUCTIONS

## Emissions reduction strategy

Climate change is one of the most significant challenges facing society today and our strategic framework is anchored in a belief in decarbonisation and the opportunities created by the energy transition. Our ambition is to lead the transition to net zero through cleaner energy and customer solutions. Our strategy seeks to deliver our ambition to achieve net zero emissions by 2050.

At an organizational level, Origin is a proud member of the 'We Mean Business' coalition, which is dedicated to accelerating corporate action on climate change. In 2017, Origin was the first Australian company to set a science-based emissions reduction target independently validated and approved by the Science-Based Target initiative (SBTi). This commitment includes halving our Scope 1 and Scope 2 greenhouse gas emissions by 2032 from a FY2017 baseline. We are progressing the update of our emissions reduction targets consistent with a 1.5°C pathway.

Our decarbonisation commitments also include a short-term emissions target to reduce Scope 1 emissions by 10 per cent on average over the three financial years to FY2023, compared to our FY2017 SBTi baseline.

For our LPG business, we are undertaking the following actions to help reduce emissions for Origin and our customers:

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.
2. Encouraging our customers to fuel switch from coal and / or diesel use in machinery to LPG, a lower emitting fuel. We are building a pipeline of customers for this initiative, which will lower our customers' Scope 1 emissions.
3. Installing tank telemetry technology at customer sites to better manage inventory levels, which result 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.

## Emissions reduction actions

As this is the first year of our product certification and reporting, performance data on our emissions reduction actions will be published in the next reporting period.

## 5. EMISSIONS SUMMARY

### Emissions over time

Emissions since base year		
	Total tCO <sub>2</sub> -e	Emissions intensity of the functional unit
Base year/Year 1: 2021	3,601.48	3.1980 tCO <sub>2</sub> -e per tonnes

### Significant changes in emissions

The actual emissions reported in CY21 is 3,601.48 tCO<sub>2</sub>-e, which is lower compared to the forecasted emissions at 5,069 tCO<sub>2</sub>-e in the initial certification, as forecasted emissions were for the full calendar year, while actual sales were for part of the year.

### Use of Climate Active carbon neutral products and services

N/A.

## Product emissions summary

Stage	tCO2-e
LPG - VIC: Emissions associated with combustion of LPG	50.91
LPG - SA: Emissions associated with combustion of LPG	110.57
LPG - NSW: Emissions associated with combustion of LPG	583.38
LPG - QLD: Emissions associated with combustion of LPG	2,328.90
LPG - WA: Emissions associated with combustion of LPG	79.90
LPG - ACT: Emissions associated with combustion of LPG	0.42
LPG - NT: Emissions associated with combustion of LPG	60.10
LPG - TAS: Emissions associated with combustion of LPG	182.49
LPG - VIC Scope 3 EPT + T&D	3.02
LPG - SA Scope 3 EPT + T&D	6.57
LPG - NSW Scope 3 EPT + T&D	34.66
LPG - QLD Scope 3 EPT + T&D	138.35
LPG - WA Scope 3 EPT + T&D	4.75
LPG - ACT Scope 3 EPT + T&D	0.02
LPG - NT Scope 3 EPT + T&D	3.57
LPG - TAS Scope 3 EPT + T&D	10.84
Advertising	0.62
Business Services	0.15
Computer Equipment	0.27
Entertainment	0.00
Freight	0.00
Office Equipment	0.01
Postage, mailing services	0.81
Printing & Stationary	0.07
Repairs and Maintenance	0.00
Telecommunications	0.06
Travel facilitation	0.00
Land and sea transport	0.09
WFH emissions	0.51
Waste	0.30
Air transport	0.06
Transport Fuel	0.01
Office electricity use (market based)	0.04
Office natural gas use	0.04

No uplift factors were included in the emissions total.

<b>Emissions intensity per functional unit</b>	<b>3.1980 tCO<sub>2</sub>-e per tonnes</b>
<b>Number of functional units to be offset</b>	1,126 tonnes
<b>Total emissions to be offset</b>	3,602 tCO <sub>2</sub> -e

## 6. CARBON OFFSETS

### Offsets retirement approach

#### ONGOING REPORT

In arrears	
1. Total number of eligible offsets banked from last year's report	1,268
2. Total emissions footprint to offset for this report	3,602
3. Total eligible offsets required for this report	2,334
4. Total eligible offsets purchased and retired for this report	3,801
5. Total eligible offsets banked to use toward next year's report	1,467

### Co-benefits

Origin has purchased offsets from projects in Australia. These projects are the **Boonora Downs Human-Induced Regeneration Project** and **Osterley Downs Native Forest Protection Project** located in NSW, Australia.

The **Osterley Downs Native Forest Protection Project**, located south of Cobar NSW, protects over 11,000 hectares of semi-arid woodland communities including grasslands, shrublands and woodlands. The project area is dominated by Callitris, Eucalyptus, Dodonea, and Eremophila species.

The **Boonora Downs Human Induced Regeneration Project** situated approximately 50km west of Cobar, NSW, promotes the regeneration of 8,000ha of native acacia and eucalypt woodland. The stated objectives and benefits of these projects are summarised below.

- Better management practices
- Protecting soil from degradation through managed grazing
- Protection, regeneration, and rehabilitation of numerous native plant species
- Prevention of broad scale clearing
- Prevention of damage to forests by feral goats and other herbivores
- Fire risk mitigation

Origin has also purchased offsets from international projects accredited under the Verified Carbon Standard (VCS) and Climate, Community and Biodiversity Standard (CCB) Standard.

The **Kariba Redd+ project** has reduced deforestation in the project area and has added the following community benefits:

- Farmers trained for conservation agriculture;
- Establishment of community gardens which have improved nutritional outcomes;
- Promotion of beekeeping as an alternative and environmentally friendly source of income;
- Decrease in poaching pressure on wildlife.

The **Rimba Raya Biodiversity Reserve project** preserves more than 15,000 Ha of tropical forest. This project has added the following benefits:

- Stopped the conversion of the project area being converted to palm oil plantation, including associated activities such as logging and burning felled trees and forest.
- Created local employment to protect the area, including patrolling illegal logging and wildlife poaching in the area.
- Implementation of training programs such as agroforestry plantations, community firefighting, chicken farms, shrimp paste production, environmental education, forest patrols, solar power electrification operation, and water purification construction to enable local community members to expand skills and increase their climate resilience.
- Provision of water filtration systems in the project area to local communities to increase access to clean water.
- Provision of small-scale solar lighting to the local community to increase access to basic services.

The **Southern Cardamom REDD+ Project** protects 497,000 hectares of tropical rainforest in South-West Cambodia. The project uses global best practices of forest protection and community development to safeguard the forest and prevent more than 3,000,000 tons of carbon emissions annually. The benefits of this projects include:

- Biodiversity conservation, supporting threatened species including birds, mammals, reptiles and elephants.
- The watershed provides fresh water for the mangroves forest which is a nursery for the region's fisheries
- Project area provides food for Thailand, Cambodia, and Vietnam – project supports 20 waterways that feed 3,800 villages in over 6 provinces and supports regulation of climate for the Southeast Asian peninsula.
- The project directly supports 21 villages around the project area, and 8 additional villages eligible to receive educational scholarships.
- Community development and education programs to help locals switch to livelihoods compatible with sustainable use of the natural resources.
- Agricultural intensification and community-based ecotourism to help create greater financial security in the communities, and less need for unsustainable resource extraction from the project area.

## Eligible offsets retirement summary

Offsets cancelled 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 (tCO <sub>2</sub> -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	ACCU's	ANREU	30 Nov 2020	Serial numbers: 3,806,227,661 - 3,806,228,395	2020-21	0	735	0	14	721	20.02%
Osterley Downs Native Forest Protection Project	ACCU's	ANREU	30 Nov 2020	Serial numbers: 3,804,544,120 - 3,804,544,652	2020-21	0	533	0	533	0	0%
KARIBA REDD+ PROJECT	VCU's	VERRA	31 Mar 2021	Serial numbers: 9409-95984031-95985298-VCS-VCU-352-VER-ZW-14-902-01012019-30062019-1  Public URL: <a href="https://registry.verra.org/mymodule/rpt/CertificateInfo.asp?b=1&amp;rhid=124439">https://registry.verra.org/mymodule/rpt/CertificateInfo.asp?b=1&amp;rhid=124439</a>	2019	0	1,268	0	0	1,268	35.20%
Rimba Raya Biodiversity	VCU's	VERRA	11 June	Serial numbers: 9900-157746809-157748076-VCS-VCU-263-VER-ID-14-674-01012018-	2018	0	1,268	0	0	1,268	35.20%

Reserve Project			2021	31122018-1 Public URL: <a href="https://registry.verra.org/mymodule/rpt/CertificationInfo.asp?b=1&amp;rhid=133415">https://registry.verra.org/mymodule/rpt/CertificationInfo.asp?b=1&amp;rhid=133415</a>								
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 Public URL: <a href="https://registry.verra.org/mymodule/rpt/CertificationInfo.asp?b=1&amp;rhid=134650">https://registry.verra.org/mymodule/rpt/CertificationInfo.asp?b=1&amp;rhid=134650</a>	2016	0	1,265	0	920	345		9.58%
<b>Total offsets retired this report and used in this report</b>										3,602		
<b>Total offsets retired this report and banked for future reports</b>										1,467		

Type of offset units	Quantity (used for this reporting period claim)	Percentage of total
Australian Carbon Credit Units (ACCUs)	721	20%
Verified Carbon Units (VCUs)	2,881	80%



# 7. RENEWABLE ENERGY CERTIFICATE (REC) SUMMARY

## Renewable Energy Certificate (REC) Summary

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

<b>1. Large-scale Generation certificates (LGCs)*</b>	N/A
<b>2. Other RECs</b>	N/A

\* 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	Eligible units	Registry	Surrender date	Accreditation code (LGCs)	Certificate serial number	Generation year	Quantity (MWh)	Fuel source	Location
<i>Total LGCs surrendered this report and used in this report</i>									

## APPENDIX A: ADDITIONAL INFORMATION

N/A

## APPENDIX B: ELECTRICITY SUMMARY

Electricity emissions are calculated using a market-based approach. At the initial certification, the GreenPower LGCs purchased and retired for our offices were excluded as the actual full year data were not available and we had the opportunity to amend the true up report to reflect actual data.

### 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.

Market Based Approach Summary			
Market Based Approach	Activity Data (kWh)	Emissions (kgCO <sub>2</sub> e)	Renewable Percentage of total
Behind the meter consumption of electricity generated	0	0	0%
<b>Total non-grid electricity</b>	<b>0</b>	<b>0</b>	<b>0%</b>
LGC Purchased and retired (kWh) (including PPAs LGCs)	0	0	0%
Barangaroo renewable (LGCs retired)	13	0	6%
Barangaroo (LRET)	3	0	1%
GreenPower	112	0	55%
Jurisdictional renewables (LGCs retired)	0	0	0%
Jurisdictional renewables (LRET) (applied to ACT grid electricity)	0	0	0%
Large Scale Renewable Energy Target (applied to grid electricity only)	35	0	17%
Residual Electricity	41	41	0%
<b>Total grid electricity</b>	<b>204</b>	<b>41</b>	<b>80%</b>
<b>Total Electricity Consumed (grid + non grid)</b>	<b>204</b>	<b>41</b>	<b>80%</b>
Electricity renewables	163	0	
Residual Electricity	41	41	
<b>Exported on-site generated electricity</b>	<b>0</b>	<b>0</b>	
Emissions (kgCO <sub>2</sub> e)		41	
<b>Total renewables (grid and non-grid)</b>	<b>79.87%</b>		

<b>Mandatory</b>	<b>18.54%</b>
<b>Voluntary</b>	<b>61.33%</b>
<b>Behind the meter</b>	<b>0.00%</b>
<b>Residual Electricity Emission Footprint (TCO2e)</b>	<b>0</b>
<i>Figures may not sum due to rounding. Renewable percentage can be above 100%</i>	
<i>Voluntary includes LGCs retired by Barangaroo Precinct (MWh)</i>	
	0

### Location Based Approach Summary

Location Based Approach	Activity Data (kWh)	Scope 2 Emissions (kgCO2e)	Scope 3 Emissions (kgCO2e)
ACT	0	0	0
NSW	16	12	1
SA	41	12	3
Vic	92	83	9
Qld	56	44	7
NT	0	0	0
WA	0	0	0
Tas	0	0	0
<b>Grid electricity (scope 2 and 3)</b>	<b>204</b>	<b>152</b>	<b>20</b>
ACT	0	0	0
NSW	0	0	0
SA	0	0	0
Vic	0	0	0
Qld	0	0	0
NT	0	0	0
WA	0	0	0
Tas	0	0	0
<b>Non-grid electricity (Behind the meter)</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Electricity Consumed</b>	<b>204</b>	<b>152</b>	<b>20</b>

<b>Emission Footprint (TCO2e)</b>	<b>0</b>
<i>Scope 2 Emissions (TCO2e)</i>	0
<i>Scope 3 Emissions (TCO2e)</i>	0

## 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	(1) Immaterial	(2) Cost effective (but uplift applied)	(3) Data unavailable (but uplift applied & data plan in place)	(4) Maintenance
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
N/A			

## APPENDIX D: OUTSIDE EMISSION BOUNDARY

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.

Relevance test					
Non-attributable emission	<i>The emissions from a particular source are likely to be large relative to the organisation's electricity, stationary energy and fuel emissions</i>	<i>The emissions from a particular source contribute to the organisation's greenhouse gas risk exposure.</i>	<i>Key stakeholders deem the emissions from a particular source are relevant.</i>	<i>The responsible entity has the potential to influence the reduction of emissions from a particular source.</i>	<i>The emissions are from outsourced activities previously undertaken within the organisation's boundary, or from outsourced activities typically undertaken within the boundary for comparable organisations.</i>

Corporate activities not related to LPG retailing	No	No	No	No	No
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