EnergyAustralia

Public Disclosure Summary.

Application for carbon neutral product certification.

October 2019.



Overview

Our customers are our priority and we make our application for carbon neutral gas product certification (the application) with a view to providing a range of retail energy products that enable customers to take action to address climate change.

EnergyAustralia is seeking carbon neutral certification for a gas product offering. The application has been made in accordance with the Australian Government's National Carbon Offset Standard for Products & Services.¹

Declaration

To the best of my knowledge and having met the requirements of the National Carbon Offset Standard for Products and Services the information provided in this Public Disclosure Summary on the application for carbon neutral gas product certification is true and correct.

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Mark Collette

Customer Executive, EnergyAustralia

October 2019

Organisation and emission details

Organisation name	EnergyAustralia Pty Ltd
Name of subject of certification	EnergyAustralia carbon neutral gas
Type of certification	Product
Base year period	1 January 2017 to 31 December 2017
Emissions in the base year	3,356,408.7 tonnes of CO ₂ e
Total emissions of customers with carbon neutral gas	Nil

¹ National Carbon Offset Standard for Products and Services effective from 1 November 2017,

1. Introduction

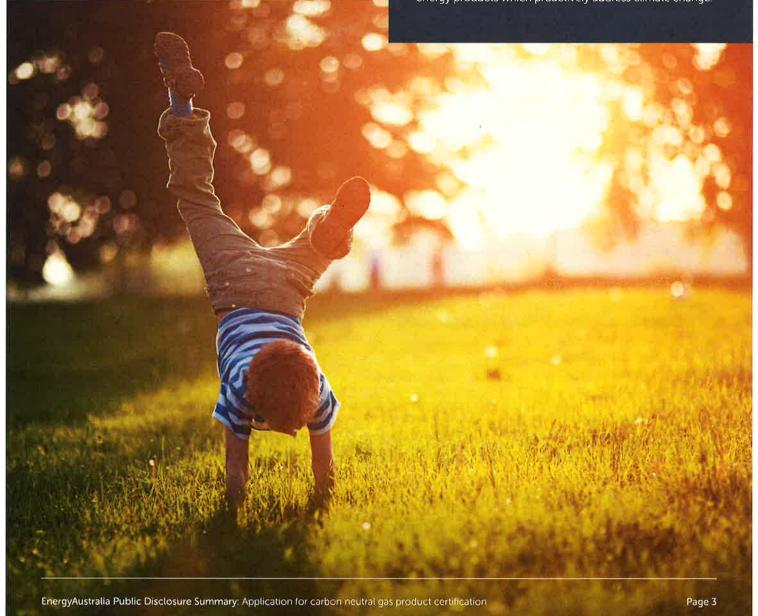
EnergyAustralia is one of Australia's largest energy companies, providing gas and electricity to 2.6 million household and business customer accounts in New South Wales, Victoria, Queensland, South Australia and the Australian Capital Territory. EnergyAustralia owns and operates a portfolio of energy generation across Australia, including coal, gas and wind assets with control of over 4,500MW of generation in the National Electricity Market (NEM).

EnergyAustralia, as part of the broader CLP Group, is aligned to our Climate Vision 2050. First published in 2007 and updated in 2018, this vision aims to reduce Carbon Emissions Intensity to 0.15kg CO₂/kWh by 2050 with a 30% Renewable capacity and 40% non-carbon capacity by 2030.

EnergyAustralia has committed to leading and accelerating the clean energy transformation for all Australians.

We have proudly invested over \$1 billion in renewable energy, underpinning over 460MW of renewable energy generation, which is over 12% of the total capacity of large-scale wind and solar facilities in the NEM. We also give our customers the opportunity to support renewable energy through the purchase of Greenpower or installing solar PV on their homes or businesses.

Applying for carbon neutral gas product certification aligns with our priority to give our customers a choice of retail energy products which proactively address climate change.



2. Achieving carbon neutrality (Product)

EnergyAustralia is seeking carbon neutral product certification for its gas product offerings (carbon neutral gas product). EnergyAustralia expects to be in a position to start marketing carbon neutral natural gas products to select customer segments in 2019.

The scope of the application includes residential customers, small-to-medium enterprise customers (i.e. mass-market) and commercial & industrial customers, EnergyAustralia has a retail licence to operate and offer natural gas products in Victoria, New South Wales, the Australian Capital Territory, and South Australia.

This new product offering differs from EnergyAustralia's existing natural gas product offerings with respect to one key feature: it will offset greenhouse gas emissions associated with the natural

gas sourced from Australia's eastern natural gas market³ and delivered to the point of consumption (or customer meter). All other product features, such billing cycles and payment terms, will be the same or very similar to that of EnergyAustralia's existing gas product range.

In theory there is no limit on the proportion of EnergyAustralia's gas customer base that may choose to take up this new product offering over time. Importantly, the gas sold and greenhouse gas emissions created in relation to the new product (a) will always be a subset of total gas sold and greenhouse gas emissions created in relation to EnergyAustralia's gas customer base (b). Therefore the greenhouse gas emissions inventory calculation methodology for (a) and (b) are identical.

3. Measuring greenhouse gas emissions

As a retailer of natural gas products, EnergyAustralia purchases natural gas from Australia's eastern gas market and sells it to customers in Victoria, New South Wales, the Australian Capital Territory, and South Australia. The greenhouse gas emissions being measured for the purposes of the application are those associated with:

- EnergyAustralia's bilateral and wholesale market natural gas purchases for sale to its customer base; and
- 2. Combustion of this natural gas by EnergyAustralia's

customer base.

Therefore EnergyAustralia's purchases of natural gas for its electricity generation and wholesale activities (and associated greenhouse gas emissions) are not relevant to the application.

The method for calculating a greenhouse gas emissions inventory for this new product is described in sections 3.1, 3.2, 3.3 and 3.4. Table 1 summarises our total emissions in the base year across all life cycle stages associated with Figure 1:

Table 1. Greenhouse gas emissions inventory – life cycle stages – gas customer base (b) – 2017 (cal.).

Life Cycle Stage	Detailed in Section 3.3	Description	tCO₂e
4	Table 2	Direct consumption of liquefied natural gas factor which is consistent across each state based on all EA customer sales	2,995,670
182	Table 3	Indirect emissions from extraction, production and transport on a state by state basis	358,261
3	Table 4	Energy retailing (gas)	2,477
Total greenhouse g	as emissions (tCO ₂ e) – (b) ga	s customer base	3,356,408

² In gas markets, the threshold between a mass-market customer and a commercial and industrial customer is gas consumption of 10,000 GJ per year.

³ The eastern gas market is an interconnected natural gas grid that links all of Australia's eastern and southern states and territories. The natural gas basins that supply this market contain around one third of Australia's natural gas reserves. The eastern gas market includes a Short Term Trading Market at demand hubs in Adelaide, Sydney and Brisbane; and a Declared Wholesale Gas Market in Victoria. These wholesale markets for natural gas enable retailers or large customers to purchase gas without entering into long-term contracts as an option (in addition to acquiring supply via bilateral contracts directly with producers).

3.1. Establishing a greenhouse gas emissions boundary

The functional unit relevant to this product (or activity) is gigajoules (GJ). Consumption of the product by customers is measured as GJ per year.

EnergyAustralia's total natural gas customer consumption has been used to establish a greenhouse gas emissions inventory for certification of the base year being the year ending 31 December 2017. This was necessary because actual consumption and greenhouse gas emissions data for the carbon neutral gas product will not be available until the product is taken up and consumed by customers (in future periods).

Figure 1 represents a greenhouse gas emissions boundary consistent with the requisite life cycle assessment (LCA) approach for a final natural gas product consumed by an end-user. The boundary for carbon neutral gas product and the boundary for all natural gas products have been clearly delineated as follows:

- a. the solid green line ——— represents the boundary for the carbon neutral gas product; and
- b. the dashed green line -- represents the boundary for all natural gas products.

The relevant stages of the final natural gas product life cycle are:

Stage 1: Exploration and production – which includes scope 3 greenhouse gas emissions created from exploration, production and transport activities associated with supplying natural gas.

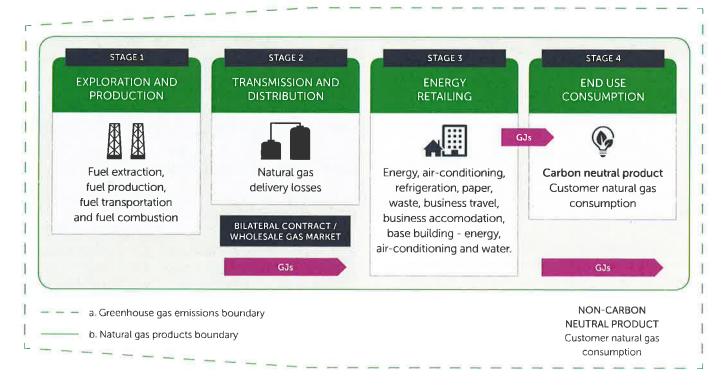
Stage 2: Transmission and distribution – which includes scope 3 greenhouse gas emissions created from gas lost in delivery, in between the points of production (processing) and consumption (customer meter).

Stage 3: Energy retailing – which includes 'organisation' scope 1, 2 & 3 greenhouse gas emissions as they relate to the retailing operations required to sell natural gas products to customers:

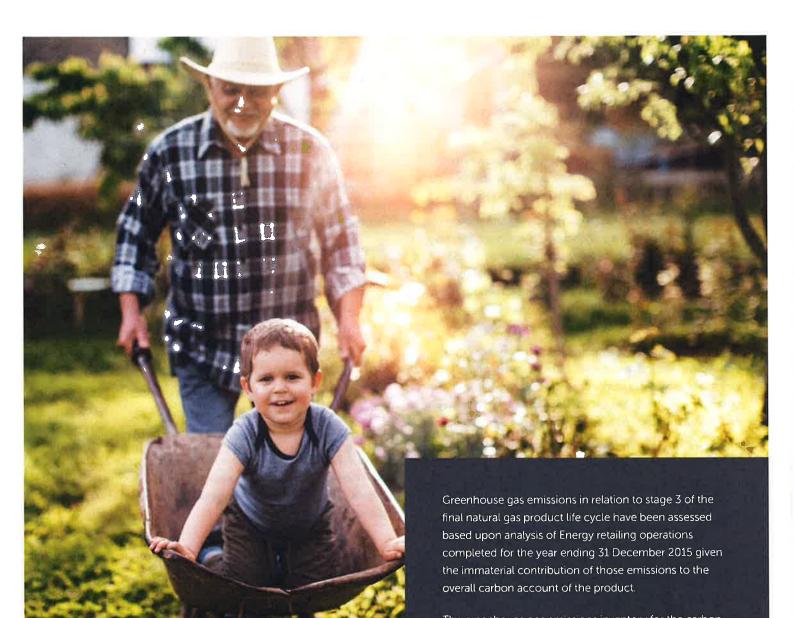
- office energy consumption (electricity & gas);
- · office air conditioning; office refrigeration;
- office paper consumption; office waste consumption;
- · business travel; business accommodation;
- base building energy consumption (electricity & gas);
- base building water consumption; and
- · base building air conditioning.

Stage 4: End use consumption – which includes scope 3 greenhouse gas emissions created from the combustion of natural gas at the point of consumption, immediately after the customer meter.⁴

Figure 1. Life cycle assessment (LCA) for a final natural gas product consumed by an end-user,



⁴ These greenhouse gas emissions are classified as scope 3 when being counted as part of an energy retailer's greenhouse gas emissions inventory because the actual physical emission occurs at the point of combustion or end-use. If they were being counted as part of the end-user's inventory then they would be classified as scope 1 or direct greenhouse gas emissions.



3.2. Setting a base year and recalculation policy

The base year selected for the application is 1 January 2017 to 31 December 2017 (inclusive). The 2017 calendar year has been chosen because it represents 12 months of consumption data for EnergyAustralia's natural gas customer base that can be verified using billing system data.

EnergyAustralia's billing system captures natural gas consumption for which customers have been billed. Billing cycles mean significant lags can occur between when gas is physically consumed and when a customer is actually billed for their consumption. A base year of 1 January 2017 to 31 December 2017 (inclusive) has been used to minimise the amount of consumption remaining unbilled at the date of the application. The use of a more recent 12-month period as the base year for the application, such as the 2018 calendar year, would be a less accurate measure of physical consumption at this time given the lag between consumption and billing.

The greenhouse gas emissions inventory for the carbon neutral natural gas product (a) and all natural gas products (b) will both be calculated each calendar year as part of maintaining carbon neutral gas product certification. Any changes to 'operational boundaries', 'ownership of emissions sources' and 'quantification methodologies' will be flagged in the annual calculation process and identified as part of the periodic audit process.

Significant changes in the carbon account for the proposed product between the base year and subsequent reporting years that are not attributed to emission reduction activities or changes the volume of product sold to customers will be disclosed as part of our annual public disclosure summary.

3.3. Identifying greenhouse gas emissions sources within the boundary

3.3.1 The greenhouse gas emissions boundary for all natural gas products (b)

Scope 3 greenhouse gas emissions created in stage 4 of the final natural gas product life cycle are shown in Table 2.

Table 2. Greenhouse gas emissions inventory – scope 3 (LCA stage 4) – gas customer base (b) – 2017 (cal.)

Scope	Greenhouse gas emissions sources	Source of activity data	Greenhouse gas emission factor - Victoria	Greenhouse gas emission factor – New South Wales & Australian Capital Territory	Greenhouse gas emission factor – South Australia	Total greenhouse gas emissions (tCO ₂ e) – (b) gas customer base
3	Gas purchased via bilateral contract or wholesale market and sold to EnergyAustralia customers	EnergyAustralia C1 billing and accrual system	0.05153 tCO₂e /GJ National Greenhouse Account Factors, Australian National Greenhouse Accounts (July 2017) published by the Department of the Environment & Energy Table 2 (p.13): Emission factors for the consumption of natural gas - Victoria	0.05153 tCO ₂ e /GJ National Greenhouse Account Factors, Australian National Greenhouse Accounts (July 2017) published by the Department of the Environment & Energy Table 2 (p.13): Emission factors for the consumption of natural gas - New South Wales and the Australian Capital Territory	0.05153 tCO ₂ e /GJ National Greenhouse Account Factors, Australian National Greenhouse Accounts (July 2017) published by the Department of the Environment & Energy Table 2 (p.13): Emission factors for the consumption of natural gas - South Australia	2,995,670.3

Scope 3 greenhouse gas emissions created in stages 1 & 2 of the final natural gas product life cycle are shown in Table 3.

Table 3. Greenhouse gas emissions inventory – scope 3 (LCA stages 1 & 2) – gas customer base (b) – 2017 (cal.)

Scope	Greenhouse gas emissions sources	Source of activity data	Greenhouse gas emission factor⁵ - Victoria	Greenhouse gas emission factor – New South Wales & Australian Capital Territory	Greenhouse gas emission factor – South Australia	Total greenhouse gas emissions (tCO ₂ e) – (b) gas customer base
3	Gas purchased via bilateral contract or wholesale market and sold to EnergyAustralia customers	EnergyAustralia C1 billing and accrual system	0.0039 tCO ₂ e /GJ National Greenhouse Account Factors, Australian National Greenhouse Accounts (July 2017) published by the Department of the Environment & Energy Table 38 (p.69): Scope 3 emission factors - Victoria	0.0136 tCO ₂ e /GJ National Greenhouse Account Factors, Australian National Greenhouse Accounts (July 2017) published by the Department of the Environment & Energy Table 38 (p.69): Scope 3 emission factors - New South Wales and the Australian Capital Territory	0.0104 tCO ₂ e /GJ National Greenhouse Account Factors, Australian National Greenhouse Accounts (July 2017) published by the Department of the Environment & Energy Table 38 (p.69): Scope 3 emission factors - South Australia	358,261.4

⁵ The higher emission factor between "metro" and "non-metro" areas has been used to avoid having to determine the proportion of customer gas volumes supplied to each of these segments in each jurisdiction. The resulting impact of this simplification is to possibly over-estimate the emissions associated with natural gas consumption by EnergyAustralia's customer base.

Table 4. Greenhouse gas emissions inventory (energy retailing) – LCA stage 3 – organisation greenhouse gas emissions (un-apportioned) – 2015 (cal.)⁶

Scope	Greenhouse gas emission source	Source of activity data	Methodology reference	Greenhouse gas emission factor	Activity data	Unit	tCO ₂ e
Office(s)							5,904
2	Electricity (Australia)	Invoice	NGA/DoE¹	126 tCO ₂ e /MWh		MWh	
2	Electricity (Manila)	EA estimate	TPEEF/Eco ²	0.53 tCO ₂ e /MWh	-	MWh	72
2	Electricity (India)	EA estimate	CBDIPS/MoP ³	0.82 tCO ₂ e /MWh	4 -	MWh	-
2	Electricity (New Zealand)	EA estimate	GVCGGR/MoE⁴	0.165 tCO ₂ e / MWh	9	MWh	,=
1	Refrigeration	Maintenance record/ EA estimate	ERG/DEFRA ⁵	0.003 leakage rate, GWP of each gas		kg	
1	Air conditioning	Maintenance record/ EA estimate	ERG/DEFRA⁵	0.06 leakage rate, GWP of each gas	¥	kg	.000
3	Paper	Invoice	GGIMP/EPA ⁷	1.3 to 1.41 tCO ₂ e /t		tonne	18
3	Waste	Maintenance record/ EA estimate	NGA/DoE¹	1.4 to 2,9 tCO ₂ e /t	¥	tonne	18
Base bui	lding(s)		N. 15. 37				3,523
3	Electricity	Supplier confirmation / EA estimate	NGA/DoE ¹	1.26 tCO₂e /MWh		MWh	> €
3	Electricity (Manila)	EA estimate	TPEEF/Eco ²	0.53 tCO ₂ e /MWh	-	MWh	
3	Electricity (India)	EA estimate	CBDIPS/MoP³	0.82 tCO ₂ e /MWh	÷	MWh	321
3	Electricity (New Zealand)	EA estimate	GVCGGR/MoE⁴	0.165 tCO ₂ e / MWh	*	MWh	
3	Gas	Invoice/ EA estimate	NGA/DoE¹	55.43 kgCO2e /GJ	3	GJ	(3)
3	Water	Invoice/ EA estimate	GGIMP/EPA ⁶	1.36 kgCO ₂ e /KL	-	KL	-
3	Air conditioning	Maintenance record/ EA estimate	ERG/DEFRA⁵	0.03 leakage rate, GWP of each gas		kg	*
Business	travel and accommoda	ation	N. Take		13 7	1700	1,831
3	Motor vehicle	Invoice	GHGCF/DEFRA6	0.17 kgCO ₂ e /km		km	-

⁶ The 2015 year has been used to be consistent with measurement of organizational greenhouse gas emissions for EnergyAustralia's electricity product certification application, submitted to the Department in 2016.

Table 4. cont. Greenhouse gas emissions inventory (energy retailing) – LCA stage 3 – organisation greenhouse gas emissions (un-apportioned) – 2015 (cal.)

3	Taxi	Invoice	GHGCF/DEFRA6	0.17 kgCO ₂ e /km		km	-
3	Overseas air travel	Invoice	GGIMP/EPA ⁷	0.48 kgCO ₂ e /km	1.5	km	*
3	Trans-Tasman air travel	Invoice	GGIMP/EPA ⁷	0.18 kgCO ₂ e /km		km	*
3	Domestic air travel	Invoice	GGIMP/EPA ⁷	0.33 kgCO ₂ e/km	Ť	km	
3	Overseas accommodation	Invoice	ISA/UoS ⁸	0.38 kgCO ₂ e /\$	1	\$	
3	Domestic accommodation	Invoice	ISA/UoS ⁸	0.38 kgCO ₂ e /\$	*	\$:=:
Total	greenhouse gas emissior	ns (tCO ₂ e)					11,257

Greenhouse gas emissions created at stage 3 of the final gas product life cycle are represented in Table 3 above. A summary of the main reference documents annotated in Table 3 is provided below.

- National Greenhouse Accounts Factors, Australian
 National Greenhouse Accounts, August 2015, Department of the Environment, Australian Government.
- Technical Paper, Electricity-specific Emission Factors for Grid Electricity, August 2011, Ecometrica.
- 3. C02 Baseline Database for the Indian Power Sector, User Guide Version 10.0, December 2014, Government of India, Ministry of Power, Indian Government.
- Guidance for Voluntary, Corporate Greenhouse Gas Reporting, September 2008, Ministry of the Environment, New Zealand Government.
- Environmental Reporting Guidelines: Including Mandatory Greenhouse Gas Emissions Reporting Guidance June 2013, Department for Environment Food and Rural Affairs, United Kingdom Government.
- 6. 2013 Government GHG Conversion Factors for Company Reporting, July 2013, Department for Environment Food and Rural Affairs, United Kingdom Government.
- EPA Victoria's Greenhouse Gas Inventory Management Plan, 2012-13 Update, April 2014, EPA Victoria, Victorian Government.
- 8. Integrated Sustainability Analysis @ University of Sydney (Research Team at The University of Sydney).

During the 2015 calendar year, EnergyAustralia's retailing operations were undertaken at five office buildings in the central business district of Melbourne and two call centres in outer Melbourne (Geelong and Mill Park), In 2016 EnergyAustralia added four new call centres to its retailing operations: one in Manila; one in Bangalore (India); one in Pune (India); and one in New Zealand. In order to provide a base year that was representative for future reporting, estimated greenhouse gas emissions for these new call centres were included within the greenhouse gas emissions inventory for the 2015 analysis of energy retail operations. There have been no further material changes to office buildings used for retail operations since 2015.

3.3.2 The greenhouse gas emissions boundary for the carbon neutral gas product (a)

Table 5. Hypothetical annual uptake rate for the carbon neutral gas product (for illustrative purposes).

Unit	Victoria	New South Wales	South Australia
Commercial and industrial customers numbers	5	5	1
GJ per customer per year	50,000	50,000	50,000
Total GJ per year (i)	250,000	250,000	50,000
Small/medium enterprise customer numbers	50	50	10
GJ per customer per year	500	500	500
Total GJ per year (ii)	25,000	25,000	5,000
Residential customer numbers	5,000	5,000	1000
GJ per customer per year	30	30	30
Total GJ per year (iii)	150,000	150,000	30,000
Total GJ per year = (i) + (ii) + (iii)	425,000	425,000	85,000

Table 5 and Table 6 are an illustrative greenhouse gas emissions inventory for stage 1, stage 2 and stage 4 of the carbon neutral gas product's life cycle per year. This product greenhouse gas emissions inventory is based on the hypothetical sales projections in Table 4, which in reality will depend on the market success of the carbon neutral gas product each year.

Table 6. Hypothetical greenhouse gas emissions inventory – scope 3 (LCA stage 4) – gas customer base (a) – per year

Greenhouse gas emissions sources	Source of activity data	Methodology reference	Greenhouse gas emission factor	Activity data	Unit	tCO₂e
Gas purchased via bilateral contract or wholesale market and sold to EnergyAustralia customers	EnergyAustralia C1 billing and accrual system	National Greenhouse Account Factors, Australian National Greenhouse Accounts (July 2017) published by the Department of the Environment & Energy Table 2 (p.13): Emission factors for the consumption of natural gas - Victoria	0.05153 tCO2e /GJ	425,000	GJ	21,900.25
Gas purchased via bilateral contract or wholesale market and sold to EnergyAustralia	EnergyAustralia C1 billing and accrual system	National Greenhouse Account Factors, Australian National Greenhouse Accounts (July 2017) published by the Department of the	0.05153 tCO ₂ e /GJ	425,000	GJ	21,900.25
		Environment & Energy Table 2 (p.13). Emission				
		consumption of natural gas - New South Wales and the Australian Capital Territory				
Gas purchased via bilateral contract or wholesale market and sold to EnergyAustralia customers	EnergyAustralia C1 billing and accrual system	National Greenhouse Account Factors, Australian National Greenhouse Accounts (July 2017) published by the Department of the Environment & Energy Table 2 (p.13): Emission factors for the	0.05153 tCO ₂ e /GJ	85,000	GJ	4,380.05
	bilateral contract or wholesale market and sold to EnergyAustralia customers Gas purchased via bilateral contract or wholesale market and sold to EnergyAustralia customers Gas purchased via bilateral contract or wholesale market and sold to EnergyAustralia	bilateral contract or wholesale market and sold to EnergyAustralia customers Gas purchased via bilateral contract or wholesale market and sold to EnergyAustralia customers Gas purchased via bilateral contract or wholesale market and sold to EnergyAustralia customers Gas purchased via bilateral contract or wholesale market and sold to EnergyAustralia C1 billing and accrual system EnergyAustralia C1 billing and accrual system	bilateral contract or wholesale market and sold to EnergyAustralia customers C1 billing and accrual system C2 billing and accrual system C3 billing and Greenhouse Accounts (July 2017) published by the Department of the Environment & Energy Table 2 (p.13): Emission factors for the consumption of natural gas - Victoria C3 purchased via bilateral contract or wholesale market and sold to EnergyAustralia customers C3 purchased via bilateral contract or wholesale market and sold to EnergyAustralia customers C4 billing and accrual system C5 billing and accrual system C6 purchased via bilateral contract or wholesale market and sold to EnergyAustralia customers C6 purchased via bilateral contract or wholesale market and sold to EnergyAustralia customers C7 billing and accrual system C9 purchased via bilateral contract or wholesale market and sold to EnergyAustralia customers C1 billing and accrual system C2 purchased via bilateral contract or wholesale market and sold to EnergyAustralia customers C3 bilateral contract or wholesale market and sold to EnergyAustralia customers C1 billing and accrual system C2 billing and accrual system Account Factors, Australian Capital Territory C6 purchased via bilateral contract or wholesale accrual system C9 purchased via bilateral contract or wholesale accrual system C9 purchased via bilateral contract or wholesale accrual system C9 purchased via bilateral contract or wholesale accrual system C9 purchased via bilateral contract or wholesale accrual system C9 purchased via bilateral contract or wholesale accrual system C1 billing and accrual system C2 billing and accrual system C3 purchased via bilateral contract or wholesale accrual system C1 billing and accrual system C2 purchased via bilateral contract or wholesale accrual system C1 billing and accrual system C2 billing and accrual system C3 purchased via bilateral contract or wholesale accrual system C1 billing and accrual system C2 purchased via bilateral contract or wholesale accrual system C3	Gas purchased via bilateral contract or wholesale market and sold to EnergyAustralia customers EnergyAustralia accrual system Gas purchased via bilateral contract or wholesale market and sold to EnergyAustralia customers EnergyAustralia customers EnergyAustralia customers EnergyAustralia (July 2017) published by the Department of the Environment & Energy Table 2 (p.13): Emission factors for the consumption of natural gas - 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Table 7. Hypothetical greenhouse gas emissions inventory – scope 3 (LCA stages 1 & 2) – gas customer base (a) – per year

Scope	Greenhouse gas emissions sources	Source of activity data	Methodology reference	Greenhouse gas emission factor ⁷	Activity data	Unit	tCO ₂ e
3	Gas purchased via bilateral contract or wholesale market and sold to EnergyAustralia customers	EnergyAustralia C1 billing and accrual system	National Greenhouse Account Factors, Australian National Greenhouse Accounts (July 2017) published by the Department of the Environment & Energy Table 38 (p.69): Scope	0.0039 tCO₂e / GJ	425,000	GJ	1,657.50
			3 emission factors - Victoria				
3	Gas purchased via bilateral contract or wholesale market and sold to EnergyAustralia customers	or wholesale accrual system narket and sold be EnergyAustralia	National Greenhouse Account Factors, Australian National Greenhouse Accounts (July 2017) published by the Department of the Environment & Energy	0.0136 tCO ₂ e / GJ	425,000	GJ	5,780.00
			Table 38 (p.69): Scope 3 emission factors - New South Wales and the Australian Capital Territory				
3	Gas purchased via bilateral contract or wholesale market and sold to EnergyAustralia customers	EnergyAustralia C1 billing and accrual system	National Greenhouse Account Factors, Australian National Greenhouse Accounts (July 2017) published by the Department of the Environment & Energy	0.0104 tCO₂e / GJ	85,000	GJ	884.00
			Table 38 (p.69): Scope 3 emission factors - South Australia				

⁷ The higher emission factor between "metro" and "non-metro" has been used to avoid having to determine the proportion of customers' gas volumes supplied to each of these segments in each jurisdiction. The resulting impact of this simplification is to over-estimate the emissions associated natural gas consumption by EnergyAustralia's customer base.

3.4. Collecting data relevant to greenhouse gas emissions sources

3.4.1 Greenhouse gas emissions created at stage 1, stage 2 and stage 4 of the final gas product life cycle

Individual customer consumption data will be required to calculate greenhouse gas emissions associated with the carbon neutral gas product and this data will need to be accessible for the purposes of maintaining carbon neutral certification in future periods.

This means that the Australian Energy Market Operator (AEMO) purchase volume data is inappropriate for the purposes of the application because it does not enable the consumption of individual customers (or groups of customers) to be isolated from energy retailers' total settlement volumes.

The decision to use billing system invoice data

The source of consumption (or activity) data used in the application for EnergyAustralia's natural gas customers is the C1 billing system.⁸ The design of the C1 billing system is most amenable to the extraction of billing system invoice data as a means of capturing individual customer consumption volumes over a period of time.

In EnergyAustralia's view customer billing system data is an appropriate source for the following reasons:

- it comes from a system that needs to be sufficiently accurate to effectively bill customers in the ordinary course of business; and
- it comes from a system that is audited from a financial integrity perspective (outside of the application process).

3.4.2 Greenhouse gas emissions created at stage 3 of the final gas product life cycle

Materiality threshold of greenhouse gas emissions created at stage 3 of the final gas product life cycle

EnergyAustralia's retail operation (organisation) greenhouse gas emissions are below the one per cent threshold stipulated in the National Carbon Offset Standard for Products and Services. However, as part of maintaining carbon neutral gas product certification going forward, EnergyAustralia will estimate greenhouse gas emissions created at stage 3 of the final gas product life cycle in the base year and offset these emissions in proportion to the uptake of the carbon neutral gas product in future periods. For example, if carbon neutral gas product consumption is 10 per cent of total gas product consumption in a given period, then 10 per cent of the 'apportioned' base year organisation greenhouse gas emissions will be offset for that period, 'Apportioned' refers to the proportion of total stage 3 greenhouse gas emissions relevant to EnergyAustralia's gas sales.

⁸ EnergyAustralia assigns its customers to the C1 billing system when they open a natural gas product account

⁹ National Carbon Offset Standard for Products & Services effective from 1 November 2017.

4. Reducing greenhouse gas emissions

A greenhouse gas emissions reduction strategy in relation to this product is described below,

4.1 Greenhouse gas emissions reductions strategy

EnergyAustralia is a leader in sustainable business development in the energy sector.

EnergyAustralia, as part of the broader CLP Group, is aligned to our Climate Vision 2050. First published in 2007 and updated in 2018 this vision aims to reduce Carbon Emissions Intensity to 0.15kg CO2/kWh by 2050 with a 30% Renewable capacity and 40% non-carbon capacity by 2030.

EnergyAustralia has committed to leading and accelerating the clean energy transformation for all Australians.

4.2 Greenhouse gas emissions reduction actions

We have proudly invested over \$1 billion in renewable energy, underpinning over 460MW of renewable energy generation, which is over 12 per cent of the total capacity of large-scale wind and solar facilities in the NEM. We also give our customers the opportunity to support renewable energy through the purchase of Greenpower or installing solar PV on their homes or businesses.

EnergyAustralia offers all of its customers energy efficiency advice via the use of its Energy Tracker template (available on-line) and sells, installs, repairs solar power and battery storage systems for its residential and commercial customers in selected areas of Victoria, New South Wales, South Australia and Queensland.

5. Offsetting greenhouse gas emissions

EnergyAustralia will use eligible offset units¹⁰ to offset greenhouse gas emissions associated with the carbon neutral gas product as defined by the greenhouse gas emissions boundary and LCA undertaken in the application. The first year of product sales for which unit cancellation will need to occur is expected to be the 2019 calendar year.

EnergyAustralia has an existing strategy and related protocols for purchasing and surrendering (cancelling) eligible offset units, which it will leverage to maintain carbon neutral certification for the product referred to in the application.

Eligible offset units as listed in Appendix A to the National Carbon Offset Standard for Products & Services issued in 2017.

