



EnergyAustralia

EnergyAustralia Pty Ltd
ABN 99 086 014 968

EnergyAustralia

Public Disclosure Summary

Application for carbon neutral product certification

September 2016



Australian Government



OVERVIEW

Our customers are our priority and we make this application for carbon neutral product certification 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 an electricity product offering. This Public Disclosure Summary has been made in accordance with the Australian Government's National Carbon Offset Standard Version 3.0 and Carbon Neutral Program Guidelines Version 4.0.

Declaration

To the best of my knowledge and having met the requirements of the National Carbon Offset Standard the information provided in this Public Disclosure Summary is true and correct.

Betsy Donaghey		27th September 2016
Corporate Executive		
EnergyAustralia		

ORGANISATION AND EMISSION DETAILS

Organisation name	EnergyAustralia Pty Ltd
Name of subject of certification	EnergyAustralia carbon neutral electricity
Type of certification	Product
Reporting year period	1 January 2015 to 31 December 2015
Emissions in this reporting year	22,311,266 tonnes of CO ₂ e
Base year period	1 January 2015 to 31 December 2015
Emissions in the base year	22,311,266 tonnes of CO ₂ e

1. INTRODUCTION

EnergyAustralia is one of Australia's largest energy companies, providing gas and electricity to 2.5 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 is also a leader in sustainable business development in the energy sector. The launch of our Climate Change Strategy in July 2007 was an unparalleled initiative to define our responsibilities, and to measure and manage the impact of our operations on the climate.

We have proudly invested over \$1 billion in renewable energy and underpinned approximately 14 per cent of the large-scale wind farms in the NEM. Our investments delivered 1,075 GWh of renewable energy in 2014, which is enough energy to power 200,000 homes. We also give consumers the opportunity to support renewable energy through the purchase of Greenpower or installing solar PV on their homes or businesses. By the end of 2015 EnergyAustralia had over 30,000 Greenpower customers and over 135,000 electricity customers with solar.

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

2. ACHIEVING CARBON NEUTRALITY (PRODUCT)

This Public Disclosure Summary relates to EnergyAustralia's application for carbon neutral electricity product certification.

The scope of our application includes residential customers, small-to-medium enterprise customers and commercial & industrial customers. EnergyAustralia has a retail licence to operate and offer electricity products in each of the NEM regions, namely Victoria, New South Wales, the Australian Capital Territory, Queensland and South Australia.

This new product offering differs from EnergyAustralia's existing electricity product offerings with respect to one key feature: it will offset greenhouse gas emissions associated with the electricity sourced from the NEM and delivered to the point of consumption (or customer meter). All other product features, such as billing cycles and payment terms, will be the same or very similar to that of EnergyAustralia's existing product range.

In theory there is no limit on the proportion of EnergyAustralia's electricity customer base that may choose to take up this new product offering over time. Importantly, the electricity sold and greenhouse gas emissions created in relation to the new product (a) will always be a subset of total electricity sold and greenhouse gas emissions created in relation to EnergyAustralia's electricity 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 electricity products EnergyAustralia purchases electricity from the national wholesale electricity market and sells it to customers in Victoria, New South Wales, the Australian Capital Territory, Queensland and South Australia. The greenhouse gas emissions being measured for the purposes of this application are those associated with EnergyAustralia's wholesale electricity purchases for sale to its customer base (the end-users in this case). Therefore EnergyAustralia's electricity generation activities (and associated greenhouse gas emissions) are not relevant to this 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.

3.1 Establishing a greenhouse gas emissions boundary

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

EnergyAustralia's total electricity customer consumption will be used to establish a greenhouse gas emissions inventory for certification of a base year. This is necessary because actual consumption and greenhouse gas emissions data for the carbon neutral 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 electricity product consumed by an end-user. The boundary for carbon neutral products and the boundary for all electricity products have been clearly delineated as follows:

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

The relevant stages of the final electricity product life cycle are:

Stage 1 electricity generation sector – which includes scope 2 and 3 greenhouse gas emissions created from:

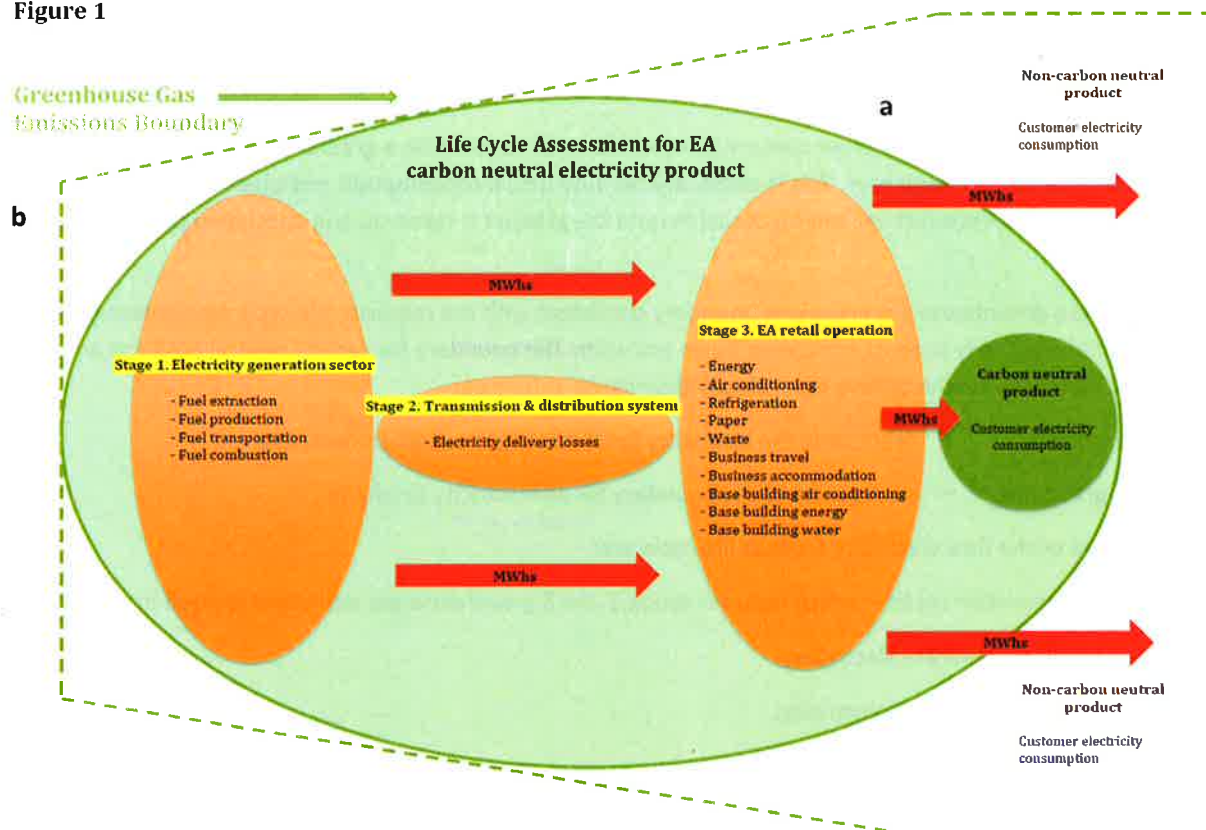
- extraction of fuels to generate electricity;
- production of fuels to generate electricity;
- transport of fuels to generate electricity; and
- combustion of fuels to generate electricity.

Stage 2 transmission and distribution system – which includes scope 3 greenhouse gas emissions created from electricity lost in delivery from the point of generation to the point of consumption (customer meter).

Stage 3 EA retail operation – which includes 'organisation' scope 1, 2 & 3 greenhouse gas emissions as they relate to the retailing operations required to sell electricity 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.

Figure 1



3.2 Setting a base year & recalculation policy

The base year selected for this application is 1 January 2015 to 31 December 2015 (inclusive). The 2015 calendar year has been chosen because it represents 12 months of consumption data for EnergyAustralia’s electricity customer base that can be accurately verified (discussed fully in section 3.4).

The greenhouse gas emissions inventory for the carbon neutral electricity product (a) and all electricity products (b) will both be calculated each calendar year as part of maintaining carbon neutral 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 two-yearly audit process.

A threshold of 10 per cent will be used to trigger reassessment and recalculation of the base year to ensure that the greenhouse gas emissions inventory continues to capture all relevant sources of greenhouse gas emissions. The threshold will be triggered if and when the boundary for all electricity products (b) increases by at least 10 per cent in any one year (against the previous year).

3.3 Identifying greenhouse gas emissions sources within the boundary

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

Greenhouse gas emissions created at Stage 1 & Stage 2 of the final electricity product life cycle are shown in Table 1.

Table 1. Greenhouse gas emissions inventory (purchased electricity) – LCA Stages 1 & 2 – mass-market customer base (b) – 2015 (cal.)							
Scope	Greenhouse gas emission source	Source of activity data	Greenhouse gas emission factor - Victoria	Greenhouse gas emission factor - New South Wales & Australian Capital Territory	Greenhouse gas emission factor - Queensland	Greenhouse gas emission factor - South Australia	Total greenhouse gas emissions (tCO ₂ e) – (b) electricity customer base
2+3	Electricity purchased from the wholesale market and sold to EnergyAustralia customers	EnergyAustralia billing and accounting systems	1.26 tCO ₂ e /MWh National Greenhouse Account Factors, Australian National Greenhouse Accounts (August 2015) published by the Department of the Environment Table 41 (p.67): Full Fuel Cycle Scope 2 & 3 emissions factors – consumption of purchased electricity by end users	0.96 tCO ₂ e /MWh National Greenhouse Account Factors, Australian National Greenhouse Accounts (August 2015) published by the Department of the Environment Table 41 (p.67): Full Fuel Cycle Scope 2 & 3 emissions factors – consumption of purchased electricity by end users	0.92 tCO ₂ e /MWh National Greenhouse Account Factors, Australian National Greenhouse Accounts (August 2015) published by the Department of the Environment Table 41 (p.67): Full Fuel Cycle Scope 2 & 3 emissions factors – consumption of purchased electricity by end users	0.67 tCO ₂ e /MWh National Greenhouse Account Factors, Australian National Greenhouse Accounts (August 2015) published by the Department of the Environment Table 41 (p.67): Full Fuel Cycle Scope 2 & 3 emissions factors – consumption of purchased electricity by end users	22,300,009

Table 2. Greenhouse gas emissions inventory (retail operations) – LCA Stage 3 – Organisation greenhouse gas emissions (un-apportioned) – 2015 (cal.)

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/DoE ¹	1.26 tCO ₂ e /MWh	-	MWh	-
2	Electricity (Manila)	EA estimate	TPEEF/Eco ²	0.53 tCO ₂ e /MWh	-	MWh	-
2	Electricity (India)	EA estimate	CBDIPS/MoP ³	0.82 tCO ₂ e /MWh	-	MWh	-
2	Electricity (New Zealand)	EA estimate	GVCGGR/MoE ⁴	0.165 tCO ₂ e /MWh	-	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/DEFRA ⁵	0.06 leakage rate, GWP of each gas	-	kg	-
3	Paper	Invoice	GGIMP/EPA ⁷	1.3 to 1.41 tCO ₂ e/t	-	tonne	-
3	Waste	Maintenance record/ EA estimate	NGA/DoE ¹	1.4 to 2.9 tCO ₂ e /t	-	tonne	-
Base building(s)							3,523
3	Electricity	Supplier confirmation / EA estimate	NGA/DoE ¹	1.26 tCO ₂ e /MWh	-	MWh	-
3	Electricity (Manila)	EA estimate	TPEEF/Eco ²	0.53 tCO ₂ e /MWh	-	MWh	-
3	Electricity (India)	EA estimate	CBDIPS/MoP ³	0.82 tCO ₂ e /MWh	-	MWh	-
3	Electricity (New Zealand)	EA estimate	GVCGGR/MoE ⁴	0.165 tCO ₂ e /MWh	-	MWh	-
3	Gas	Invoice/ EA estimate	NGA/DoE ¹	55.43 kgCO ₂ e /GJ	-	GJ	-
3	Water	Invoice/ EA estimate	GGIMP/EPA ⁶	1.36 kgCO ₂ e /KL	-	KL	-
3	Air conditioning	Maintenance record/ EA estimate	ERG/DEFRA ⁵	0.03 leakage rate, GWP of each gas	-	kg	-
Business travel and accommodation							1,831
3	Motor vehicle	Invoice	GHGCF/DEFRA ⁶	0.17 kgCO ₂ e /km	-	km	-
3	Taxi	Invoice	GHGCF/DEFRA ⁶	0.17 kgCO ₂ e /km	-	km	-
3	Overseas air travel	Invoice	GGIMP/EPA ⁷	0.48 kgCO ₂ e /km	-	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	-	km	-
3	Overseas accommodation	Invoice	ISA/UoS ⁸	0.38 kgCO ₂ e /\$	-	\$	-
3	Domestic accommodation	Invoice	ISA/UoS ⁸	0.38 kgCO ₂ e /\$	-	\$	-
Total greenhouse gas emissions (tCO₂e)							11,257

Greenhouse gas emissions created at Stage 3 of the final electricity product life cycle are represented in Table 2 above. A summary of the main reference documents annotated in Table 2 is provided below.

1. *National Greenhouse Accounts Factors, Australian National Greenhouse Accounts, August 2015*, Department of the Environment, Australian Government.
2. *Technical Paper, Electricity-specific Emission Factors for Grid Electricity, August 2011*, Ecometrica.
3. *CO2 Baseline Database for the Indian Power Sector, User Guide Version 10.0, December 2014*, Government of India, Ministry of Power, Indian Government.
4. *Guidance for Voluntary, Corporate Greenhouse Gas Reporting, September 2008*, Ministry of the Environment, New Zealand Government.
5. *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.
7. *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 calendar year 2015 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 is representative for future reporting, estimated greenhouse gas emissions for these new call centres have been included within the greenhouse gas emissions inventory for the base year.

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

Table 3 provides a hypothetical annual uptake rate for the carbon neutral product (for illustrative purposes).

Table 3. Hypothetical uptake of carbon neutral product per year				
Unit	Victoria	New South Wales	Queensland	South Australia
Commercial & Industrial customers numbers	5	5	2	1
MWh per customer per year	5000	5000	5000	5000
Total MWh per year (i)	25,000	25,000	10,000	5,000
Small/medium enterprise customer numbers	500	500	200	100
MWh per customer per year	15	15	15	15
Total MWh per year (ii)	7,500	7,500	3,000	1,500
Residential customer numbers	5,000	5,000	2000	1000
MWh per customer per year	5	5	5	5
Total MWh per year (iii)	25,000	25,000	10,000	5,000
Total MWh per year = (i) + (ii) + (iii)	57,500	57,500	23,000	11,500

Table 4 is an *illustrative* greenhouse gas emissions inventory for Stage 1 & Stage 2 of the carbon neutral product's life cycle per year. This product greenhouse gas emissions inventory is based on the hypothetical sales projections in Table 3, which in reality will depend on the market success of the carbon neutral product each year.

Table 4. Hypothetical greenhouse gas emissions inventory (purchased electricity) – LCA Stages 1 & 2 – carbon neutral product (a)							
Scope	Greenhouse gas emission source	Source of activity data	Methodology reference	Greenhouse gas emission factor	Activity data	Unit	tCO ₂ e
2+3	Electricity purchased from the wholesale market and sold to EnergyAustralia customers	EnergyAustralia billing and accounting systems	National Greenhouse Account Factors, Australian National Greenhouse Accounts (August 2015) published by the Department of the Environment Table 41 (p.67): Full Fuel Cycle Scope 2 & 3 emissions factors – consumption of purchased electricity by end users - Victoria	1.26 tCO ₂ e /MWh	57,500	MWh	72,450
2+3	Electricity purchased from the wholesale market and sold to EnergyAustralia customers	EnergyAustralia billing and accounting systems	National Greenhouse Account Factors, Australian National Greenhouse Accounts (August 2015) published by the Department of the Environment Table 41 (p.67): Full Fuel Cycle Scope 2 & 3 emissions factors – consumption of purchased electricity by end users – New South Wales	0.96 tCO ₂ e /MWh	57,500	MWh	55,200
2+3	Electricity purchased from the wholesale market and sold to EnergyAustralia customers	EnergyAustralia billing and accounting systems	National Greenhouse Account Factors, Australian National Greenhouse Accounts (August 2015) published by the Department of the Environment Table 41 (p.67): Full Fuel Cycle Scope 2 & 3 emissions factors – consumption of purchased electricity by end users - Queensland	0.92 tCO ₂ e /MWh	23,000	MWh	21,160
2+3	Electricity purchased from the wholesale market and sold to EnergyAustralia customers	EnergyAustralia billing and accounting systems	National Greenhouse Account Factors, Australian National Greenhouse Accounts (August 2015) published by the Department of the Environment Table 41 (p.67): Full Fuel Cycle Scope 2 & 3 emissions factors – consumption of purchased electricity by end users – South Australia	0.67 tCO ₂ e /MWh	11,500	MWh	7,705
Total greenhouse gas emissions (tCO ₂ e) – (a) carbon neutral product (illustrative)							156,515

3.4 Collecting data relevant to greenhouse gas emissions sources

3.4.1 Greenhouse gas emissions created at Stage 1 & Stage 2 of the final electricity product life cycle

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

This means that Australian Energy Market Operator (AEMO) purchase volume data is inappropriate for the purposes of this 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 source of consumption (or activity) data used in this application for EnergyAustralia's mass-market customers is billing system data. 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 this application process).

The source of consumption (or activity) data used in this application for EnergyAustralia's commercial & industrial customers is electricity meter data. In EnergyAustralia's view electricity meter data is an appropriate source primarily because it needs to be accurate to effectively account for customer revenue in the ordinary course of business.

Treatment of solar customers

EnergyAustralia currently has over 135,000 electricity customers with solar photovoltaic generation. Gross-metered solar and net-metered solar customers' consumption is captured differently.

- Consumption data for a solar customer with a gross meter captures all the electricity that the customer consumed from the grid *without subtracting* the portion they may have effectively 'fed-back' into the grid. This 'fed-back' portion occurs if and when the customer's solar panel output is higher than their consumption for any given period of time (assuming they do not have battery storage).
- Consumption data for a solar customer with a net meter only captures the electricity that the customer consumed from the grid *after subtracting* the portion they may have effectively 'fed-back' into the grid. This 'fed-back' portion is not metered and therefore not captured.

For the purposes of calculating electricity consumption gross meter information will be used where available, however for solar customers with net meters, 'net' consumption will be used.

Treatment of Greenpower customers

EnergyAustralia currently has over 30,000 Greenpower customers. While it is possible that customers with Greenpower may take up the new carbon neutral product in the future, EnergyAustralia will not seek to make an adjustment to the number of offset units already required to be purchased and surrendered for these customers for Greenpower purposes. As a result, EnergyAustralia may offset more greenhouse gas emissions than required where the customer takes up both the Greenpower in conjunction with a carbon neutral product.

Treatment of Renewable Energy Target certificates

EnergyAustralia surrenders large-scale renewable energy target certificates and small-scale renewable energy scheme certificates to satisfy its regulatory obligations under these schemes. EnergyAustralia does not surrender these certificates voluntarily and is therefore not required to make any adjustments to its greenhouse gas emissions inventory with respect to this application.

3.4.2 Greenhouse gas emissions created at Stage 3 of the final electricity 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 Version 3.0 (see Table 2 and Table 7). However, as part of maintaining carbon neutral product certification going forward, EnergyAustralia will estimate greenhouse gas emissions created at Stage 3 of the final electricity product life cycle in the base year and offset these emissions in proportion to the uptake of the carbon neutral electricity product in future periods. For example, if carbon neutral product consumption is 10 per cent of total electricity 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 electricity sales.

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. The launch of our Climate Change Strategy in July 2007 was an unparalleled initiative to define our responsibilities, and to measure and manage the impact of our operations on the climate. The overriding goal of our Climate Change Strategy is to reduce our greenhouse gas emissions by 60 percent by 2050. Since 2007 we have managed to grow our business in terms of customer accounts and generation capacity while simultaneously reducing the emissions intensity of our generation portfolio from about 1.2Kg CO₂/ KWh to about 1Kg CO₂/ KWh currently.

4.2 Greenhouse gas emissions reduction actions

We have proudly invested over \$1 billion in renewable energy and underpinned approximately 14 per cent of the large-scale wind farms in the NEM. Our investments delivered 1,075 GWh of renewable energy in 2014, which is enough energy to power 200,000 homes. We also give consumers the opportunity to support renewable energy through the purchase of Greenpower or installing solar PV on their homes or businesses. By the end of 2015 EnergyAustralia had over 30,000 Greenpower customers and over 135,000 electricity customers with solar.

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 EMISSIONS

EnergyAustralia will utilise carbon offset units to offset emissions associated with the new product as defined by the emissions boundary and LCA undertaken in this application. The first year of product sales for which unit cancellation will need to occur is expected to be the 2017 calendar year.

As a large participant in the national electricity market, EnergyAustralia has extensive experience with a range of 'green' scheme regulatory obligations that require it to purchase and surrender a range of 'green' units. These include the large-scale renewable energy target; the small-scale renewable energy scheme; and prior to the 1 July 2014, the Carbon Pricing Mechanism. The Carbon Pricing Mechanism was designed to allow liable parties to use Certified Emission Reduction (CER) units to acquit a portion of their liability.

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