

National Carbon Offset Standard Carbon Neutral Program Public Disclosure Summary



An Australian Government Initiative



meridian



Powershop Carbon Neutral Electricity Product Public Disclosure Summary FY2015



Australian Government

Summary

Meridian Energy Limited has a proud heritage of harnessing our earth's energy in generating affordable electricity every day – enough to supply more than one million homes. We are proud to say we are Australasia's largest entirely renewable electricity generator and retailer. Our company has made a conscious choice to invest in our children's future by not investing in polluting fossil fuel based plants. We seek to add value in a sustainable way by minimising the resources we draw on in going about our business. We seek to ensure the choices we make offer good value, to ensure we can keep our energy affordable.

In Australia, Meridian generates electricity from its own wind farms which is sold into the National Energy Market (NEM). We also retail electricity, bought from that same market under our iconic Powershop brand for which we surrender a range of carbon offset credits to produce a carbon neutral outcome for the product. This Public Disclosure Statement (PDS) supports an application for accreditation under the National Carbon Offset Carbon Neutral Program that covers Powershop Australia's Carbon Neutral electricity product. It details for the FY2015 (Base Year):

- the total of our existing emissions from this Product;
- how we define and measure those emissions; and
- how we use our purchases of Large-scale Generation Certificates ("LGCs") GreenPower and carbon offsets to neutralise that impact.

The Meridian Energy Australia Group (which includes Powershop Australia) operates on a carbon neutral basis and surrenders LGCs and carbon offsets to neutralise its Scope 1, 2 and 3 emissions. Under a separate application, Meridian Energy Australia is also seeking Organisational accreditation under the National Carbon Offset Carbon Neutral Program.

By seeking accreditation of Meridian Energy Australia's voluntary carbon neutral status at both an Organisational and Product level, all Meridian Energy Australia's stakeholders will be assured they are supporting a better future through lower greenhouse gas emissions.

1. Organisation and Emission details

Table 1: Organisation and Product Information

Organisation Name	Powershop Australia Pty Ltd	
Name of the subject(s) of certification	Powershop Carbon Neutral electricity	
Type of certification (tick all applicable)	<input type="checkbox"/> Organisation <input type="checkbox"/> Part of organisation	<input checked="" type="checkbox"/> Product/service <input type="checkbox"/> Event
Reporting year period	1st July 2014	30th June 2015
Emissions in this reporting year	First Reporting Period	
Base year period ¹	From 1st July 2014	30 June 2015
Emissions in the base year	01 July 2014 – 30 June 2015	
	<i>tonnes CO₂e</i>	
	Total Emissions	189,836
	Total Offsets	189,836
	Net emissions	0

¹ First year for which the GHG Inventory has been completed.

2. Description of Organisation Activities

Meridian Energy Limited is Australasia's largest entirely renewable electricity generator/retailer and New Zealand's largest electricity generator. Meridian Energy Australia (the organisation responsible for the submission of this accreditation request) is the subsidiary corporate group responsible for Meridian's electricity generation, wholesale, retail and corporate support activities in the Australian market. Powershop Australia is the organisation's retailing arm – providing cheaper and cleaner power to Australian customers.

Meridian Energy Australia owns and operates the Mount Millar Wind Farm in South Australia and the recently commissioned Mount Mercer Wind Farm in Victoria. The business also manages its own wholesale electricity trading in the Australian National Electricity Market (“NEM”) and the Powershop Australia retail electricity business which sells retail electricity to customers in Victoria and NSW and is exploring expansion plans into other states.

Meridian Energy Australia is seeking Organisational accreditation under the National Carbon Offset Scheme Carbon Neutral Program. That application covers Meridian Energy Australia's generation, wholesale, retail and corporate activities including the operations of Powershop Australia. It details for the FY2015 (Base Year), the total of our existing emissions from that part of our business, how we define and measure those emissions and how we use our purchases of GreenPower and carbon offsets to reduce that impact. This accreditation specifically excludes the electricity purchased and on-sold to Powershop's retail customers.

This Public Disclosure Summary relates specifically to the electricity “Product” that is created by Powershop Australia when it buys electricity from the NEM and on-sells that electricity to its retail customers under the Powershop brand. It is this Product which is the subject of this application for accreditation under the National Carbon Offset Scheme Carbon Neutral Program.

Meridian Australia's goal in seeking accreditation at both an Organisational and Product level, is to assure all Meridian Energy Australia's stakeholders they are supporting a better future through lower greenhouse gas emissions.

Further information about Powershop can be found at www.powershop.com.au

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3. Scope & system Boundary

Powershop Australia retails electricity bought from the NEM to end use customers. In calculating the GHG emissions from electricity purchased and on sold to Powershop Australia customers, we have applied scope 2 and scope 3 emission factors to the quantity of electricity purchased from the NEM. The boundary of Powershop Australia's Carbon Neutral electricity product therefore incorporates GHG emissions associated with extraction, production and transport of fuels, electricity generation, transmission and distribution to the Powershop customers.

4. Purchase of GreenPower, Retirement of GreenPower Eligible LGCs and CERs

Powershop Australia surrendered Mandatory LGCs², GreenPower LGCs and CERs³ to ensure its retail electricity was carbon neutral for the FY2015 which is the Base Year for reporting under the NCOS Standard. The details of those instruments surrendered are set out in the following Tables.

Table 2 -Greenpower LGC's pertaining to Powershop Retail Electricity Product (Quantification)

Type	Volume	Unit	t CO ₂ -e	Status
GreenPower Compliance	1,747	MWh	1,747	Surrendered Part of Surrender ID 84167 (1,952 Certificates)
GreenPower Compliance	6,232	MWh	6,232	Purchased to be surrendered Feb 2016

Table 3: Mandatory LGC's pertaining to Powershop Retail Electricity Product (Quantification)

Details of LGCs Surrendered as per mandatory Renewable Power Percentage requirements	
Quantity	Serial No.
6,630	Part of Serial Number Range 217422-226430
12,128	To be sourced from either Mt Mercer or Mt Millar and surrendered in Feb 2016

Table 4: CER's pertaining to Powershop Retail Electricity Product (Quantification)

Details of CER's voluntarily Surrendered

² The quantum of Mandatory LGCs to be retired by Retailers is set by the rate of the Renewable Power Percentage which is adjusted at the end of each calendar year. The rate is designed to achieve the current target of 33,000GWhs of electricity being produced from renewable resources is reached by 2020. For current and future targets see - <http://www.cleanenergyregulator.gov.au/RET/About-the-Renewable-Energy-Target/The-certificate-market/The-renewable-power-percentage/Annual-targets>

³ LGCs = 1MWh, CERs = 1 tCO₂-e

Quantity	Serial No.
33,126	2,155,600 – 2,188,725
107,800	3,583,334 – 3,691,133
14,542	4,243,728 – 4,258,269
23,920	4,258,270 – 4,282,189
12,000	52,896,705 – 52,908,704
191,388	

5. Purchase of NCOS Carbon Neutral Products

Within the base period, which is also the reporting period for this report, we have not separately captured and accounted for our purchase of Carbon Neutral Products. The organisation will adopt appropriate mechanisms to capture the same in the next period and purchase carbon neutral products where it is appropriate to do so.

6. Total Carbon Footprint

The total of electricity sold is derived from the weekly invoices provided by AEMO for each state, as electricity is not stored at utility scale is assumed that all electricity purchased from the NEM is then sold.

The instruments used to lower the gross carbon emissions from the sale of electricity are as follows:

- voluntary Greenpower LGCs bought by customers; and
- voluntary surrender of Certified Emission Reduction certificates (“CERs”)

Each LGC is the equivalent of 1MWh of electricity; each CER represents the equivalent of 1 tonne of CO₂-e.

The emissions from the electricity purchased by Powershop and sold to customers are categorised as:

- Scope 2 emission i.e.:
Indirect GHG emissions (Scope 2): The release of greenhouse gas as a result of electricity generation, heating, cooling or steam that is consumed by a facility⁴; and
- Scope 3 emissions i.e.:
Indirect GHG emissions (Scope 3): Greenhouse gases emitted as a consequence of a facility’s activities but by another facility

⁴ National Carbon Offset Standard-V2 20120628 – Pg5.

The tCO₂e produced by the generation of this electricity has been calculated by:

- 1) Reducing the gross carbon emissions of the volume (MWh) of electricity purchased in each state (Victoria and NSW) as shown on the AEMO invoices by the surrender of GreenPower eligible LGCs in an equal amount to the amount of voluntary Greenpower bought by customers⁵; then
- 2) Calculating the Scope 2 Carbon Footprint of the Powershop Electricity Product by multiplying the remainder volume (MWhr) of electricity purchased by the relevant Emission Factors for each state as shown in the National Greenhouse Accounts Factors (2015) at: Table 5 (a): Indirect (scope 2) emission factors for consumption of purchased electricity from the grid; and
- 3) Calculating the Scope 3 Carbon Footprint of the Powershop Electricity Product by multiplying the remainder volume (MWhr) of electricity purchased by the relevant Emission Factors for each state as shown in the National Greenhouse Accounts Factors (2015) at: the third bullet point that follows and qualifies Table 41: Scope 2 and 3 emissions factors - consumption of purchased electricity by end users.^{6 7}
- 4) The sum of the products of these multiplications is the total of tonnes CO₂-e remaining to be offset to achieve a zero emissions target for the Powershop electricity Product; then
- 5) CERs are surrendered to cancel out the quantum of those remaining tCO₂-e.

The NGA Factors are considered an appropriate source in this instance because:

- NGA is listed as an appropriate source under section 2 of the National Carbon Offset Standard
- NGA is published by the Department of Environment, the same entity that regulates NCOS
- The emissions analysis within the NGA covers manufacture (including of materials), electricity production, electricity distribution, electricity use and then the end of life activities associated the decommissioning, dismantling and recycling of the facility
- The methods used to generate the default factors are consistent with international guidelines and are subject to international expert review each year⁸.

The following is copy of the relevant sections of the tables setting out those emissions factors from the National Greenhouse Accounts Factors document. (note: Table numbering here is from the NGA document).

⁵ Each LGC equals 1 MWh

⁶ The point of metering that Powershop uses to calculate its electricity product's carbon footprint is at the Node (i.e. before the losses in the distribution networks) as such it is appropriate when calculating the Product's Scope 3 emissions to use the same emissions factors as the distribution networks

⁷ This approach was discussed and approved by Bobby Chen, Carbon Neutral Program, Department of Environment on 19 November 2015

⁸ This approach was discussed and approved by Dr. Melanie Kaebernick, Director, ERF Governance and Carbon Neutral Program, Department of Environment on 3 August 2015.

Table 5 (a): Indirect (scope 2) emission factors for consumption of purchased electricity from the grid⁹

State or Territory	Emission factor kg CO ₂ -e/kWh
New South Wales and Australian Capital Territory	0.84
Victoria	1.13
Queensland	0.79
South Australia	0.56
South West Interconnected System (SWIS) in Western Australia	0.76
North Western Interconnected System (NWIS) in Western Australia	0.66
Darwin Katherine Interconnected System (DKIS) in the Northern Territory	0.57
Tasmania	0.12
Northern Territory	0.67

Sources: National Greenhouse and Energy Reporting (Measurement) Determination 2008 (Schedule 1) and Department of the Environment.

Example: calculation of emissions from electricity consumption

A company in New South Wales consumes 100,000 kWh of purchased electricity from the grid.

Emissions of greenhouse gases (scope 2) in tonnes of CO₂-e are estimated as follows:

$$= 100,000 \times (0.84 / 1000)$$

$$= 84 \text{ tonnes.}$$

Total scope 2 GHG emissions = 84 tonnes CO₂-e

- **Electricity emission factors for end users**

Table 41: Scope 2 and 3 emissions factors - consumption of purchased electricity by end users

- **Footnote 3**
- Scope 3 emission factors for transmission and distribution network operators are lower as they include only emissions attributable to the extraction, production and transport of fuels and not emissions attributable to the electricity lost in transmission and distribution networks. Transmission and distribution network operators should use the scope 2 factors in the table above and the following latest estimate scope 3 factors for 2012/13: NSW and ACT: 0.03kg CO₂-e/kWh, VIC: 0.01kg CO₂-e/kWh, QLD: 0.04kg CO₂-e/kWh, SA: 0.05kg CO₂-e/kWh, WA: 0.02kg CO₂-e/kWh, TAS: 0.02kg CO₂-e/kWh, NT:0.05 kg CO₂-e/kWh.
- The application of this calculation for the FY2015 is shown in the following Tables.

Table 5 - Powershop net Carbon Footprint

⁹ National Greenhouse Accounts Factors – Updated August 2015 (pg. 19)

Large-scale Generation Certificates (LGC) and Greenpower	2014 (July - Dec)	2015 (Jan - June)	Totals for FY2015
Electricity purchases Vic (MWh)	65,417	95,217	160,634
Greenpower Purchases (MWh)¹⁰	1,747	6,232	7,978
Electricity purchases NSW (MWh)	5	7,711	7,716
National Totals (MWh)	67,169	109,159	176,328
Mandatory LGC surrender (% of total MWh)	9.87%	11.11%	
Mandatory LGC Liability	6,630	12,128	18,757
LGCs Surrendered (period)	6,630	0	
LGC Liability Outstanding	0	12,128	2H LGCs to be surrendered Feb 2016 in accordance with market practices
GreenPower LGC Liability			
LGCs Surrendered (period)	1,747	0	
LGC Liability Outstanding	(0)	6,232	2H LGCs to be surrendered Feb 2016 in accordance with market practices
Electricity Purchases Vic – Net of voluntary GreenPower LGCs (MWHrs)	65,417	95,217	160,634
Electricity Purchases NSW- Net LGCs (MWHrs)	5	7,711	7,716
Net National Totals (MWh)	65,422	102,928	168,350

¹⁰ A de Minimus amount of GreenPower was sold into NSW so a conservative approach has been taken and all GreenPower has been allocated against Victorian sales.

Table 6 – Emissions to be offset by CERs from the Powershop Retail Electricity Product (Quantification)

Scope	Emission source	Source of activity data	Methodology reference	Energy content factor	Emission factor	Activity data	Unit	t CO ₂ -e
2	Electricity purchased from the NEM and sold to Powershop's Victorian Customers (net of mandatory and voluntary Greenpower LGC surrender)	AEMO Finalised Market Invoices	National Greenhouse Accounts Factors (August 2015) published by the Australian Department of the Environment Table 5 (a): Indirect (scope 2) emission factors for consumption of purchased electricity from the grid – Victoria		1.13kg CO ₂ -e/kWh	160,634	MWh	181,516
2	Electricity purchased from the NEM and sold to Powershop's NSW Customers (net of mandatory and voluntary Greenpower LGC surrender)	AEMO Finalised Market Invoices	National Greenhouse Accounts Factors (August 2015) published by the Australian Department of the Environment Table 5 (a): Indirect (scope 2) emission factors for consumption of purchased electricity from the grid – NSW		0.84kg CO ₂ -e/kWh	7,716	MWh	6,482



3	<p>Electricity purchased from the NEM and sold to Powershop's Victorian Customers (net of mandatory and voluntary Greenpower LGC surrender)</p>	<p>AEMO Finalised Market Invoices</p>	<p>National Greenhouse Accounts Factors (August 2015) published by the Australian Department of the Environment Third Bullet point in Notes that follow: Table 41: Scope 2 and 3 emissions factors - consumption of purchased electricity by end users (pg. 70)</p>	<p>0.01kg CO₂-e/kWh</p>	<p>160,634</p>	<p>MWh</p>	<p>1,606</p>
3	<p>Electricity purchased from the NEM and sold to Powershop's NSW Customers (net of mandatory and voluntary Greenpower LGC surrender)</p>	<p>AEMO Finalised Market Invoices</p>	<p>National Greenhouse Accounts Factors (August 2015) published by the Australian Department of the Environment Third Bullet point in Notes that follow: Table 41: Scope 2 and 3 emissions factors - consumption of purchased electricity by end users (pg. 70)</p>	<p>0.03kg CO₂-e/kWh</p>	<p>7,711</p>	<p>MWh</p>	<p>231</p>
<p>Total Footprint Net of Mandatory and GreenPower LGCs (Powershop Retail)</p>							<p>189,836</p>

7. Carbon Offset Purchases and Retirement for this Reporting Period

The organisation will utilise carbon offsets for off-setting all included Scope 1, Scope 2 and Scope 3 emissions associated with the Powershop Carbon Neutral electricity Product.

Powershop and Meridian Energy Australia have forward purchased and surrendered carbon offsets prior to the end of the next reporting period and will true up prior to the end of each reporting period. Excess offsets that have been surrendered will be banked for future use, which are to cover Meridian Energy Australia’s Organisational and Product emissions in the base year and first reporting period, and product emissions for the first reporting period, commencing from 1st July 2015.

Only NCOS eligible carbon offsets will be utilised in this activity.

Meridian Energy Australia, cancelled offsets equivalent to its Organisational and Product emissions for the base period 2014/2015 financial year and will do so for the first reporting period (1st July 2015 to 30th June 2016). For the base year, offsets were as per Table 4: CER’s pertaining to Powershop Retail Electricity Product (Quantification)

Surplus offsets are to be carried forward into the next reporting period for future periods are shown in the following table.

Table 7: Surplus Offset Cancellations

Offset type	Registry	Serial number	Quantity (t CO ₂ -e)
CER	Carbon Financial Services	52,907,153 – 52,908,704	1,552
Total			1,552

8. Emission Reduction Measures

Our emission reduction measures are covered in more detail in the Meridian Energy Australian Emissions Management Plan.

The methods and efficiency associated with production, distribution and consumption of electricity purchased from the NEM are beyond Powershop Australia’s direct ability to influence however, as a participant in the Australian energy market, Powershop and Meridian are positioned to influence the emissions intensity of this market. We do this both directly, by encouraging our own customers to use less electricity and giving them the tools to do so, and

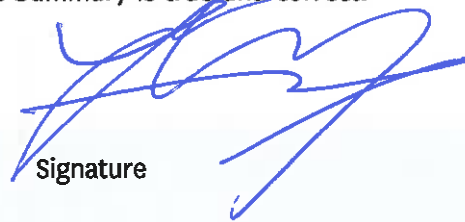
indirectly, by supporting efforts to encourage policies that will drive lower emissions (including supporting the continuation and integrity of the Renewable Energy Target).

Powershop will continue to offer our customers the opportunity to purchase both GreenPower accredited and carbon offset electricity product offerings. Powershop has developed ambitious targets for growth in these products, but for commercial reasons, these are not publicly disclosed.

9. Declaration

To the best of my knowledge and having implemented the quality controls and standards required under the NCOS Carbon Neutral Program and made all appropriate inquiries, the information provided in this Public Disclosure Summary is true and correct.

James Gerraty



Name of Signatory

Signature

(company representative with the appropriate authority)

Manager – Strategy & Commercial

Position / Title of Signatory

24th November 2015

Date: