

AGL Future Forests Program

Annual Report FY18





AGL Energy Limited
ABN: 74 115 061 375
Level 24, 200 George St
Sydney NSW 2000
Locked Bag 1837
St Leonards NSW 2065
t: 02 9921 2999
f: 02 9921 2552
agl.com.au

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Foreword

As operator of the country's largest electricity generation portfolio, which in turn means we're one of Australia's largest greenhouse gas emitters, AGL understands its responsibility to tackle climate change and the transition to a carbon constrained future at all levels of our business.

AGL's NSW Generation Plan outlines our key activities in leading the transition to a carbon constrained future, and our recently released *Powering a Climate Resilient Economy* report outlines the risks and opportunities associated with tackling climate change for AGL.

AGL is committed to providing secure, affordable, and sustainable energy for our customers. The Future Forests Program is strongly tied to this goal, enabling customers to offset the carbon emissions associated with their household electricity usage through Australian carbon offset projects. By participating, customers and AGL are helping shape a more sustainable energy future.

As a proud AGL customer and member of the Future Forests Program myself, I look forward to seeing the continued growth of this productive initiative and our valued community of members.

Theodore Comino – Manager, Greenhouse and Sustainability



Background

The AGL Future Forests Program

Driven by our strategic imperatives to prosper in a carbon constrained future and build customer advocacy, our Future Forest Program was developed to provide customers with a smart and simple way to offset the carbon emissions relating to their household electricity consumption for just \$1 a week.

2018 marked the second year of our Future Forest Program, which proudly commits 100% of customer's contributions towards certified carbon offset projects within Australia.

In a time of transformative change for the energy industry, AGL is committed to taking a leading role in shaping a reliable, affordable and sustainable energy future for Australia. As the country transitions to a cleaner energy future, carbon emissions remain a reality. Our Future Forests Program, which we will continue to evolve to meet the needs of our customers, is an example of our ongoing commitment to this challenge.

The technical details

The Program design has been informed by elements outlined in the:

1. **National GreenPower Program Rules** (Version 10 – January 2016) &;
2. **National Carbon Offsets Standard (NCOS)** Carbon Neutral Program Guidelines V 4.0

In addition, AGL minimum standards relating to carbon offsetting (particularly offset purchasing) have been developed with reference to guidance and the Code of Best Practice provided by the **International Carbon Reduction and Offset Alliance (ICROA)**. Further details on our credit sourcing standards can be found in our Future Forests Voluntary Compliance Method which is available upon request.

How does the Program work?

Quite simply, once a customer opts into our Future Forests Program, we track and keep a record of their household electricity consumption whilst they remain on the Program. It is important to collect this data as it is used to calculate the Program's Annual Offset Surrender Total¹ (**AOST**) which is the amount of carbon emissions (measured in tonnes) that we need to offset on behalf of the customer. This calculation is done for every customer at the conclusion of the fiscal year (ending June 30) with the totals being aggregated to inform us how many carbon credits we need to purchase and surrender.

Also incorporated in the Program's AOST, is the electricity consumption from our Electric Car Plan Customers and our Corporate Offices.

For our Electric Car Plan Customers, electricity consumption relating to their car charging is captured via a sub-meter. Consumption data recorded by the sub-meter is solely for the car charging portion and is used to calculate the offsets required for each Electric Car Plan Customer.

¹ The formula used to calculate the product-relevant greenhouse gas emissions is based on technical guidance provided by the Australian Government Department of the Environment and Energy.



For our Corporate Offices that do not currently use 100% renewable energy, we utilise our Future Forests Program to offset the equivalent carbon emissions. Monthly electricity consumption data is captured and used to calculate the offset requirement.

What type of carbon credits have been purchased for FY18?

The credits purchased to fulfil our Future Forests Program AOST commitments were sourced solely from Australian offset projects utilising 'Vegetation Management' methods².

The credit standard that we have purchased and surrendered were Australian Carbon Credit Units (**ACCUs**) that have a 100-year permanence period.

Details of the credits surrendered in FY18 can be found in the 'FY18 AGL Annual Offsets Acquittal Summary' on page 9 of this report.

How were the carbon emissions calculated for FY18?

In determining the Future Forests Program AOST, we have utilised a 3-step process:

Step 1:

Using our internal billing system, SAP, we extract relevant customer data such as;

- Customer Type (Residential)
- Customer Location (State / Territory)
- Future Forests Program Start Date / End Date
- Customer Billing Periods
- Customer Consumption (kWh)

Step 2:

We then apply the respective State Emission Factor³ against each Future Forest Program customer record. The State Emission Factors are published by the Australian Government Department of the Environment and Energy in its 'National Greenhouse Accounts Factors' publication.

The State Emission Factor forms an important part of the AOST calculation as it only considers the emissions relating to the electricity consumed and does not attribute any of the emissions relating to the transmission and distribution network.

² 'Vegetation Methods' published by the Australian Government Department of the Environment and Energy - <http://www.environment.gov.au/climate-change/government/emissions-reduction-fund/methods>

³ State Emission Factors published in 'National Greenhouse Account Factors' publication - <http://www.environment.gov.au/climate-change/climate-science-data/greenhouse-gas-measurement/publications/national-greenhouse-accounts-factors-july-2018>



The table below shows the State-by-State Emission Factors that were applied in FY18:

State	Emission factor kg CO ₂ -e/kWh
New South Wales	0.82
Victoria	1.07
Queensland	0.80
South Australia	0.51

Source: Table 5: National Greenhouse Accounts Factors July 2018, Department of the Environment and Energy³.

Step 3:

In the final Step, using the data collected in Step 1 and the Emission Factors in Step 2, we input it into the following equation to derive the relevant State AOST. The sum of the State AOST equals the FY18 Future Forests Program AOST.

$$\text{AOST (tCO}_2\text{-e)} = \text{Total (kWh)} \times \frac{\text{Emissions Factor (kg CO}_2\text{-e/kWh)}}{1000}$$

Revenue Neutrality

We are committed to keeping our Future Forests Program revenue neutral with 100% of customer contributions (\$1 a week) being used to purchase credits from certified carbon offset projects within Australia. To determine the neutrality of our Program we use the simple calculation below at the end of the fiscal year:

$$X = \text{Total Future Forests Customer Contributions (\$)} - \text{Total Costs of Credits (\$)}$$

If 'X' is a positive number, it represents that the Total Future Forests Customer Contributions collected **exceeded** the Total Costs of Credits. In this scenario, we would use the excess monies collected to purchase and surrender additional credits.

If 'X' is a negative number, it represents that the Total Future Forests Customer Contributions collected **did not exceed** the Total Costs of Credits and a shortfall exists. In this scenario, we would internally fund the shortfall with no additional costs being expensed to customers on the Program.

It is also important to note that all operating expenditure associated with running the Future Forests Program is excluded in the Revenue Neutrality calculation. In addition, the cost of credits to offset the carbon emissions associated with our Electric Car Plan Customers and our Corporate Offices are also excluded from the Revenue Neutrality calculation. We absorb these costs internally.



FY18 AGL AOST Information⁴

The following tables / assumptions represents the key inputs into calculating the FY18 Future Forests Program AOST:

1. New customers who joined our Future Forests Program in FY18:

State	Future Forests Customers
New South Wales	3,462
Queensland	1,813
South Australia	665
Victoria	2,042
TOTAL	7,982

The customer numbers reported above includes:

- a combination of Residential Future Forest Customers and Electric Car Plan Customers; and
- customers that participated in our Future Forests Program in FY18 but has since opted out of the Program or has left AGL.

2. Total electricity consumption (MWh) by State:

State	Future Forests Customer Consumption (MWh)	AGL Corporate Office Consumption (MWh)
New South Wales	21,088.6	725.4
Queensland	8,338.7	21.3
South Australia	3,936.8	n/a
Victoria	11,187.7	1581.8
TOTAL	44,551.9	2,328.5

The Future Forests Customer Consumption includes Residential Customers and Electric Car Plan Customers.

We also commit to offsetting the carbon emissions from our Corporate Office electricity usage through the Future Forests Program. Our Eastwood Office in Adelaide and Bathurst Office in New South Wales are currently powered via 100% renewable sources and do not require additional carbon offsets.

⁴ All data is current as at 07/08/2018.



3. Total carbon emissions (tCO₂-e) by State:

State	Future Forest Customer Carbon Emissions (tCO ₂ -e)	AGL Corporate Office Carbon Emissions (tCO ₂ -e)
New South Wales	17,292.7	591
Queensland	6,671	17
South Australia	2,007.8	0
Victoria	11,970.9	1692
TOTAL	37,942.3	2320*

*To account for cross over billing periods for our Corporate Offices, we have increased the number of credits required to be purchased by 20 tCO₂-e.

4. Assumptions / Estimations applicable in calculating the FY18 Future Forests Program AOST:

- In some States where digital meters are not prevalent, we have had to rely on bill estimates instead of actual consumption data. Any differences between the estimated consumption total and the actual consumption total will be reconciled within the next annual reporting cycle.
- For customer accounts where a consumption bill was subsequently adjusted or cancelled, we have still included the consumption in our Program AOST calculation and for safe measure, placed an additional buffer of 10%.

FY17 Future Forest Program Reconciliation

The following tables represent the reconciliation of FY17 Future Forests Program:

1. Total electricity consumption (MWh) by State:

State	Future Forests Customer Consumption (MWh)
New South Wales	79.9
Queensland	109.9
South Australia	64.4
Victoria	66.9
TOTAL	321.1

The FY17 Future Forests reconciliation also includes the consumption from Electric Car Plan Customers.



2. Total carbon emissions (tCO₂-e) by State:

State	Future Forest Customer Carbon Emissions* (tCO ₂ -e)
New South Wales	66.4
Queensland	86.8
South Australia	31.6
Victoria	72.2
TOTAL	257

*Using July 2017 State Emission Factors

The result of the reconciliation was 257 tCO₂-e being underreported in FY17. The 257 tCO₂-e has been added to the FY18 Future Forests Program AOST (below).

FY18 Future Forests Program AOST Calculation Summary

State	FY18 Future Forest Customer Carbon Emissions (tCO ₂ -e)	FY18 AGL Corporate Office Carbon Emissions (tCO ₂ -e)	FY17 AOST Reconciliation (tCO ₂ -e)
New South Wales	17,292.7	591	66.4
Queensland	6,671	17	86.8
South Australia	2,007.8	0	31.6
Victoria	11,970.9	1692	72.2
TOTAL	37,942.3	2,320	257

Item	Calculation
Calculated FY18 AOST	37,942.3 + 2,320 + 257
Surplus Credits carried over from FY17 Reporting Period	92
Final FY18 AOST	(37,942.3 + 2,320 + 257) – 92
Number of credits required to meet our FY18 Future Forests Program and FY17 Future Forests Program Reconciliation	40,427



FY18 AGL Annual Offsets Acquittal Summary

1. Offset project name(s) & description:

Project Name	Description
EOP100636 - Carbon Conscious Carbon Capture Project 1	This project establishes permanent plantings of mallee eucalypt tree species on land that was predominantly used for agricultural purposes for at least five years prior to project commencement.
EOP100638 - Carbon Conscious Carbon Capture Project 2	This project establishes permanent plantings of mallee tree species on land that was previously used for agricultural purposes.

2. Certification standard(s):

Australian Government, Clean Energy Regulator

3. Project serial number(s):

EOP100636

EOP100638

4. Verification status of purchased offsets:

Verified Emission Reduction Units (VERs)

5. Offset purchase volume:

Credit volume purchased were sufficient to meet FY18 Future Forests Program offset obligations

6. Offset surrender receipt details from market registry:

Quantity of Credits	Type of Credits	Data of Retirement	Serial Range
13,723	ACCU	04/10/2018	3,739,858,460 – 3,739,872,182
2,320	ACCU	27/08/2018	3,739,872,183 – 3,739,874,502
11,562	ACCU	04/10/2018	3,739,874,503 – 3,739,886,064
4,440	ACCU	04/10/2018	3,752,009,958 – 3,752,023,970
8,382	ACCU	04/10/2018	3,753,686,887 – 3,753,695,268

7. Any shortfall or conversely surplus carry-over offsetting against the calculated AOST:

There were 92 credits surrendered for the FY17 period that were surplus to the calculated FY17 AOST. This amount has been deducted from the calculated FY18 Future Forests Program AOST.



FY18 Revenue Neutrality Summary

In accordance with our Future Forests Voluntary Compliance Method, we have calculated the Total Future Forests Customer Contributions received and compared it against the Total Costs of Credits.

The result of this calculation showed that the Total Future Forest Customer Contributions did not exceed the Total Costs of Credits, as such, we have funded the shortfall with no additional costs being expensed to customers on the program.

The calculation methodology and the result of this calculation has been independently audited for authenticity.

Independent Audit Assurance

The FY18 AGL Future Forests Program Annual Report has been independently audited by Clear Environment Pty Ltd to a reasonable assurance level under accounting standard ASAE 3000 “Assurance Engagement Other than Audits or Review of Historical Information”.

Further Information

For further details relating to this report & the AGL Future Forests Program, please visit www.aglblog.com.au

A handwritten signature in black ink that reads 'Melissa Reynolds'.

Melissa Reynolds

Chief Customer Officer

AGL Energy Ltd.