# PUBLIC DISCLOSURE STATEMENT

AGL ENERGY LIMITED

PRODUCT CERTIFICATION
SOLAR SYSTEMS
CY2021 (TRUE-UP)

Australian Government

# Climate Active
# Public Disclosure Statement

An Australian Government Initiative

| | |
|---|---|
| NAME OF CERTIFIED ENTITY | AGL ENERGY LIMITED |
| REPORTING PERIOD | 1 January 2021 – 31 December 2021 (True-up) |
| DECLARATION | To the best of my knowledge, the information provided in this public disclosure statement is true and correct and meets the requirements of the Climate Active Carbon Neutral Standard.<br><br>Signature Ryan Warburton<br><br>DocuSigned by:<br>Ryan Warburton<br>17C3F7B950DE463...<br><br>Signature Bruce Hardy<br><br>DocuSigned by:<br>BCF<br>EF8C4D9023EE45D...<br><br>Date: 14/7/2023 |
| | Name of signatory: Ryan Warburton<br><br>Position of signatory: General Manager, Commercial & Industrial Customers<br><br>Name of signatory: Bruce Hardy<br><br>Position of signatory: General Manager, Emerging Business |

Australian Government
Department of Industry, Science, Energy and Resources



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

# 1.CERTIFICATION SUMMARY

| | |
|---|---|
| TOTAL EMISSIONS OFFSET | 792 tCO2-e |
| THE OFFSETS BOUGHT | 90.2% ACCUs, 9.8% VERs |
| RENEWABLE ELECTRICITY | N/A |
| TECHNICAL ASSESSMENT | 14/04/2021<br>Adina Cirtog<br>Pangolin Associates<br>Next technical assessment due: 14/04/2024 |
| THIRD PARTY VALIDATION | Type 3<br>31/03/2021<br>Name Rob Rowette<br>start2see Pty Ltd |

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# 2. CARBON NEUTRAL INFORMATION

## Description of certification

*"Climate Active certification makes it easier for consumers to make a conscious decision to identify and choose electricity, gas and telecommunications products that are making a difference."*

This public disclosure statement supports the carbon neutral product certification for the supply and installation of **solar systems** provided by **AGL Energy Services Pty Limited**, or **AGL Electricity (VIC) Pty Limited** (through its subsidiary businesses Epho Holding Pty Ltd and SEGH Pty Limited and their subsidiary entities), all being subsidiary entities of AGL Energy Limited. This includes the Life Cycle Assessment of the solar installation and quantification of Scope 1, 2 and 3 emissions associated with the retail operations component.

The emissions reported here are for CY2021 which is the first year of certification.

In June 2021, AGL launched a certified Carbon Neutral Solar product to all AGL residential customers and to opt-in business customers. Solar systems are sold to residential customers as part of a solar and battery bundle.

**Scope**

'Solar product' includes all components and services associated with the supply and installation of solar systems sold by AGL Energy Limited's subsidiary businesses – **AGL Energy Services Pty Limited or AGL Electricity (VIC) Pty Limited** (through its subsidiary businesses Epho Holding Pty Ltd and SEGH Pty Limited and their subsidiary entities).

## Product Description

Our certified Carbon Neutral Solar product is provided to all AGL residential customers and to business customers who opt-in. Solar systems are sold to residential customers as part of a solar and battery bundle.

**Functional unit**

A functional unit of 'one kWp of solar PV system installed' will be used as a quantifiable reference to the associated greenhouse gas emissions for the Solar product. The life cycle assessment was conducted over the product warranty of the solar system which is ten years.

**Solar Product Process Map**


## Organisation description

AGL Energy Services Pty Limited and AGL Electricity (VIC) Pty Ltd are subsidiaries of AGL Energy Limited. AGL Energy Limited (AGL) operates Australia's largest electricity generation portfolio, with an operated generation capacity of 10,984MW [2] (as at 31 December 2021), which accounts for approximately 20% of the total generation capacity within Australia's National Electricity Market. We are also the country's largest publicly-listed operator of renewable generation and storage assets.

AGL has a proud 185-year history of innovation and a passionate belief in progress – human and technological.

We deliver around 4.2 million[1] gas, electricity, and telecommunications services to our residential, small and large business, and wholesale customers across Australia.

**AGL Energy Limited** includes related bodies corporate such as:

Data and Telecommunications providers including **Southern Phone Company Limited**, which trades as **AGL Telecommunications** and as **Southern Phone Company** and sells telecommunications products under both brands.

- **Southern Phone Company** is one of the largest providers of fixed line, mobile and Internet communications services in regional Australia. Formed in 2002 with a vision to provide regional communities with affordable telecommunications services, SPC now serves a national customer base, and provides more than 250 jobs across its head office in Moruya, New South Wales, and

its Bendigo office in regional Victoria.

- **AGL Telecommunications** launched its first telecommunications products, offering Internet services in November 2020, followed by mobile SIM plans in February 2021.

New energy provider - **AGL Energy Services Pty Ltd** sells energy solutions to residential and business customers including solar, battery storage, stand-alone power systems, energy efficient lighting and Power Factor Correction. AGL Energy Services Pty Ltd operates in all Australian states and territories and offers an end-to-end design, project management and installation service for all energy solutions sold.

Energy retailers – **AGL Sales Pty Limited; AGL South Australia Pty Limited; AGL Retail Energy Limited ("AGL energy retail entities"), Powerdirect Pty Ltd, Perth Energy Pty Ltd**

- **AGL energy retail entities** provide gas and electricity services to residential and business customers across New South Wales, Victoria, South Australia, Queensland and Western Australia. Offering a range of energy plans to suit varying preferences, customers can sign up to our products and services via our digital channels (AGL Website, AGL App, My Account) or by calling the AGL Contact Centre.

- **Powerdirect Pty Ltd** provides electricity services in South Australia, New South Wales, South East Queensland, and Victoria.

- **Perth Energy** supplies contestable gas and electricity business customers connected to the Western Power and ATCO gas networks in Western Australia including regional areas such as Albany, Geraldton and Kalgoorlie.

During 2021, AGL acquired two of Australia's largest commercial solar businesses, **Epho** and **Solgen Energy Group** (from Anchorage Capital Partners), both market leading commercial and industrial solar businesses.

*1. Services to customers number is as at 31 December 2021 and includes ex-Click Energy customers and 100% of approximately 300,000 services to customers of ActewAGL, in which AGL owns a 50% equity stake of the retail operations.*

*2. Operated generation capacity sourced from AGL Energy Limited Annual Report, 2021*

# 3.EMISSIONS BOUNDARY

## Inside the emissions boundary

All emission sources listed in the emissions boundary are part of the carbon neutral claim.

**Quantified** emissions have been assessed as 'attributable processes' that become the product, make the product and carry the product through its life cycle. These have been quantified in the carbon inventory.

**Non-quantified** emissions have been assessed as attributable and are captured within the emissions boundary but are not measured (quantified) in the carbon inventory. All material emissions are accounted for through an uplift factor. Further detail is available at Appendix C.

## Outside the emissions boundary

**Non-attributable** emissions have been assessed as not attributable to a product or service. They can be **optionally included** in the emissions boundary and therefore have been offset, or they can be listed as outside of the emissions boundary (and are therefore not part of the carbon neutral claim). Further details are available at Appendix D.

## Inside emissions boundary

### Quantified

Embodied emissions of solar panels

Embodied emissions of parts used in installation (racking, bolts etc.)

End of life emissions in product disposal

Freight

Fuel used in transport for install and maintenance

Labour Hire

**AGL Retail Operations**

Electricity use

Employee commute

Working from home

Transport fuels used in fleet vehicles

Waste

Water use

Business flights

Business accommodation

Telecommunications

IT Equipment

Printing & Stationery

Paper

Advertising

Stationery

Travel Expenses

Catering & Entertainment

Postage &Couriers

Refrigerants

### Non-quantified

N/A

### Optionally included

N/A

## Outside emission boundary

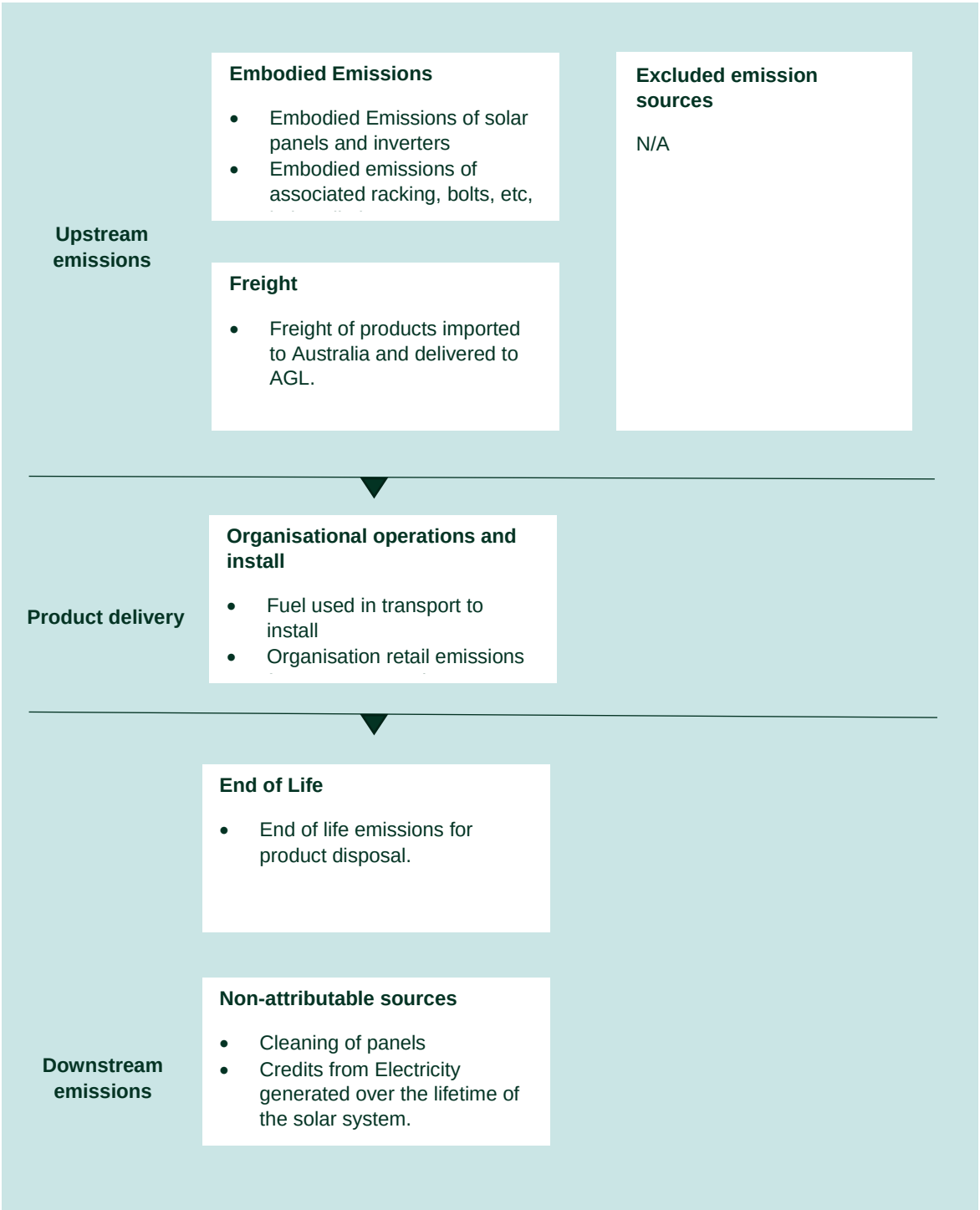
### Non-attributable

Credits from Electricity generated over the lifetime of the solar system.

Cleaning of the panels.

## Product process diagram

The following diagram is cradle to grave:



## Data management plan for non-quantified sources

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

# 4. EMISSIONS REDUCTIONS

## Emissions reduction strategy

Proudly Australian for 185 years, AGL supplies energy and other essential services to residential, small and large businesses and wholesale customers. We operate Australia's largest private electricity generation portfolio with a total installed capacity of 10,984MW [1], which accounts for approximately 20% of the total generation capacity within Australia's National Electricity Market (NEM). We are also the operator of the largest portfolio of renewable generation and storage assets of any ASX-listed company.

We have a strong track record in delivering action on climate change and the energy transition and provide a range of products and services to help our customers decarbonise their businesses and homes.
We are committed through our Climate Transition Action Plan to do the following:

- The targeted closure of Loy Yang A Power Station by the end of FY35[2]. This targeted exit from coal-fired generation, up to a decade earlier than previously announced, would avoid up to 200 $MtCO_2e$ 3 of greenhouse gases being emitted compared to previous Loy Yang A Power Station closure date.
- Annual greenhouse gas emissions reduction[4] by at least 17% by FY24[5] following the closure of Liddell Power Station in April 2023.
- Greenhouse gas emissions reduction[4] by at least 52% by FY35[5] following the closure of the Bayswater Power Station by 2033.
- Net Zero for operated Scope 1 and 2 greenhouse gas emissions following the closure of all AGL's coal-fired power stations.
- Decarbonisation pathway development to achieve our ambition of being Net Zero for Scope 3 greenhouse gas emissions by 2050.
- Seek to supply our customer demand with ~12 GW of additional renewable and firming capacity, requiring a total investment of up to $20 billion[6] before 2036. Our initial target is to have up to 5 GW of new renewables and firming capacity in place by 2030, funded from a combination of assets on our balance sheet, offtakes and via partnerships.

Together with our ambition to invest in new renewable and firming capacity, we have brought forward the targeted closure dates for AGL's coal-fired power stations to support the transition to a lower carbon world aligned with the Paris Agreement[7] goals.

Our plan recognises that a balance needs to be struck between responsible transition and rapid decarbonisation to keep Australia's electricity supply secure, reliable and affordable. We are committed to working constructively with our stakeholders, including government, our people and the communities in which we operate, to lead a responsible and orderly transition.

*1. Operated generation capacity sourced from AGL Energy Limited Annual Report, 2021.*

*2. Asset management plans will be structured to support the targeted closure of Loy Yang A Power Station by the end of FY35, and AGL will notify AEMO that the Expected Closure Year (per the National Electricity Rules (NER) 2.2.1(e)(2A)) for Loy Yang A Power Station is the end of FY35. Further, the carrying value of AGL's 'Generation' cash generating unit property, plant and equipment has been reduced as a result of the targeted closure of Loy Yang A Power Station by the end of FY35, as reflected in the impairment announced to the market on 29 September 2022. The ability for AGL to execute on this target will be subject to uncertainties and risks, as described on page 12.*

*3. Maximum emissions avoidance estimated based on maximum annual output from Loy Yang A Power Station over the FY36 - FY46 period.*

*4. Operated Scope 1 and 2 greenhouse gas emissions, as reported under the National Greenhouse and Energy Reporting Act 2007, against a FY19 baseline.*

*5. FY24 and FY35 represent the first full financial years where no emissions from Liddell and Bayswater power stations occur following the closure of these power stations in April 2023 (FY23) and CY33 (FY34) respectively.*

*6. Based on capital cost estimates from AEMO Inputs, Assumptions and Scenarios Workbook, June 2022, adjusted for AGL views where considered appropriate.*

*7. Based on scenario modelling of the National Electricity Market (NEM) undertaken by ACIL Allen (as outlined in Appendix A) utilising a carbon budget for the NEM which is consistent with limiting global temperature increases to well below two degrees Celsius above pre-industrial levels.*

The ability for AGL to execute on this target will be subject to uncertainties and risks, as described on page 12 of AGL's Climate Transition Action Plan.

# 5.EMISSIONS SUMMARY

## Use of Climate Active carbon neutral products and services

The services provided by Pangolin Associates in preparing this inventory are carbon neutral.

## Product emissions summary

A decrease in emissions was observed for both C&I and Residential Solar due to lower sales volumes than predicted for the projection.

| C&I Solar | Projection (tCO2-e) | True-up (tCO2-e) |
|---|---|---|
| *C&I Solar - Product Emissions (Embodied emissions, Transport, Install and EOL)* | *1045.81* | *63.61* |
| *C&I Solar - Organisation Emissions* | *6.09* | *68.17* |

| Residential Solar | Projection (tCO2-e) | True-up (tCO2-e) |
|---|---|---|
| *Residential Solar - Product Emissions (Embodied emissions, Transport, Installation and EOL)* | *5876.39* | *605.39* |
| *Residential Solar - Organisation Emissions* | *152.46* | *54.60* |

| C&I Solar | Projection | True-Up |
|---|---|---|
| **Emissions intensity per functional unit (kg $CO_2$-e/kW installed)** | 1.756 | 3.95 |
| **Number of functional units to be offset (kW installed)** | 301.91 | 33.33 |
| **Total emissions to be offset ($tCO_2$-e)** | 530.27 | 131.78 |

| Residential Solar | Projection | True-Up |
|---|---|---|
| **Emissions intensity per functional unit (kg $CO_2$-e/kW installed)** | 1.786 | 2.13 |
| **Number of functional units to be offset (kW installed)** | 1701.82 | 309.21 |
| **Total emissions to be offset ($tCO_2$-e)** | 3039.2 | 659.99 |

# 6.CARBON OFFSETS

## Offsets retirement approach

| In arrears | | |
|---|---|---|
| 1. | Total emissions footprint to offset for this report | 793 |
| 2. | Total eligible offsets purchased and retired for this report | 3,569 |
| 3. | Total eligible offsets banked to use toward next year's report | 2,776 |

## Co-benefits

Not all carbon offset units are created equal. There's a wide range of carbon offsets that differ in source, methodology, and price. AGL undertake a rigorous selection process when it comes to the carbon offsets we purchase. The eligible carbon offsets we buy meet the Carbon Neutral Standard integrity requirements set by Climate Active.

There are many different offset methodologies. Some include reforestation, renewable energy, or energy efficiency projects that generate eligible carbon offsets; projects that involve the destruction of certain industrial gases; and projects that involve the capture and destruction of methane from landfills and certain agricultural activities. Many of these projects also provide additional positive environmental and social benefits.

We believe that the projects we've chosen will make a real difference. Listed below are some representative examples of projects that we have purchased carbon offsets from.

**BURN Stoves Project in Kenya**

AGL has pre-purchased and retired Gold Standard Verified Emissions Reductions (GSVERs) from the BURN Stoves Project, developed by ClimateCare Limited, who have pioneered carbon finance for community development projects and delivered some of the largest carbon offsetting programs in the world.

The project directly addresses several certified Sustainable Development Goal (SDG) impacts: 1, No Poverty; 3, Good Health and Wellbeing; 8, Decent Work and Economic Growth; and 13, Climate Action.

**Carbon Conscious Capture Project 2 in Western Australia**

AGL has pre-purchased and retired Australian Carbon Credit Units (ACCUs) from the Carbon Conscious Capture Project 2, developed by Carbon Conscious Investments Ltd (Carbon Conscious), a member of the Carbon Market Institute and a foundation signatory of the Australian Carbon Industry Code of Conduct.

**Ceramic Water Purifiers Project in Cambodia**

AGL has pre-purchased and retired Gold Standard Verified Emissions Reductions (GSVERs) from the Ceramic Water Purifiers Project, developed by Hydrologic Social Enterprise Company Ltd, a social enterprise which has a mission to ensure all families in rural Cambodia have access to safe, clean drinking water. The use of water purifiers eliminates the need for wood fuel, therefore reducing the depletion of Cambodia's forest resources, reducing greenhouse gas emissions and improving indoor air pollution.

## Eligible offsets retirement summary

| Offsets cancelled for Climate Active Carbon Neutral Certification | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project description** | **Type of offset units** | **Registry** | **Date retired** | **Serial number (and hyperlink to registry transaction record)** | **Vintage** | **Stapled quantity** | **Eligible quantity ($tCO_2$-e)** | **Eligible quantity used for previous reporting periods** | **Eligible quantity banked for future reporting periods** | **Eligible quantity used for this reporting period** | **Percentage of total (%)** |
| **Carbon Conscious Carbon Capture Project 2 (EOP100638)** | ACCUs | ANREU | 8 April 2021 | 3,753,705,451 - 3,753,706,164 | 2016/17 | | 714 | 0 | 0 | 714 | 90.2% |
| **Ceramic Water Purifiers Project in Cambodia (GS1020)** | VERs | GSF Registry | 8 April 2021 | GS1-1-KH-GS1020-16-2019-20065-3322-6176 | 2019 | | 2,855 | 0 | 2,776 | 79 | 9.8% |
| | | | | | | | | | **Total offsets retired this report and used in this report** | 793 | |
| | | | | | | | | | **Total offsets retired this report and banked for future reports** | 2,776 | |

| Type of offset units | Quantity (used for this reporting period claim) | Percentage of total |
|---|---|---|
| Australian Carbon Credit Units (ACCUs) | 714 | 90.2% |
| Verified Emissions Reductions (VERs) | 79 | 9.8% |

# 7. RENEWABLE ENERGY CERTIFICATE (REC) SUMMARY

## Renewable Energy Certificate (REC) Summary

N/A

# APPENDIX A: ADDITIONAL INFORMATION

Evidence of ACCU cancelation

| | |
|---|---|
| **Transaction ID** | AU17996 |
| **Current Status** | Completed (4) |
| **Status Date** | 08/04/2021 11:41:33 (AEST)<br>08/04/2021 01:41:33 (GMT) |
| **Transaction Type** | Cancellation (4) |
| **Transaction Initiator** | Xie, Chang Zuo |
| **Transaction Approver** | Merrington, Jane |
| **Comment** | On behalf of AGL for CY2021 Solar Carbon Neutral Certification under Climate Active |

**Transferring Account**

| | |
|---|---|
| **Account Number** | AU-2680 |
| **Account Name** | AGL Hydro Partnership |
| **Account Holder** | AGL HP1 Pty Limited |

**Acquiring Account**

| | |
|---|---|
| **Account Number** | AU-1068 |
| **Account Name** | Australia Voluntary Cancellation Account |
| **Account Holder** | Commonwealth of Australia |

**Transaction Blocks**

| Party | Type | Transaction Type | Original CP | Current CP | ERF Project ID | NGER Facility ID | NGER Facility Name | Safeguard | Kyoto Project # | Vintage | Expiry Date | Serial Range | Quantity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AU | KACCU | Voluntary ACCU Cancellation | | | EOP100538 | | | | | 2016-17 | | 3,753,705,451 - 3,753,706,164 | 714 |

**Transaction Status History**

| Status Date | Status Code |
|---|---|
| 08/04/2021 11:41:33 (AEST)<br>08/04/2021 01:41:33 (GMT) | Completed (4) |
| 08/04/2021 11:41:33 (AEST)<br>08/04/2021 01:41:33 (GMT) | Proposed (1) |
| 08/04/2021 11:41:33 (AEST)<br>08/04/2021 01:41:33 (GMT) | Account Holder Approved (97) |
| 08/04/2021 11:25:05 (AEST)<br>08/04/2021 01:25:05 (GMT) | Awaiting Account Holder Approval (95) |

# APPENDIX B: ELECTRICITY SUMMARY

N/A

# APPENDIX C: INSIDE EMISSIONS BOUNDARY

## Non-quantified emission sources

The following sources emissions have been assessed as attributable, are captured within the emissions boundary, but are not measured (quantified) in the carbon inventory. These emissions are accounted for through an uplift factor. They have been non-quantified due to one of the following reasons:

1. **Immaterial** <1% for individual items and no more than 5% collectively
2. **Cost effective** Quantification is not cost effective relative to the size of the emission but uplift applied.
3. **Data unavailable** Data is unavailable but uplift applied. A data management plan must be put in place to provide data within 5 years.
4. **Maintenance** Initial emissions non-quantified but repairs and replacements quantified.

| Relevant-non-quantified emission sources | (1) Immaterial | (2) Cost effective (but uplift applied) | (3) Data unavailable (but uplift applied & data plan in place) | (4) Maintenance |
|---|---|---|---|---|
| N/A | | | | |

## Excluded emission sources

Attributable emissions sources can be excluded from the carbon inventory, but still considered as part of the emissions boundary if they meet **all three of the below criteria**. An uplift factor may not necessarily be applied.

1. A data gap exists because primary or secondary data cannot be collected **(no actual data).**
2. Extrapolated and proxy data cannot be determined to fill the data gap (**no projected data**).
3. An estimation determines the emissions from the process to be **immaterial**).

| | No actual data | No projected data | Immaterial |
|---|---|---|---|
| N/A | | | |

# APPENDIX D: OUTSIDE EMISSION BOUNDARY

Non-attributable emissions have been assessed as not attributable to a product or service (do not carry, make or become the product) and are therefore not part of the carbon neutral claim. To be deemed attributable, an emission must meet two of the five relevance criteria. Emissions which only meet one condition of the relevance test can be assessed as non-attributable and therefore are outside the carbon neutral claim. Non-attributable emissions are detailed below.

| **Relevance test** | | | | | |
|---|---|---|---|---|---|
| Non-attributable emission | *The emissions from a particular source are likely to be large relative to the organisation's electricity, stationary energy and fuel emissions* | *The emissions from a particular source contribute to the organisation's greenhouse gas risk exposure.* | *Key stakeholders deem the emissions from a particular source are relevant.* | *The responsible entity has the potential to influence the reduction of emissions from a particular source.* | *The emissions are from outsourced activities previously undertaken within the organisation's boundary, or from outsourced activities typically undertaken within the boundary for comparable organisations.* |
| Cleaning of panels | No | No | No | No | No |
| Credits from Electricity generated over the lifetime of the solar system. | No | No | No | No | No |

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