PUBLIC DISCLOSURE STATEMENT

AGL ENERGY LIMITED

PRODUCT CERTIFICATION
SOLAR BATTERIES
CY2023

Australian Government

Climate Active
Public Disclosure Statement

An Australian Government Initiative

NAME OF CERTIFIED ENTITY	AGL ENERGY LIMITED
REPORTING PERIOD	1 January 2023 - 31 December 2023 (Arrears)
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.* Ryan Warburton Group General Manager, Electrification, Innovation & C&I Customers Date 22/11/2024 *Note: you can submit this document to Climate Active unsigned. The Climate Active team will invite you to sign this document once they have completed their review.*

Australian Government
Department of Climate Change, Energy, the Environment and Water

Version: January 2024

1. CERTIFICATION SUMMARY

TOTAL EMISSIONS OFFSET	1,251.87 tCO_2-e
CARBON OFFSETS USED	5% ACCUs, 95% VERs
RENEWABLE ELECTRICITY	N/A
CARBON ACCOUNT	Prepared by: Environmental Resources Management (ERM)
TECHNICAL ASSESSMENT	14/04/2021 Adina Cirtog, Pangolin Associates Next technical assessment due: CY2024

Contents

2. CARBON NEUTRAL INFORMATION

Description of product certification

This public disclosure statement supports the carbon neutral product certification for the supply and installation of solar battery systems provided by AGL Energy Limited. This includes the Life Cycle Assessment of the solar batteries and quantification of Scope 1, 2 and 3 emissions associated with the retail operations component.

The emissions reported here are for CY2023 which is the third year of certification.

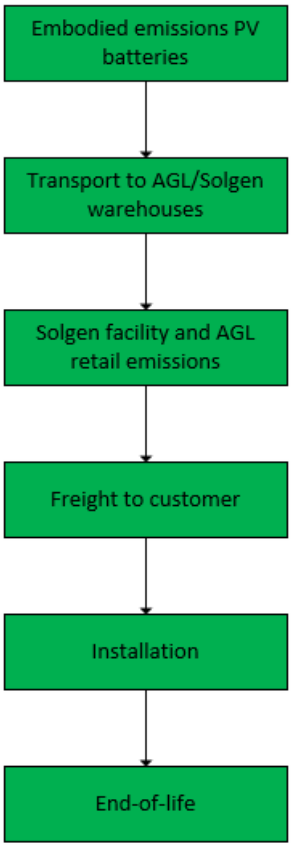
Since June 2021, AGL Energy Limited has offered a certified Carbon Neutral Solar Battery Systems product to all residential customers and to business customers that opt-in. The solar battery is a product that allows AGL customers to store excess electricity generated by their solar panels and/or to charge from the grid. 'Solar Battery Systems product' includes all components and services associated with the supply and installation of solar battery systems sold by AGL Energy Limited subsidiary businesses – AGL Energy Services Pty Limited or Sustainable Business Energy Solutions Pty Ltd trading as AGL Energy Solutions.

Scope

- Functional unit: tCO_2-e/kWh capacity will be used as a quantifiable reference to the associated greenhouse gas emissions of a solar battery product.
- Offered as: Opt-in for Commercial customers (C&I) and full coverage for residential customers.
- Life cycle: cradle-to-grave

The responsible entity for this product certification is AGL Energy Limited, ABN 74115061375

This Public Disclosure Statement includes information for CY2023 reporting period.



Process map for Solar battery systems

Organisation description

AGL is a leading integrated essential service provider, with a proud history of innovation. AGL is committed to providing our customers simple, fair and accessible essential services as they decarbonise and electrify the way they live, move and work. We deliver around 4.3 million customer services across energy and telecommunications to our residential, small and large business, and wholesale customers

across Australia. We operate the largest electricity generation portfolio in Australia, with an operated generation capacity of 8,735 MW (as at 30 June 2023)[1]. AGL's operated generation accounted for approximately 20% of the total generation within the National Electricity Market in FY23. AGL operates the largest renewable and storage portfolio of any ASX-listed company, as at 30 June 2023.

AGL includes related bodies, such as: Data and telecommunications provider 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, Southern Phone Company now serves a national customer base, and operates out of its metropolitan and regional offices.
- AGL Telecommunications launched its first telecommunications products, offering internet services, in November 2020. This was followed by its launch of mobile SIM plans in February 2021.
- New energy providers - AGL Energy Services Pty Ltd sells energy solutions to residential customers based in Queensland, New South Wales, Victoria and South Australia, including solar and battery bundles and battery storage solutions. Sustainable Business Energy Solutions Pty Ltd (trading as AGL Energy Solutions) sells energy solutions to business customers including solar, battery storage, stand-alone power systems, energy efficient lighting and Power Factor Correction. It 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") and 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.
    - AGL | 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 for electricity, and Geraldton for gas.

The accelerating pace of the climate transition, along with the shaping forces of customers, the community and technology, has led to significant changes to the landscape in which AGL operates.

[1] Capacity as at 30 June 2023. https://www.agl.com.au/content/dam/digital/agl/documents/about-agl/investors/2023/230810-agl-energy-limited-annual-report-2023-4-4-asx.pdf

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' of a product or service. These attributable processes are services, materials and energy flows that become the product or service, make the product or service and carry the product or service through its life cycle. These attributable emissions 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 detail is available at Appendix D.

Inside emissions boundary

Quantified Product

Embodied emissions of batteries

Embodied emissions of parts used in installation (CT's, cabling and wiring)

Freight of imported products to AGL's Solgen warehouses

Solgen electricity, liquid fuel, waste and water

Transport and to customer install

Installation and maintenance

End of life emissions in product disposal

Quantified Retail

Electricity incl. base building

Professional services

ICT services and equipment

Cleaning and chemicals

Office supplies and services

Postage, courier and logistics

Travel expenses

Machinery and vehicles

Construction materials and construction

Transport (air)

Transport (land and sea)

Accommodation

Food & beverage

Waste

Water

Employee commute

Working from home

Non-quantified

N/A

Optionally included

N/A

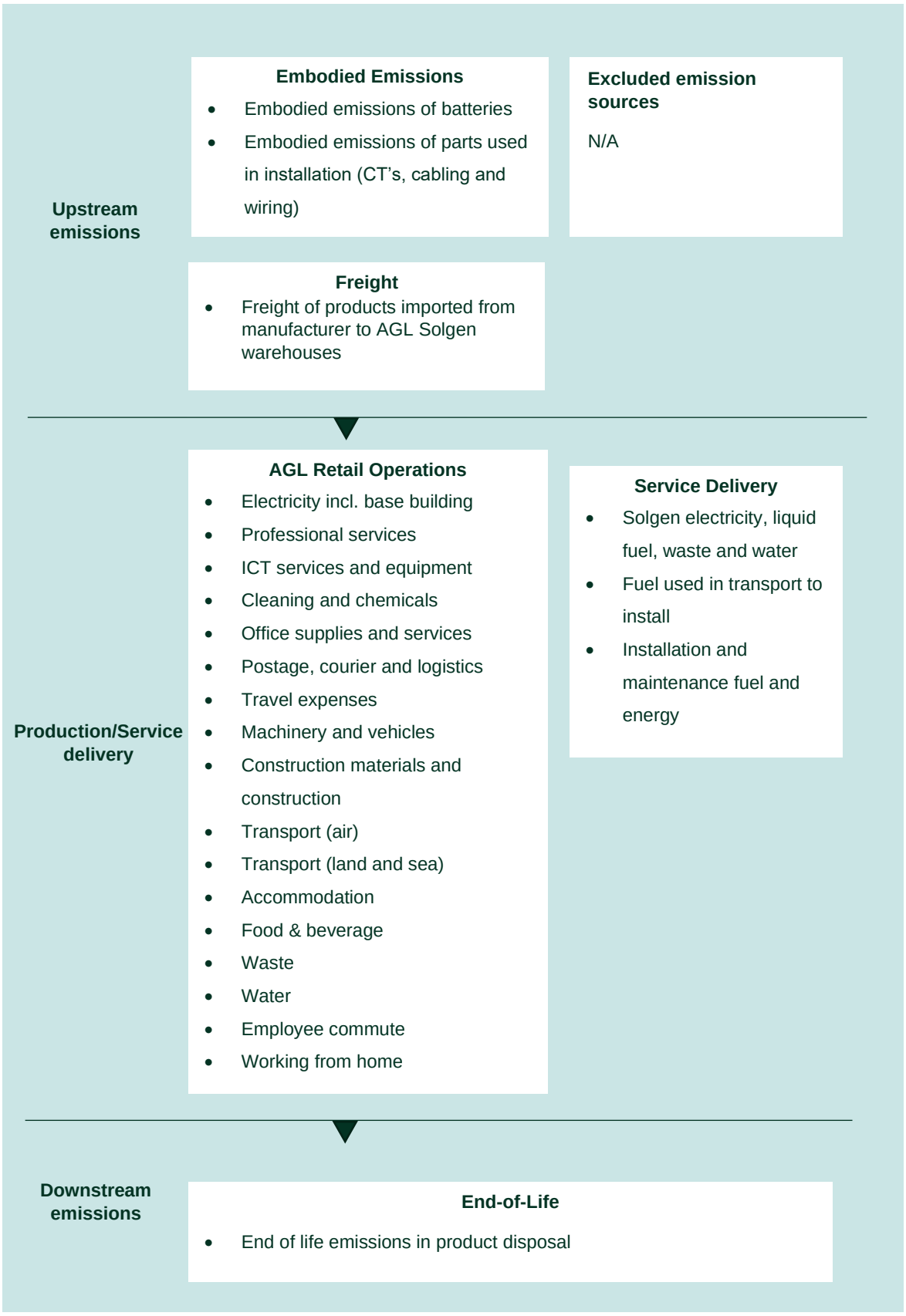
Outside emission boundary

Non-attributable

N/A

Product process diagram

The following diagram is cradle to grave.



4. EMISSIONS REDUCTIONS

Emissions reduction strategy

AGL has a strong track record of 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 have committed, through our Climate Transition Action Plan (**CTAP**), to achieve the following:

- Close 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 MtCO2e of greenhouse gases being emitted compared to the previously planned Loy Yang A Power Station closure date.[3]
- Reduce our annual greenhouse gas emissions by at least 17% compared to a FY19 baseline, from FY24 following the closure of Liddell Power Station in April 2023.[4,5]
- Reduce our annual greenhouse gas emissions by at least 52% compared to a FY19 baseline, by FY35 following the closure of the Bayswater Power Station by 2033.[5,6]
- Be Net Zero for operated Scope 1 and 2 greenhouse gas emissions following the closure of all AGL's coal-fired power stations.
- Develop a decarbonisation pathway 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 before 2036.[6] 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.

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.

[2] 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.

[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.

Emissions reduction actions

AGL's operational emissions reduction actions primarily relate to the closure of our coal-fired power stations as outlined in our CTAP released in September 2022.

In April 2023 AGL's Liddell Power Station ceased generation. Decommissioning commenced in FY23. Additionally, as stated in our 2022 CTAP, AGL will develop a decarbonisation pathway to achieve our ambition of being Net Zero for Scope 3 greenhouse gas emissions by 2050.

5.EMISSIONS SUMMARY

Emissions over time

C&I Batteries

Emissions since base year			
		Total tCO_2-e	Emissions intensity of the functional unit
Base year:	CY2021	19.17	0.35
Year 2:	CY2022	8.22	-
Year 3:	CY2023	0	0.23

* Please note that there were no carbon neutral sales for C&I batteries in CY2023

Residential Batteries

Emissions since base year			
		Total tCO_2-e	Emissions intensity of the functional unit
Base year:	CY2021	457.14	0.15
Year 2:	CY2022	1,149.26	0.13
Year 3:	CY2023	1,251.87	0.23

Significant changes in emissions

C&I batteries

Significant changes in emissions			
Attributable process	**Previous year emissions** (t CO_2-e)	**Current year emissions** (t CO_2-e)	**Reason for change**
Embodied emissions batteries	0	128.75	Shift from opt-in only inventory to whole product inventory in CY2023.

Residential batteries

N/A

Use of Climate Active carbon neutral products, services, buildings or precincts

N/A

Emissions summary

C&I batteries

C&I is an opt-in carbon neutral product. The below summary represents entire product/service.

Life cycle stage / Attributable process / Emission source	tCO_2-e
Embodied emissions (panel, inverter, mounting)	128.75
Freight (land and sea)	2.22
Installation and maintenance	0.99
Solgen warehouse (electricity, fuel, waste and water)	10.32
AGL retail emissions	9.51
Attributable emissions (tCO2-e)	**151.78**

Product / Service offset liability	
Emissions intensity per functional unit (tCO_2-e/kWh capacity)	0.23
Emissions intensity per functional unit including uplift factors	N/A
Number of functional units covered by the certification (kW installed)	0
Total emissions (tCO_2-e) to be offset	**0**

Residential batteries

Residential is a full coverage carbon neutral product. The below summary represents the entire product/service.

Life cycle stage / Attributable process / Emission source	tCO_2-e
Embodied emissions (panel, inverter, mounting)	1,052.43
Freight (land and sea)	11.39
Installation and maintenance	76.48
Solgen warehouse (electricity, fuel, waste and water)	84.37
AGL retail emissions	27.19
Attributable emissions (tCO2-e)	**1,251.87**

Product / Service offset liability	
Emissions intensity per functional unit (tCO_2-e/kWh capacity)	0.23
Emissions intensity per functional unit including uplift factors	N/A
Number of functional units covered by the certification (kW installed)	5,378.70
Total emissions (tCO_2-e) to be offset	**1,251.87**

6. CARBON OFFSETS

Eligible offsets retirement summary

Offsets retired for Climate Active certification

Type of offset units	Eligible quantity (used for this reporting period)	Percentage of total
Australian Carbon Credit Units (ACCUs)	63	5%
Verified Emissions Reductions (VERs)	1,189	95%

Project description	Type of offset units	Registry	Date retired	Serial number (and hyperlink to registry transaction record)	Vintage	Stapled quantity	Eligible quantity retired (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 (%)
Darling River Conservation Initiative Site #9	ACCUs	ANREU	29/7/2024	ERF132688 8,332,823,829 - 8,332,829,393 (Appendix A for transaction record)	2021-22	0	63	0	0	63	5%
Circle Gas LPG Smart Meter Program in Kenya	VERs	GSF Registry	29/7/2024	GS1-1-KE-GS11331-16-2022-26341-6332-7510	2022	0	1179	0	0	1179	94%
Burn Stoves Project in Kenya'	VERs	GSF Registry	26/06/2023	GS1-1-KE-GS5642-16-2020-23109-165984-165991 GS1-1-KE-GS5642-16-2020-23109-166344-167237	2020	0	902	892	0	10	1%
Total offsets retired this report and used in this report										**1,252**	
Total offsets retired this report and banked for future reports									**0**		

Co-benefits

Not all offset units are created equal. There's a wide range of offsets that differ in source, methodology and price. AGL undertakes a rigorous selection process when it comes to the offsets we purchase. The eligible 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 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 in respect of which we have purchased offsets.

International Projects	Project ID	Description
Kenya Burn Stoves Project	GS5642	This project enables more families in rural Kenya to cook with cleaner cookstoves. Rural families in this region typically spend significant resources gathering firewood and charcoal for cooking on open and inefficient fires, creating indoor air pollution which leads to respiratory disease. This practice puts pressure on local forests and increases greenhouse gas (GHG) emissions. SDG associated with this project are Goal1: No Poverty, Goal 3: Good Health & Well-being, Goal 8: Decent Work & Economic Growth, and Goal 13: Climate Action.
Circle Gas LPG Smart Meter Program in Kenya	GS11331	UN Sustainability Development Goals associated with this project are Goal 3: Good Health & Well-being, Goal 5: Gender Equality, Goal 7: Affordable and Clean Energy, Goal 8: Decent Work & Economic Growth and Goal 13:Climate Action

7. RENEWABLE ENERGY CERTIFICATE (REC) SUMMARY

Renewable Energy Certificate (REC) Summary

N/A

APPENDIX A: ADDITIONAL INFORMATION

Transaction ID	AU35022
Current Status	Completed (4)
Status Date	29/07/2024 14:49:53 (AEST) 29/07/2024 04:49:53 (GMT)
Transaction Type	Cancellation (4)
Transaction Initiator	Lao, Ly Kheng
Transaction Approver	Merrington, Jane
Comment	Retired on behalf of AGL for CY2023 Batteries 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			ERF132688					2021-22		8,332,823,829 - 8,332,823,891	63

Transaction Status History

Status Date	Status Code
29/07/2024 14:49:53 (AEST) 29/07/2024 04:49:53 (GMT)	Completed (4)
29/07/2024 14:49:53 (AEST) 29/07/2024 04:49:53 (GMT)	Proposed (1)
29/07/2024 14:49:52 (AEST) 29/07/2024 04:49:52 (GMT)	Account Holder Approved (97)
29/07/2024 11:55:31 (AEST) 29/07/2024 01:55:31 (GMT)	Awaiting Account Holder Approval (95)

Credits VER 6332 — 7510

ACTIONS

PROJECT ISSUED TO	Circle Gas LPG Smart Meter Program in Kenya (GS11331) VIEW PROJECT		
PROJECT'S POA	Circle Gas LPG Smart Meter Program (GS11330) VIEW POA		
SERIAL NUMBER	GS1-1-KE-GS11331-16-2022-26341-6332-7510		
STATUS	Retired	PRODUCT	VER
NUMBER OF CREDITS	1179	MONITORING PERIOD	Jul 01, 2022 — Mar 31, 2023
ISSUANCE DATE	Mar 15, 2024	VINTAGE	2022

RETIREMENT DETAILS

RETIREMENT DATE	Jul 29, 2024 VIEW CERTIFICATE VIEW RETIREMENT
RETIREMENT NOTE	*Retired on behalf of AGL for CY2023 Batteries Carbon Neutral Certification under Climate Active* *(This note is private. Only you can see it.)*
USING ENTITY	AGL *(This entity is private. Only you can see it.)*
USE CASE	Voluntary
USE CASE AUTHORISATION	Not Applicable

APPENDIX B: ELECTRICITY SUMMARY

N/A

APPENDIX C: INSIDE EMISSIONS BOUNDARY

Non-quantified emission sources

The following emissions sources 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	Justification reason
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**).

Emissions Source	No actual data	No projected data	Immaterial
N/A			

Data management plan for non-quantified sources

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

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/service) 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.

1. **Size** The emissions from a particular source are likely to be large relative to other attributable emissions.

2. **Influence** The responsible entity could influence emissions reduction from a particular source.

3. **Risk** The emissions from a particular source contribute to the responsible entity's greenhouse gas risk exposure.

4. **Stakeholders** The emissions from a particular source are deemed relevant by key stakeholders.

5. **Outsourcing** The emissions are from outsourced activities that were previously undertaken by the responsible entity or from outsourced activities that are typically undertaken within the boundary for comparable products or services.

Non-attributable emissions sources summary

Emission sources tested for relevance	Size	Influence	Risk	Stakeholders	Outsourcing	Justification
N/A						

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