

Carbon Calculation Report for Ashton Keynes

1. Background.

Government energy and planning policy gives significant support to the development of new renewable energy capacity to help tackle climate change, improve energy security and make energy bills more affordable. As a key component of this, Government subsidises renewable biomethane gas generation as it displaces higher-carbon natural gas.

The Proposed Development, if granted planning permission, would operate under the Non-Domestic Renewable Heat Incentive (NDRHI) scheme. The value for carbon dioxide equivalent (CO₂e) savings during the Proposed Development's **operational phase** is calculated using the "Actual Value" method of calculating lifecycle CO₂e emissions for biomethane. The carbon calculation provided here is based on the REDI methodology. This is the methodology used for the NDRHI scheme. This has been the industry standard for reporting carbon emissions for biomethane anaerobic digestion in the UK, with 174 producers registered under the scheme (Ofgem, 2025). It accounts for the "avoided emissions" from using biomethane gas as a replacement for standard UK grid gas (i.e., primarily fossil-derived natural gas).

2. Overview.

This report provides further detail on the CO₂e emissions associated not only with the **operational phase** of the Proposed Development (using the REDI methodology) but also the embodied emissions associated with the **pre-operational** (construction) and **post-operational** (decommissioning) phases of the Proposed Development. A comparison with standard UK grid gas emissions has been included to show the emissions savings that will be provided by the replacement of grid gas with biomethane.

This results in a full 'Cradle-to-Grave' analysis of the lifecycle carbon emissions of the Proposed Development.

3. Operational Emissions

The carbon calculation when the Proposed Development is operational is based on the “Actual Value” method of calculating lifecycle CO₂e emissions for biomethane gas as set out within the NDRHI scheme regulations and accounting for the “avoided emissions” from using biomethane as a replacement for standard UK grid gas (i.e., natural gas).

The calculation shows that biomethane produced by the Proposed Development would have an equivalent saving of -30,084 tonnes of CO₂e each year in comparison with standard UK grid emissions. This is the sum of the following values:

- -6,880 tonnes of CO₂e savings from biomethane injected (including 13,714 tonnes of carbon capture)¹.
- -23,204 tonnes of avoided emissions of CO₂e that would have been emitted by the UK gas grid.

The “avoided emissions” from the use of biomethane as a replacement for standard UK grid gas have been calculated using GHG Protocol methodology as the basis – specifically the “attributional” approach to calculating comparative product greenhouse gas impacts as set out in the working paper ‘Estimating and Reporting the Comparative Impacts of Products’ (World Resources Institute, 2019)².

The emissions factor for ‘standard UK grid gas’ is based on the value for ‘natural gas (gross CV)’ in the UK Government Department for Energy Security & Net Zero’s ‘Greenhouse Gas Reporting: Conversion Factors 2025’³. In line with the “attributional” approach described above, it is considered appropriate to use the sum of the Scope 1 emissions factor (0.1830kgCO₂e/kWh) and the Scope 3 emissions factor (0.0302kgCO₂e/kWh). This results in a total value of: **-23,204 tonnes of CO₂e avoided emissions.**

When combined with the **-6,880 tonnes of CO₂e savings** from biomethane injected, this means that in comparison with standard UK grid emissions, the biomethane produced by the Proposed Development would have an equivalent saving of **-30,084 tonnes of CO₂** each year.

¹ Carbon intensity of biomethane is calculated in accordance with the UK Government’s Non-Domestic Renewable Heat Incentive guidance, which uses RED I methodology as its basis: see <https://www.ofgem.gov.uk/publications/non-domestic-rhi-main-guidance>

² https://ghgprotocol.org/sites/default/files/2023-03/18_WP_Comparative-Emissions_final.pdf

³ <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2025>

4. Construction Emissions

A bill of all materials and equipment to be used in the Proposed Development has been prepared based on the most up-to-date submitted planning application drawings. This has been broken down as far as possible on an item-by-item basis. A dry weight for every item has been provided by Acorn Bioenergy's engineering & procurement teams, based on information provided directly from the relevant supplier of materials/equipment. Where necessary, this has then been converted into tonnes, for consistency, with the relevant conversion factor provided for clarity. Lastly, this assessment is informed by actual data from the Applicant's construction of its biomethane generating facilities (comparable in size and design to the Proposed Development) in Winchester⁴ and Northampton⁵.

The application of construction emissions factors from the UK Government's '2025 Government Gas Conversion Factors for company reporting'⁶ is considered the most suitable source of emissions factors to calculate the embodied emissions associated with this stage.

In all cases, the value for 'Primary material production' has been used. This represents the most rigorous approach to embodied emissions of materials used. This results in an embodied emissions value of **5,606 tonnes CO₂e**. A 20% contingency has been applied to cover any further emissions associated with the construction stage, adding a value of **1121 tonnes CO₂e**.

The total construction stage emissions are therefore 6,728 tonnes CO₂e, as shown in Appendix A.

4. Decommissioning Emissions

Decommissioning emissions are broken down into four separate elements: Deconstruction/Demolition, Transport, Waste processing and Disposal.

Unlike construction emissions, there is no UK government or other commonly agreed methodology in place that can be used to quantify end-of-life emissions. Therefore, the approach taken has been to assess each of the four elements separately as follows, using the most appropriate methodology in each case.

⁴ 22/02037/FUL | The construction and operation of an anaerobic digestion facility, ancillary infrastructure, landscape planting and the construction of a new access road and access from the A272. <https://planningapps.winchester.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=RHY66KBPJHS00>

⁵ WNS/2022/2402/EIA | Construction and operation of an Anaerobic Digestion facility associated infrastructure and landscape planting. <https://wnc.planning-register.co.uk/Planning/Display/WNS/2022/2402/EIA#undefined>

⁶ <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2025>

September 2025

A 2010 report by the UK Government’s Department for Business Innovation and Skills found that 0.4% of emissions in the construction industry were as a result of Refurb and Demolition, therefore the impact of this stage of the project on the overall project must be considered very low.⁷

a. Deconstruction/demolition

According to relevant studies^{8,9} the specific carbon emissions generated by manual and mechanical processes used for building demolition or deconstruction are 4.67 kg/m² or 3.66 kg/m², respectively, as shown in Figure 3 below.

	Employee × Day	Artificial Carbon Emission Factor (kgCO ₂ - e/Employee × Day) [44]	Artificial Carbon Emissions (kgCO ₂ -e)	Mechanical Energy Consumption (Diesel, L)	Diesel Carbon Emission Factor (kgCO ₂ -e/L) [45]	Mechanical Carbon Emissions (kgCO ₂ -e)	Total Carbon Emissions (kgCO ₂ -e)	Carbon Emissions per Building Area (kgCO ₂ -e/m ²)
Demolition	419	4.16	1743.04	18,675	3.178	70,591.5	72,334.54	4.67
Deconstruction	588	4.16	2446.08	17,066	3.178	54,235.748	56,681.82	3.66

Figure 3: Carbon emissions associated with demolition and deconstruction (from Lei, Yang, Yan, Tang, Dong; 2023)

Based on the total site buildable area of 41,800m² for the Proposed Development (excluding green space, as assumed this remains), and assuming full demolition of the infrastructure as would be required by the terms of any planning permission (the most thorough assumption), hence 4.67 kgCO₂e/m², this results in emissions of **195 tonnes of CO₂e for Stage C1**.

b. Transport

The following average transport distances are assumed, based on the studies cited in 4.a above, for consistency.

Process	Transport Distance
Storage sites for reuse materials	30
Recycling/remanufacturing plants (e.g., cement, concrete, sand)	30
Recycling/remanufacturing (e.g., other materials)	50
Landfill sites	30

Figure 4: Representative transport distances (from Lei, Yang, Yan, Tang, Dong; 2023)

⁷ 'Estimating the amount of CO₂ emissions that the construction industry can influence - Supporting material for the Low Carbon Construction IGT Report' - Autumn 2010 (publishing.service.gov.uk)

⁸ Carbon Emission Reduction Evaluation of End-of-Life Buildings Based on Multiple Recycling Strategies (Lei, Yang, Yan, Tang, Dong; 2023) https://www.researchgate.net/publication/375483712_Carbon_Emission_Reduction_Evaluation_of_End-of-Life_Buildings_Based_on_Multiple_Recycling_Strategies

⁹ Quéheille, E.; Ventura, A.; Saiyouri, N.; Taillandier, F. A Life Cycle Assessment model of End-of-life scenarios for building deconstruction and waste management. J. Clean. Prod. 2022,339, 130694.

September 2025

Figure 5 below uses the emissions factor for a >33t articulated HGV (diesel, average laden) from the UK Government's '2024 Government Gas Conversion Factors for company reporting', assuming 20 tonnes per load transported from site to point of use and then return to site:

Material type	Weight of material used in development tonnes	Round trip from site to point of use and back km	Emissions factor kgCO₂e/km	Emissions factor kgCO₂e/(t•km)	Emissions tonnes CO₂e
Aggregates	25,636	60	0.9125	0.0456	70.2
Concrete	20,609	60	0.9125	0.0456	56.4
Asphalt	3,850	60	0.9125	0.0456	10.5
Metals	717	100	0.9125	0.0456	3.3
HDPE	21	100	0.9125	0.0456	0.1
Total	50,831				140

Figure 5: Carbon emissions associated with transport of items in Figure 2 above

The transport emissions are therefore **140 tonnes of CO₂e for Stage C2**.

c. Waste processing, and d. Disposal

In the event planning permission is granted for the Proposed Development, it is anticipated that a planning condition will be imposed requiring the submission and approval of a Decommissioning Plan. It is an important part of the Applicant's project that materials will be recycled and reused as far as possible.

The overwhelming majority of materials used in the Proposed Development will be recycled and/or reused.

- 1) The emissions associated with deconstruction and transport are already accounted for in 4.a) and 4.b) above.
- 2) Recycling/reuse will result in net emissions savings when compared with the use of virgin materials.

Therefore, for the sake of a simple, worst-case estimate of emissions for waste processing and disposal, waste processing and disposal emissions are calculated as **net zero**.

September 2025

5. Conclusion

The findings are summarised below:

Description of stage	CO ₂ e emissions
Construction	6,728
Operational stage	-30,084 annually = -752,100 total over 25Y lifespan
End-of-life: Demolition	195
End-of-life: Transport	140
End-of-life: Waste processing/disposal	0
Total emissions 'Cradle to Grave'	-745,037

Figure 6: Total CO₂e emissions at every stage of the lifecycle

Assuming a 25-year operational lifespan, the Proposed Development will deliver total 'Cradle-to-Grave' emissions savings of -745,037 tonnes CO₂e. This equates to -29,801 tonnes of CO₂e savings every year when all embodied emissions have been taken into account.

Acorn Bioenergy Application PL/2023/03359: Carbon Calculation for Construction and operation of an anaerobic digestion facility, comprising silage clamps, digester tanks, lagoons, administrative buildings, ancillary development, landscaping and access (the Proposed Development) at Land West of Ashton Road, Ashton Keynes, Wilts, SN6 6QT (the Site)

September 2025

Appendix A: Breakdown of Construction Emissions by item

	Quantity (initial unit)	Initial Unit	Conversion Factor from Initial Unit into tonnes	Conversion factor reference (if applicable)	Number of each item included in development	Final Quantity Units	Final Units	Relevant Material from 'UK Government GHG Conversion Factors 2024, 'Material use' tab	Relevant GHG intensity in kgCO2e from 'UK Government GHG Conversion Factors 2024, 'Material use' tab	Embodied GHG tonnes CO2e	Source for GHG intensity
Embodied Emissions in 'Product Stage'											
Site Floor Area											
Asphalt	0	m3	2.4	Red Stag	1	0.0	tonnes	Asphalt	39.21249	0	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Asphalt'
Concrete	2210	m3	2.4	Cemex	1	5304.0	tonnes	Concrete	118.79306	630	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Concrete'
Steel reinforcement	50000	kg	0.001		1	50.0	tonnes	Metals	3824.09335	191	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Aggregates	3540	m3	1.5	Gabion Stone	1	5310.0	tonnes	Aggregates	7.79306	41	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Aggregates'
Bund Floor Area											
Aggregates	4059	m3	2.1	Gabion Stone	1	8523.9	tonnes	Aggregates	7.79306	66	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Aggregates'
Steel reinforcement	68000	kg	0.001		1	68.0	tonnes	Metals	3824.09335	260	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Concrete	1480	m3	2.4	Cemex	1	3552.0	tonnes	Concrete	118.79306	422	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Concrete'
Buildings											
Steel frame	125	tonnes	1		1	125.0	tonnes	Metals	3824.09335	478	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Steel reinforcement	90000	kg	0.001		1	90.0	tonnes	Metals	3824.09335	344	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Concrete	1024	m3	2.4		1	2457.6	tonnes	Concrete	118.79306	292	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Concrete'
Skin	26607	kg	0.001		1	26.6	tonnes	Metals	3824.09335	102	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Clamps											
Ark concrete panels	600	m3	2.4	Cemex	1	1440.0	tonnes	Concrete	118.79306	171	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Concrete'
Asphalt	1604	m3	2.4	Red Stag	1	3849.6	tonnes	Asphalt	39.21249	151	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Asphalt'
Aggregates	7660	m3	1.5	Gabion Stone	1	11490.0	tonnes	Aggregates	7.79306	90	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Aggregates'
Primary AD Equipment											
AD equipment (Pipework)	36000	kg	0.001		1	36.0	tonnes	Metals	3824.09335	138	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Digester tanks	2803	m3	2.4	Cemex	1	6727.2	tonnes	Concrete	118.79306	799	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Concrete'
Concrete bases	470	m3	2.4	Cemex	1	1128.0	tonnes	Concrete	118.79306	134	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Concrete'
Imported stone bases	208	m3	1.5	Gabion Stone	1	312.0	tonnes	Aggregates	7.79306	2	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Aggregates'
Feeder (Primary digester)	17.35	tonnes	1		2	34.7	tonnes	Metals	3824.09335	133	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Feeder (Manure)	10	tonnes	1		1	10.0	tonnes	Metals	3824.09335	38	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Straw Mill		tonnes	1		1	0.0	tonnes	Metals	3824.09335	0	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Extruders	5.5	tonnes	1		2	11.0	tonnes	Metals	3824.09335	42	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Separators		tonnes	1		2	0.0	tonnes	Metals	3824.09335	0	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Leachate/water tanks	2.5	tonnes	1		2	5.0	tonnes	Metals	3824.09335	19	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Digestate buffer tank (8.5 H x 8m diameter)		tonnes	1	Cemex	1	0.0	tonnes	Concrete	118.79306	0	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Concrete'
Slurry tank (8.5 H by 8m diameter)		tonnes	1	Cemex	1	0.0	tonnes	Concrete	118.79306	0	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Concrete'
Odour Treatment											
Ammonia Scrubber	1	tonnes	1		1	1.0	tonnes	Metals	3824.09335	4	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
UV treatment	0.45	tonnes	1		1	0.5	tonnes	Metals	3824.09335	2	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Carbon filter	6.1	tonnes	1		1	6.1	tonnes	Metals	3824.09335	23	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Process Fan	0.3	tonnes	1		1	0.3	tonnes	Metals	3824.09335	1	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Ballast Cabinet	0.3	tonnes	1		1	0.3	tonnes	Metals	3824.09335	1	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Combined Heat & Power											
CHP (within container)	30	tonnes	1		2	60.0	tonnes	Metals	3824.09335	229	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Tech cooler	2	tonnes	1		2	4.0	tonnes	Metals	3824.09335	15	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Flue gas pipe	0.95	tonnes	1		2	1.9	tonnes	Metals	3824.09335	7	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Flue Gas silencer	1.5	tonnes	1		2	3.0	tonnes	Metals	3824.09335	11	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Chimney pipe	0.2	tonnes	1		2	0.4	tonnes	Metals	3824.09335	2	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Flue Gas Pipe Lower	0.6	tonnes	1		2	1.2	tonnes	Metals	3824.09335	5	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Ladder	0.6	tonnes	1		2	1.2	tonnes	Metals	3824.09335	5	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Flue Gas Exchanger	1.5	tonnes	1		2	3.0	tonnes	Metals	3824.09335	11	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Railings	0.9	tonnes	1		2	1.8	tonnes	Metals	3824.09335	7	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Gas Trains	0.2	tonnes	1		2	0.4	tonnes	Metals	3824.09335	2	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Biogas Upgrader											
Biogas Cooling Skid (mainly pipework & a blower)	5.5	tonnes	1		1	5.5	tonnes	Metals	3824.09335	21	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Filtration (MDPE vessels, minimal pipework, activated carbon is build of weight)	18	tonnes	1		1	18.0	tonnes	HDPE	3270	59	https://www.climateiq.io/data/emission-factor/35414e39-0c00-489d-b408-103bd961f1dcf
Chiller (this is wet weight, i.e. including fluid)	2.5	tonnes	1		1	2.5	tonnes	Metals	3824.09335	10	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Biogas Upgrading Container (membranes included)	13	tonnes	1		1	13.0	tonnes	Metals	3824.09335	50	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Biogas Compressor (assume full steel)	25	tonnes	1		1	25.0	tonnes	Metals	3824.09335	96	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
CO2 Upgrader											
Carbon Filter (loaded weight with carbon)	2.5	tonnes	1		1	2.5	tonnes	HDPE	3270	8	https://www.climateiq.io/data/emission-factor/35414e39-0c00-489d-b408-103bd961f1dcf
Compressor	15.25	tonnes	1		1	15.3	tonnes	Metals	3824.09335	58	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Main Container	15	tonnes	1		1	15.0	tonnes	Metals	3824.09335	57	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
CO2 Tanks (50m3 x2, 68.8 loaded weight)	68.6	tonnes	1		1	68.6	tonnes	Metals	3824.09335	262	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Carboscan	1.95	tonnes	1		2	3.9	tonnes	Metals	3824.09335	15	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
CNG Equipment											
Buffer Tank	1	tonnes	1		1	1.0	tonnes	Metals	3824.09335	4	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Gas Compressor 1	8.12	tonnes	1		1	8.1	tonnes	Metals	3824.09335	31	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Gas Compressor 2	8.12	tonnes	1		1	8.1	tonnes	Metals	3824.09335	31	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Gas Storage Bank	6.355	tonnes	1		1	6.4	tonnes	Metals	3824.09335	24	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Chiller & hEx	0.25	tonnes	1		1	0.3	tonnes	Metals	3824.09335	1	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Filling Post 1	0.1	tonnes	1		1	0.1	tonnes	Metals	3824.09335	0	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Filling Post 2	0.1	tonnes	1		1	0.1	tonnes	Metals	3824.09335	0	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Filling Post 3	0.1	tonnes	1		1	0.1	tonnes	Metals	3824.09335	0	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Control Room	2.4	tonnes	1		1	2.4	tonnes	Metals	3824.09335	9	UK Government GHG Conversion Factors 2025, 'Material use' tab, kg CO2e per tonne primary material production for 'Metals'
Total emissions in 'Product Stage' tonnes CO2e										5606	
Embodied Emissions in 'Construction Process Stage'								20% of 'Product Stage' emissions			
Total emissions in 'Construction Process Stage' tonnes CO2e										1121	
Total 'Cradle to Gate' emissions in tonnes CO2e										6728	