

Pledge to net zero

Summary of the business: Crestwood Environmental Ltd. is a multidisciplinary environmental consultancy providing environmental survey, assessment, design, planning, management and monitoring services to a range of clients in the UK.

It employs circa 18 full-time equivalent staff who primarily work from home, as their working base (i.e. no commuting). Much of the work is 'desk-based' (using PCs etc.) although a notable proportion of our work is 'field-based' (i.e. 'on site'). A small amount is also undertaken in a small 1-man / 1-room (non-air-con) laboratory (in a wider office/lab complex) that is rented from a third party (who controls the purchase of electricity and heating) and is used 1-2 days per week on average.

Travel associated with site work is primarily via road vehicles (cars) either staff-owned or rented. The Company operates one EV.

1) Organisational boundaries:

All areas of the business where we have direct organisational control – including choice of vehicles and leased buildings. This excludes our majority shareholders – purely Crestwood Environmental Ltd. and its direct employees.

2) Operational boundaries:

Scope	Emission Type	Definition
Scope 1	Direct Emissions	GHG emissions directly from operations that are owned or controlled by the reporting company
Scope 2	Indirect Emissions	Indirect GHG emissions from the generation of purchased or acquired electricity, steam, heating, or cooling consumed by the reporting company
Scope 3		All indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions

i. Scope 1:

There are no notable Scope 1 Direct Emissions associated with the operations of the Company, except for gas used to heat the Company's rented laboratory.

ii. Scope 2:

For Crestwood Environmental, 95% of our Scope 2 GHG emissions are considered to primarily arise from:

- There is one vehicle leased by the Company (an EV) which is exclusively charged using renewable energy.
- Electricity used in our rented laboratory; and
- Electricity used in our container stores.

iii. Scope 3:

All other emissions from the value chain are considered to be Scope 3 emissions, and for Crestwood Environmental are considered to primarily be:

- Business travel (primarily rented or staff members' own vehicles);
- Power (electricity/heating) used for staff working at home;
- Electricity transmission and distribution losses;

and purchased goods and services:

- GHG emissions from sub-consultants undertaking work on our behalf (e.g. their travel, and electricity usage for PCs);
- GHG emissions from electricity usage associated with provision of cloud storage, Software as a Service, third party conferences, hotels etc.;
- GHG emissions from third parties providing support services to Crestwood Environmental;
- GHG emissions associated with deliveries (e.g. couriers); and
- GHG emissions associated with the production and provision of equipment and consumables, including packaging.

There will be minimal additional GHG emissions relating to how the waste generated by our business is managed upstream – generally stationery and packaging waste, which is in very small amounts.

No detailed data is yet available for many of these sources to enable detailed calculations to be made for Scope 3 GHG emissions and is a target area to start recording data to enable more carbon-conscious decision-making.

3) Baseline:

i. Chosen base year – 2021

To note – this is a year where all staff were based at home for desk-based activities. In addition to this the Company:

- Provided services 'on site' to customers (e.g. undertaking fieldwork);

- Undertook some internal meetings in person (e.g. at a third-party venue);
- Used its laboratory for 1-2 days per week;
- Used a 'container' storage for holding equipment etc.; and
- Undertook occasional journeys to do basic business tasks (e.g. local post office).

ii. Calculated Emissions:

The following bases have been used to calculate emissions:

Scope	Aspect	Method /Assumptions	Methodology / Rationale
1	Gas heating used in our rented laboratory.	<p>No direct data available from the landlord – estimates made on basis of using the laboratory 2 days per week.</p> <p>UK Average home CO₂e / kWh assumed to be 0.184Kg/kWh.</p> <p>UK average has usage pa = 12,000kWh of which circa 77% relates to heating = 9,240 kWh pa. Average UK home = 150m², Laboratory = 15m² (i.e. 10% of a house) = 924kWh pa.</p> <p>Assumes 1 lab room heated 5 days per wk, 10hrs/day, 6 months of the year = 1,300hrs.</p> <p>924 ÷ 1,300 = circa 0.7 kWh per hour. Allow estimated 100% increase for share of corridor, reception etc. = 1.4kWh per hour.</p> <p>1,300 x 1.05 x 0.184 = 335kg CO₂e / yr.</p>	Extrapolation from above.
2	Electricity used in our rented laboratory.	<p>No direct data available from the landlord – estimates made on basis of using the laboratory 2 days per week.</p> <p>UK Average CO₂e / kWh assumed to be 0.212Kg/kWh</p> <p>When occupied av. power use for electronic and lab equipment (circa 200W) and lighting (circa 10W) = 210W.</p> <p>When not occupied, av. power use in lab and share for other areas (corridors) estimated to be 25W.</p> <p>Assumes room used 2 days per week (say 100 days per year) = 7.5 x 100 = 750hrs.</p> <p>750 x 210 (÷1000) = 157.5 kWh pa.</p> <p>Assumes room not used 264 days per year = 24x 264 = 6,336hrs.</p> <p>6,336 x 25 (÷1000) = 158.4 kWh pa.</p> <p>Total kWh = 158.4 + 157.5 = 315.9 kWh pa.</p> <p>(157.5 + 158.4) x 0.212 = 70kg CO₂e / yr.</p>	Extrapolation from above.
2	Electricity used in our container stores.	<p>No direct data available from the landlord – estimates made based on 1 hour of electricity used for lighting (10W) per week in each container (2) = 20W.</p> <p>52 x 20 (÷1000) = 1.04 kWh pa.</p> <p>1.04 x 0.212 = 0.22kg CO₂e / yr.</p>	Extrapolation from above.

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3	Business Journeys.	<p>Summation of number of road miles recorded by staff (on timesheets) together with vehicle engine sizes/types used. Train journeys also analysed.</p> <p>Staff survey results (engines) and emissions:</p> <p>50% Petrol (small = 0.12 kg CO₂e / mile</p> <p>0% Petrol (medium) = 0.15 kg CO₂e / mile</p> <p>10% Petrol (large) = 0.225 kg CO₂e / mile</p> <p>10% Diesel (small = 0.11 kg CO₂e / mile</p> <p>20% Diesel (medium) = 0.135 kg CO₂e / mile</p> <p>10% Diesel (large) = 0.165 kg CO₂e / mile</p> <p>2021 Mileage:</p> <p>2021 Non-project mileage = 1,972 miles</p> <p>2021 Project Mileage = 72,564 miles</p> <p>2021 total mileage = 74,536 miles</p> <table border="1" data-bbox="517 947 1201 1144"> <thead> <tr> <th></th> <th>%</th> <th>Miles</th> <th>CO₂e rate</th> <th>CO₂e total</th> </tr> </thead> <tbody> <tr> <td>50% Petrol (small = 0.24 kg CO₂e / mile</td> <td>0.5</td> <td>37,268</td> <td>0.12</td> <td>4,472</td> </tr> <tr> <td>0% Petrol (medium) = 0.30 kg CO₂e / mile</td> <td>0</td> <td>0</td> <td>0.15</td> <td>0</td> </tr> <tr> <td>10% Petrol (large) = 0.45 kg CO₂e / mile</td> <td>0.1</td> <td>7,454</td> <td>0.225</td> <td>1,677</td> </tr> <tr> <td>10% Diesel (small = 0.22 kg CO₂e / mile</td> <td>0.1</td> <td>7,454</td> <td>0.11</td> <td>820</td> </tr> <tr> <td>20% Diesel (medium) = 0.27 kg CO₂e / mile</td> <td>0.2</td> <td>14,907</td> <td>0.135</td> <td>2,012</td> </tr> <tr> <td>10% Diesel (large) = 0.33 kg CO₂e / mile</td> <td>0.1</td> <td>7,454</td> <td>0.165</td> <td>1,230</td> </tr> <tr> <td></td> <td></td> <td>74,537</td> <td></td> <td>10,212</td> </tr> </tbody> </table> <p>2021 Total = 10,112Kg CO₂e</p>		%	Miles	CO ₂ e rate	CO ₂ e total	50% Petrol (small = 0.24 kg CO ₂ e / mile	0.5	37,268	0.12	4,472	0% Petrol (medium) = 0.30 kg CO ₂ e / mile	0	0	0.15	0	10% Petrol (large) = 0.45 kg CO ₂ e / mile	0.1	7,454	0.225	1,677	10% Diesel (small = 0.22 kg CO ₂ e / mile	0.1	7,454	0.11	820	20% Diesel (medium) = 0.27 kg CO ₂ e / mile	0.2	14,907	0.135	2,012	10% Diesel (large) = 0.33 kg CO ₂ e / mile	0.1	7,454	0.165	1,230			74,537		10,212	<p>UK government conversion factors 2021</p> <p>And Greenhouse gas reporting: conversion factors 2021 plus Feedback from Society for the Environment</p>
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3	Power (heating) used for staff working at home.	<p>Survey of current employees made to understand whether electricity provided by renewable source.</p> <p>No. of staff hours working from home calculated using timesheet records – estimate of power used.</p> <p>Av. FTE assumed to work 228 days pa. (1,710hrs pa, 142.5hrs pm).</p> <p>UK Average CO₂e / kWh assumed to be 0.184Kg/kWh.</p> <p>UK average has usage pa = 12,000kWh of which circa 77% relates to heating = 9,240 kWh pa.</p> <p>On average, 6 months yr, 10hrs/day heating is on (=1,820 hrs heating pa).</p> <p>9,240 ÷ 1,820 = *circa 5kWh per hour per FTE employee.</p> <p>Total Hrs worked 2021: 36,308 (3,026 hrs pcm, 698hrs/week). Total FTE staff in 2021 = 698 ÷ 37.5 = 18.62.</p> <p>Total kWh for Company = 36,308 x 5 x 0.667 = 121,088kWh pa.</p> <p>66.7% of heating attributable to employee (i.e. others would otherwise be at home).</p> <p>36,308 x 5 x 0.667 x 0.184 = 22,280kg CO₂e / yr.</p> <p>(1,197kg CO₂e / yr per FTE employee).</p> <p>Worst case as assumes staff always at home.</p>	<p>EcoAct Homeworking emissions Whitepaper</p> <p>And Greenhouse gas reporting: conversion factors 2021</p>																																								

Scope	Aspect	Method /Assumptions	Methodology / Rationale
3	Power (electricity) used for staff working at home (including for charging of company EVs).	<p>Survey of current employees made to understand whether electricity provided by renewable source. 36% of staff used renewable energy tariff (64% didn't).</p> <p>No. of staff hours working from home calculated using timesheet records – estimate of power used.</p> <p>Av. FTE assumed to work 228 days pa. (1,710hrs pa, 142.5hrs pm).</p> <p>Av. Power used for electronic equipment (140W), lighting (10W) and 3% 'other' (4.5W) = 154.5W.</p> <p>$154.5 \times 1,710 \div 1000 = 264.2$ kWh pa per FTE.</p> <p>UK Average CO₂e / kWh assumed to be 0.212Kg /kWh.</p> <p>Total Hrs worked 2021: 36,308 (3,026 hrs pcm, 698hrs/week).</p> <p>Total FTE staff in 2021 = $698 \div 37.5 = 18.62$.</p> <p>Total kWh= $264.2 \times 18.62 = 4,920$kWh pa.</p> <p>$0.64 \times 18.62 \times 264.2 \times 0.212 = 668$kg CO₂e / yr.</p> <p>(35.9kg CO₂e / yr / FTE employee)</p> <p>Worst case as assumes staff always at home.</p>	<p>EcoAct</p> <p>Homeworking emissions</p> <p>Whitepaper</p> <p>And</p> <p>Greenhouse gas reporting: conversion factors 2021</p>
3	Transmission & Distribution Losses	<p>Total Electricity = $4,920 + 315.9 + 1.04 = 5,237$ kWh pa.</p> <p>Transmission & Distribution losses rate for UK = 8.35%</p> <p>UK Average CO₂e / kWh assumed to be 0.212Kg /kWh.</p> <p>Losses = $0.0835 \times 5,237 \times 0.212 = 92.7$ Kg CO₂e / yr.</p>	<p>Guidance for Accounting and Reporting</p> <p>And</p> <p>Worldbank.org¹</p>
3	Purchased Goods and Services	<p>Crestwood Environmental does not have detailed CO₂e emissions data for its value chain therefore a spend-based approach using equivalent data from our internal calculations until more data is obtained. The main expenditure by the Company relates to procuring professional services, usually similar to Crestwood's own consultancy services, therefore a proxy spend-based emissions factor, based on internal findings, has been used as follows.</p> <p>Total value of services and goods procured in 2021 = £275,000.</p> <p>Calculated Kg CO₂e (excluding purchased goods and services) for Crestwood in 2021 = 43,788.</p> <p>Assuming 10% profit margin on these costs total revenue associated with these costs = £302,500.</p> <p>Total revenue in 2021 = circa £1,162,000.</p> <p>$1,162,000 - 302,500 = £899,500$.</p> <p>$43,788 \text{Kg CO}_2\text{e} \div £899,500 = 0.05 \text{ Kg CO}_2\text{e} / £$ (Proxy spend-based emissions factor based on internal findings).</p> <p>$275,000 \times 0.05 = 13,750$ Kg CO₂e for purchased goods and services (mostly services).</p>	<p>GHG Protocol Scope 3 Calc Guidance</p> <p>And</p> <p>Internal data for extrapolation</p>

¹ https://data.worldbank.org/indicator/EG.ELC.LOSS.ZS?order=wbapi_data_value_2009+wbapi_data_value+wbapi_data_value-last&sort=desc&view=map

Summary:

Scope 1 - Direct Emissions	Notes	Kg CO ₂ e
Nat. gas used for heating – Lab (KWh)	See calcs / assumptions above	335
Scope 2 - Indirect Emissions	Notes	Kg CO ₂ e
Company cars	1no. EV charged using renewable energy sources	0
Electricity consumed – Lab (KWh)	See calcs / assumptions above	70
Electricity consumed – Store (KWh)	See calcs / assumptions above	0.22
Scope 3 - Indirect Emissions	Notes	Kg CO ₂ e
Business journeys (third party cars)	See calcs / assumptions above	10,112
Electricity consumed – Homes (KWh)	See calcs / assumptions above	668
Nat. gas used for heating – Homes (KWh)	See calcs / assumptions above	22,280
Transmission & Distribution Losses	See calcs / assumptions above	93
Purchased Goods and Services	See calcs / assumptions above	13,750
Total		47,308

4) Targets:

Note: Targets are considered to be science-based if they are in line with what latest climate science says is necessary to meet the goals of the Paris Agreement (limiting climate change to 1.5°C or 2°C). All new signatories to PTNZ are now required to set Scope 1 - 3 targets in line with 1.5°C temperature rise – aiming to (approximately) halve emissions by 2030 and to have reduced emissions by at least 90% by 2050. This equates to a reduction in emissions by circa 8% year-on-year.

Long term target = 2050 (Scope 1-3). Mid-term target = every 5 years (Scope 1-2).

Target reduction in CO₂e emissions:

Note	Year	Scope 1-2 Kg CO ₂ e	Reduction amount	Scope 3 Kg CO ₂ e	Reduction amount	Scope 1-3 Kg CO ₂ e	Total % reduction from 2021
Base Yr	2021	405	-	46,903	-	47,308	-
Mid term	2026	267	23	30,913	2,688	31,180	34.1%
Mid term	2031	176	15	20,374	1,772	20,550	56.6%
Mid term	2036	116	10	13,428	1,168	13,544	71.4%
Mid term	2041	76	7	8,850	770	8,927	81.1%
Mid term	2046	50	4	5,833	507	5,883	87.6%
Long-term	2050	36	3	4,179	363	4,215	91.1%

For 18.62 FTE staff in 2021 emissions equate to 2,541Kg CO₂e pa per employee.

I, Karl Jones CEnv CMLI , Managing Director Crestwood Environmental Ltd., confirm that the data contained in this report for company name, is to the best of my knowledge an accurate representation of our performance as of 1 July 2022. The data in this report covers the period from 1st January 2021 to 31st December 2021 inclusive, and has been produced in accordance with the guidance issued by the Pledge to Net Zero.

5) Actions

The biggest contributors to the Company's emissions relate to:

- Employees' travel (notably cars);
- Employees' power (electricity and heating); and
- Sub-contractors' power usage and travel.

The first action will be to undertake a survey of our employees on their knowledge on how to minimise their GHG emissions and canvas opinion on the steps that could be taken to reduce the Company's emissions. These will be incorporated into the Company's Net Zero Plan.

The Company will explore ways to:

- Improve employees' knowledge of how to minimise their GHG emissions;
- Assist employees with having environmentally friendly travel options and encourage take-up;
- Assist employees with finding alternative environmentally friendly power options that reduce GHG emissions.
- Encourage sub-contractors and other suppliers in reducing their GHG emissions.

Actions will be recorded and integrated into the Company's Net Zero Plan with reviews undertaken annually.