Carbon Management Plan

2022 ESS SCOPE EMISSIONS REPORT

PREPARED BY;
ANDY SNEYD. MANAGING CONSULTANT.
LDNY CONSULTING LIMITED
ELMWOOD HOUSE
YORK ROAD
KIRK HAMMERTON
YORK
YO26 8DH

Carbon Management Plan

The purpose of this report

This Carbon Emission Report will measure and calculate the total Greenhouse Gas (GHG) Emissions produced directly and indirectly from the organisation's activities. Compulsory for Large Organisations as part of their Streamlined Energy and Carbon Reporting (SECR), HM Government encourages all organisations to take action and measure their emissions on a voluntary basis - as the most effective tool in monitoring and reducing an organisations climate impact.

GHG Emission (also referred to as Carbon Footprint) Calculation, Offsetting and Reducing are now the most popular method for businesses to make an environmental impact as part of their Corporate Social Responsibility policies due to the accurate and measured methodologies, providing complete transparency about their climate impact and resulting actions. Annual emissions reports are regularly used by organisations to track their progress in achieving emissions reductions across the business over time, and in many cases helps identify areas within the business that produce the most emissions - as an area to focus and improve.

Most importantly of all, carbon emission reports also help identify an organisations total carbon footprint - measured in tonnes of carbon dioxide equivalent (tCO_2e), a set unit to ensure carbon offsetting is accurate, and will reverse the organisations environmental impact to achieve carbon neutral status - increasingly important for customers, shareholders, employees and other stakeholders.

Our ESS Corporate Commitment to Managing and reducing Greenhouse Gas Emissions.

ESS Modular is an environmentally conscious organisation, which acknowledges the impact that our operations may potentially have on the environment.
We are committed to reducing our environmental impact and achieving Net Zero emissions by 2050, aligned with pathways that limit warming to 1.5°C by:

- Embedding a culture of environmental responsibility throughout our business, supply chain and stakeholders
- Reducing waste, sourcing responsibly and minimising our carbon emissions.
- Balancing any remaining emissions by use of carbon removal.

Our first milestone is working together to achieve a minimum reduction of 45% reduction by 2030, when compared to our baseline calculations (2020), as set out in the Paris agreement.

Simon Rawson. September 2023

Calculating Emissions & Emissions Factors

The emissions calculations have been made using client-supplied activity data, with assumed full disclosure of all relevant and necessary information. The data received (such as energy usage in Kwh, or vehicle mileage) are then multiplied by the relevant emissions factors from published and reputable sources. Depending on the needs of the organisation the emissions factors used in some cases are scientific research journals or independent studies, but in most cases are from HM Government publications. Most commonly used - *UK Government Conversion Factors for Company Reporting (Year: 2022, Expiry: 08/06/2023, Version 2.0) - DBEIS / DEFRA)*. Any assumptions or estimations of relevant data are published within this report.

Reporting Standards

GHG emissions reports are most widely carried out in accordance with the ISO 14064:1-2018 and GHG Emissions Protocol Accounting and Reporting Standards, whose methodologies have been used in the creation of this report.

The International Organisation of Standardisation (ISO) created the ISO 14064 standard in 2006, updating in 2018 to specify the principles and requirements at the organisational level for the quantification and reporting of greenhouse gas (GHG) emissions and removals. It includes requirements for the design, development, management, reporting and verification of an organization's GHG inventory.

The "Greenhouse Gas Protocol - Corporate Accounting and Reporting Standard" (GHG Protocol, 2011) developed in a partnership of the World Business Council for Sustainable Development (WBCSD) and the World Resource Institute (WRI) follow a similar methodology mirroring those of the ISO standard.

Using the two most widely recognised and used emission standards in the world, ensure all measurements, calculations and subsequent offsetting are completed to the most regulated and accurate standards possible.

Scopes of Emissions

Using the ISO 14064 and GHG Emissions Protocol Standards, business emissions are identified using three scopes of emissions:

- Scope 1 (Direct emissions)
    - Activities owned or controlled by the organisation that release emissions straight into the atmosphere.
    - For manufacturing business these would be emissions from equipment and machinery used in production. Businesses that own or lease vehicles are also included within scope 1. For many office-based businesses, scope 1 emissions are usually very small.

- Scope 2 (Energy indirect)
    - Emissions being released into the atmosphere associated with the consumption of purchased electricity, heat, steam and cooling. These are indirect emissions that are a consequence of the organisation's activities - but occur at sources that the business does not own or control.

- These emissions would be the energy usage by the organisation and staff working at sites under the operational control of the business.

- Scope 3 (Other indirect)
  - Emissions that are a consequence of business activity, which occur at sources which are not owned or controlled, which are not classed as scope 2 emissions.
  - Scope 3 emissions can be quite broad, including areas such as waste management, business travel, staff commuting, events, the emissions produced from delivery to and from the organisation (including third party delivery services).

Operational Boundary and Data

Using the operational control consolidation approach was determined as the best method for ESS Modular Limited, due to the standard business structure and business practices.

As a result, the following scope of data was collected:
Scope 1 - Stationary and Mobile Source Emissions (equipment and quantity combusted), Company Owned and Leased Vehicles (vehicle type and distance travelled), Refrigerant Gas Losses (refrigerant type and new/disposed units) for the organisation only.
Scope 2 - Energy (electricity) from the office and manufacturing, using the location-based method.
Scope 3 - Water (consumption and waste volume).

Assumptions and Estimations

Where primary emissions data could not be collected, the following assumptions and estimations were used:
Vehicle emissions were calculated using Defra vehicle categories and HM Government Emission Factors (2022).

Results

Carbon Emissions Summary

Baseline emissions are a record of the greenhouse gases that have been produced in the past. The baseline emissions are the reference point against which emissions reduction has been measured from 2021 onwards

Additional Details relating to the Baseline Emissions calculations.

The baseline defined relates to the ESS Modular Group and covers our operations in the UK & Ireland. We have not been previously assessed or reported emissions, our baseline will be our first reporting. Significant changes to the business boundary have taken place since the baseline calculation was completed with further changes planned.

Baseline Year tCO2e Emissions

Baseline Year: Calendar Year 2020	
Emissions	Total tCO_2e
Scope 1	375
Scope 2	162
Scope 3	Excluded and to be included in future years
Total Emissions	536

Current Emissions tCO2e Reporting

Baseline Year: Calendar Year 2022	
Emissions	Total tCO_2e
Scope 1	246.61
Scope 2	9.7
Scope 3	Includes Water (consumption and waste volume). Remainder out of calculation boundary and to be included in future years.
Total Emissions	256.31

Emissions reduction targets

At ESS we recognize there are many complex systems associated with carbon management planning and execution across a business footprint. Our approach is to go systematically, with a clearly structured road map. At the top of the list of complexity is our client's needs.

Stakeholder Net Zero collaboration and communication across the ESS business is critical for successful outcomes. We choose to work with small teams seconded from across the business to engage and lead aspects of cultural change with data gathering, recognising the importance of cross functional engagement as an essential tactic for cultural change and the necessary progress made. Our strategy is to create a culture of continuous engagement and incremental improvements towards our goal. At present we strategically choose not to offset as we believe this is a last resort, and if needed we will do so on our journey to ensuring ESS is a net zero organisation.

We have a significant change in total emissions between 2020 and 2022. As well as reducing the embodied carbon of scope 1 and 2 categories, the business boundary

for calculation also changed significantly as strategic leadership decision to streamline operations and it is forecasted to continue to flex in line with the business plan and client needs.

Current Kyoto Protocol Greenhouse Gases (GHG) Emissions

Six Greenhouse Gases are calculated as part this emissions report, known as the six Kyoto Protocol GHGs. These gasses occur the most often as a result of business activities, with the highest Global Warming Potential. For the purposes of emissions reporting, these gases are simplified and measured in the unit of tonnes of carbon dioxide equivalent (tCO2e). The Global Warming Potential (GWP) of these gases are not the same however, which creates the unit equivalence compared to carbon dioxide over a period of 100 years (shown below). The latest AR5 values have been used

Scope 1	Calculated Emission Factors	CO2	CH4	N2O	HFC	PFC	SF6
	Total t CO_2e	t CO_2e of CO_2	t CO_2e of CH_4	t CO_2e of N_2O	t CO_2e of HFC	t CO_2e of PFC	t CO_2e of SF6
Stationary or Mobile Combustion Source	194.02	191.36	0.02	2.65	0.00	0.00	0.00
Company Owned/Leased Vehicles	52.59	52.03	0.00	0.56	0.00	0.00	0.00
Refridgerant Gas Loss Recharge	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Scope 1 (2022) 't CO2e'	246.61	243.39	0.02	3.21	0.00	0.00	0.00

Scope 2	Calculated Emission Factors	CO2	CH4	N2O	HFC	PFC	SF6
	Total t CO_2e	t CO_2e of CO_2	t CO_2e of CH_4	t CO_2e of N_2O	t CO_2e of HFC	t CO_2e of PFC	t CO_2e of SF6
Total Organisation Energy Useage	9.27	9.17	0.04	0.07	0.00	0.00	0.00
Total Scope 2 (2022) 't CO2e'	9.27	9.60	0.04	0.07	0.00	0.00	0.00

Scope 3	Calculated Emission Factors	CO2	CH4	N2O	HFC	PFC	SF6
	Total t CO_2e	t CO_2e of CO_2	t CO_2e of CH_4	t CO_2e of N_2O	t CO_2e of HFC	t CO_2e of PFC	t CO_2e of SF6
Scope 3 out of boundary 't CO2e'	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Organisation Water Usage	0.43	0.43	0.00	0.00	0.00	0.00	0.00
Total Scope 3 (2022) 't CO2e'	0.43	0.43	0.00	0.00	0.00	0.00	0.00

2022	Calculated Emission Factors	CO2	CH4	N2O	HFC	PFC	SF6
	Total t CO_2e	t CO_2e of CO_2	t CO_2e of CH_4	t CO_2e of N_2O	t CO_2e of HFC	t CO_2e of PFC	t CO_2e of SF6
Total Organisation Emissions 't CO2e'	256.31	256.31	256.31	256.31	256.31	256.31	256.31

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Notes

Scope 3 emissions are limited to water usage in our reporting as the business will be creating a baseline scope in the calendar year 2023 (Jan23 – Dec23).

The business has undergone substantial organisational restructuring including both divestments and acquisitions since the baseline calculation. As a result, the operational boundary has changed significantly since 2020's GHG calculation.

Business estimated internal floor area for year; 13,000m2. Total number of FTE staff; 72.

The following areas will be considered to bring in to scope 3 calculation from 2023.

- Upstream transportation and distribution.
- Waste generated in operations.
- Business travel.
- Employee commuting.
- Downstream transportation and distribution.

Completed Carbon Reduction Initiatives

The business has confirmed the following environmental management measures and projects that been completed or implemented since the 2020 baseline.

Accreditation to the internationally recognised ISO14001 standard supported by our Environmental management system (EMS) and Policy. This continues to manage, monitor and improve our environmental performance.

SDG	ESS Carbon reduction projects in flight and completed
SDG 11	Accreditation to the internationally recognised ISO14001 standard supported by our Environmental management system (EMS) and Policy.
SDG 12	Developing our Responsible Business Plan (RBP) including targets for Net Zero.
SDG 13	Established our Responsible Business Plan (RBP) group including Directors and stakeholders from all sectors and functions.
SDG 3 & 10	Flexible working policy introduced reducing commuting and accommodation requirements for employees.
SDG 3	Promoting virtual meetings via Microsoft Teams.
SDG 17	Updated Pre-Qualification process ensuring that all suppliers have Environmental and waste management policies in place in order to ensure that their impacts are minimised as much as possible.
SDG 8	Engage with local suppliers wherever possible which allows us to reduce our CO_2 emissions.
SDG 12	Monitor operative travel distances on our larger sites.
SDG 12	Centralised waste management contractors who engage with local suppliers for each site, reducing mileage driven for deliveries and exchanges.
SDG 12	Waste management contractors engaging with suppliers who can provide higher recovery figures which allow us to improve our diversion rates.
SDG 12	Zero waste to landfill

Declaration and Sign Off

This Carbon Reduction Plan has been completed in accordance with PPN06/21 and associated guidance and reporting standard for Carbon Reduction Plans.

Emissions have been reported and recorded in accordance with **the published reporting standard for Carbon Reduction Plans and the** GHG Reporting Protocol corporate standard **and uses the appropriate** Government emission conversion factors for greenhouse gas company reporting.

Scope 1 and Scope 2 emissions have been reported in accordance with SECR requirements, and the required subset of Scope 3 emissions have been reported in accordance with the published reporting standard for Carbon Reduction Plans and the Corporate Value Chain (Scope 3) Standard.

This Carbon Reduction Plan has been reviewed and signed off by the Senior Leadership Team

Signed on behalf of the Supplier:

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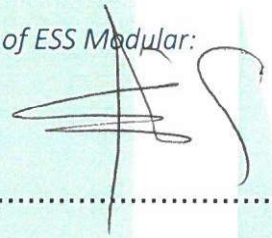
Date: 31/12/2023

Signed on behalf of ESS Modular:



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Date: 02/01/2023