

# Carbon Management Plan

## 2022 GFS SCOPE EMISSIONS REPORT

PREPARED BY;  
ANDY SNEYD. MANAGING CONSULTANT.  
LDNY CONSULTING  
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<sub>2</sub>e), 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 'Glass and Framing Solutions' corporate commitment to managing and reducing Greenhouse Gas Emissions.

Glass and Framing Solutions (GFS) is an environmentally conscious organisation, which acknowledges the impact that our operations may potentially have on the environment. The business is committed to sustainability and recognizes the importance of mitigating carbon emissions to combat climate change. As part of our dedication to environmental responsibility, we have developed a comprehensive Carbon Management Plan. 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 (2022), as set out in the Paris agreement.

Tony Waudby. Director. May 2024

## 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 Glass and Framing Solutions 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 – Power distribution, water (consumption and waste volume) and commercial waste.

### 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 2022 onwards

Additional Details relating to the Baseline Emissions calculations.

The baseline defined relates to the Glass and Framing Solutions Limited and covers the operations in the UK. Glass and Framing Solutions Limited have not been previously assessed or reported emissions, our 2022 baseline will be our first reporting.

### Baseline Year tCO<sub>2</sub>e Emissions

Baseline Year: Calendar Year 2022	
Emissions	Total tCO <sub>2</sub> e
Scope 1	175.21
Scope 2	10.77
Scope 3	0.09 (in part)
Total Emissions	186.07

### Emissions reduction targets

At Glass and Framing Solutions Limited 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 Glass and Framing Solutions Limited 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 Glass and Framing Solutions Limited is a net zero organisation.

### 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 (tCO<sub>2</sub>e). 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**  
Stationary or Mobile Combustion Source  
Company Owned/Leased Vehicles  
Total Scope 1 (2022) 't CO2e'

Calculated Emission Factors	CO2	CH4	N2O	HFC	PFC	SF6
Total t CO <sub>2</sub> e	t CO <sub>2</sub> e of CO <sub>2</sub>	t CO <sub>2</sub> e of CH <sub>4</sub>	t CO <sub>2</sub> e of N <sub>2</sub> O	t CO <sub>2</sub> e of HFC	t CO <sub>2</sub> e of PFC	t CO <sub>2</sub> e of SF <sub>6</sub>
30.60	30.22	0.03	0.35	0.00	0.00	0.00
144.61	143.44	0.00	1.16	0.00	0.00	0.00
<b>175.21</b>	<b>173.66</b>	<b>0.04</b>	<b>1.51</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**Scope 2**  
Total Organisation Energy Usage  
Total Scope 2 (2022) 't CO2e'

Calculated Emission Factors	CO2	CH4	N2O	HFC	PFC	SF6
Total t CO <sub>2</sub> e	t CO <sub>2</sub> e of CO <sub>2</sub>	t CO <sub>2</sub> e of CH <sub>4</sub>	t CO <sub>2</sub> e of N <sub>2</sub> O	t CO <sub>2</sub> e of HFC	t CO <sub>2</sub> e of PFC	t CO <sub>2</sub> e of SF <sub>6</sub>
10.77	10.68	0.04	0.06	0.00	0.00	0.00
<b>10.77</b>	<b>10.68</b>	<b>0.04</b>	<b>0.06</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**Scope 3**  
T&D- UK electricity  
Organisation Water Usage  
Organisation Waste  
Total Scope 3 't CO2e'

Calculated Emission Factors	CO2	CH4	N2O	HFC	PFC	SF6
Total t CO <sub>2</sub> e	t CO <sub>2</sub> e of CO <sub>2</sub>	t CO <sub>2</sub> e of CH <sub>4</sub>	t CO <sub>2</sub> e of N <sub>2</sub> O	t CO <sub>2</sub> e of HFC	t CO <sub>2</sub> e of PFC	t CO <sub>2</sub> e of SF <sub>6</sub>
0.00276	0.00273	0.00001	0.00002	0.00000	0.00000	0.00000
0.0657	0.0657	0.0000	0.0000	0.0000	0.0000	0.0000
0.0232	0.0232	0.0000	0.0000	0.0000	0.0000	0.0000
<b>0.09</b>	<b>0.09</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**2022**  
Total Organisation Emissions 't CO2e'

Calculated Emission Factors	CO2	CH4	N2O	HFC	PFC	SF6
Total t CO <sub>2</sub> e	t CO <sub>2</sub> e of CO <sub>2</sub>	t CO <sub>2</sub> e of CH <sub>4</sub>	t CO <sub>2</sub> e of N <sub>2</sub> O	t CO <sub>2</sub> e of HFC	t CO <sub>2</sub> e of PFC	t CO <sub>2</sub> e of SF <sub>6</sub>
<b>186.07</b>	<b>184.43</b>	<b>0.07</b>	<b>1.57</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

## Notes

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

Business estimated internal floor area for year; 1200m<sup>2</sup>. Total number of FTE staff in year; 47.

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

- Upstream transportation and distribution.
- Raw materials received in tonnes.
- Business travel.
- Employee commuting.
- Downstream transportation and distribution.
- Closed loop recycling.

## Carbon Reduction Initiatives

The business has confirmed the following environmental management measures and projects that are under consideration for future years and in addition to the 2022 baseline.

GFS is currently working towards ISO14001 and Environmental management system (EMS) and Policy standard supported by the ISO9001 Quality Management System.

<b>SDG</b>	<b>GFS Carbon reduction projects to be reviewed for implementation</b>
SDG 7	Investigate local 26.5KWH solar PV power generation on site.
SDG 11	GFA accreditation to the internationally recognised ISO14001 standard supported by our Environmental management system (EMS) and Policy.
SDG 3 & 10	Investigate flexible working policy introduced reducing commuting and accommodation requirements for employees.
SDG 3	Promoting virtual meetings via Microsoft Teams and or Zoom.
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 CO2 emissions.
SDG 12	Monitor operative travel distances.
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	Closed loop recycling - Zero waste to landfill
SDG 12	Investigate lighting system control to reduce over and under lighting and improve control and safety.
SDG 1, 5 & 10	Review and benchmark salaries against for gender consistency across the workforce.
SDG 13	Review current transport policy and complete a EV impact study for the movement of goods.
SDG 13	Undertake a feasibility assessment of current fossil fuel replacement heating systems.



### 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:*

Date: ..... 24th May 2024 .....

*Signed on behalf of Glass and Framing Solutions Limited:*

Date: .....

Appendices;

United Nations Sustainability Development Goals

