GLASS DESIGNS

GLASS AND MIRROR SUPPLIERS TO THE TRADE
TOUGHENED GLASS DIRECT

UNITS 3 &4, CITY CROSS BUSINESS PARK,
SALUTATION ROAD, GREENWICH, LONDON, SE10 0AT

Overview
As the world continues to develop and use resources in order to make products, we here at GD Ltd are committed to ensure we operate in a sustainable way to ensure the future of generations to come.
Climate change affects the globe, we know that what we do today has consequences tomorrow, and GD Ltd is taking this responsibility seriously.
We desire to achieve the best possible balance between sustainable development and economy.

A prerequisite in all our activities and a crucial part of our Corporate Social Values is sustainability.
We strive for constant improvement and are committed to:

- Promote equality, diversity and inclusion
- Ensure the health and safety for our workers
- Reduce our carbon footprint

We strive to continuously improve our systems in order to comply with all legal obligations and voluntary agreements.

We aim to comply with the following principles in order to carry out our policies.

Health and Safety:
Raise safety awareness of our staff through training, monitoring and communication.
Improve accident management, monitor our standards to stop any severe accidents.
Deploying policy of not wearing the correct safety equipment then you are not allowed to work.

Environmental policy:
Reduce environmental impact to minimise our Green House Gas (GHG) emissions,
Reduce our water consumption to save natural resources.
Minimise ground, water and air pollution during our activities.
Manufacture our products using materials that contribute towards sustainability over the course of their lifetime and promote end of life recycling and reuse.

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Social Responsibility policy:
At GD we pride ourselves on having employees from a wide range of nationality, religions, ethnicity and physical ability. We strive for diversity and inclusion at every stage and level of the company with a promise to our employees to have equality across everything we do regardless of sexual orientation or gender.

Our Aim to achieve lower carbon emissions

GHG emissions – 3 Scopes
The GHG Protocol (Greenhouse Gas), which is an internationally recognized standard, is used to calculate corporate carbon footprint. GHG emissions are broken into different categories that allow the assessment of the carbon footprint.
Scope 1 = Emissions directly from the factory
Scope 2 = Indirect emissions due to electricity production
Scope 3 = Indirect emissions from upstream and downstream processes along the product value chain

Efficient Resource Usage
At GD we are striving to make efficient and effective use of valuable limited resources. We try to reduce water usage, energy consumption and minimize waste output during the fabrications of our products.

Department Team work
Each department works together by

- Raising awareness of our environment at each stage of fabrication in the company.
- Lower the impact on our environment from their activities and manufacturing procedures.
- Improving the efficiency of our energy usage.
- Research our suppliers to promote “Green Purchasing” in order to preserve the environment.
- Aim to reduce and, where possible, replace hazardous materials in purchased substances that are used in the production of our products.
- Ensuring compliance with regulations on chemical substances.
- Ensure best practices for transportation and are a member of FORS.

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Our Carbon Footprint

GD Ltd is committed to lowering carbon emissions and to achieve this, all parts of the production value chain need to be taken into consideration. This includes sourcing glass from companies that are able to de-carbonise the glass production processes by using highly efficient melting furnaces thanks to breakthrough technologies.
We aim to use low carbon electricity and source glass from companies that make use of cullet. This helps to reduce and, in some cases, eliminate all CO_2 emissions from the supply chain. This further helps with upstream of our processes and other indirect emissions by sourcing glass from companies that use sustainable raw materials, as well as promote the optimisation of transport.

Measuring our Carbon Footprint

Upstream activities –

Scope 3 - Indirect:

- Glass material and supply deliveries to us
- Business Travel
- Employee Commuting

Scope 2 – Indirect:

- Acquired and consumed electricity and natural gas

Scope 1 – Direct:

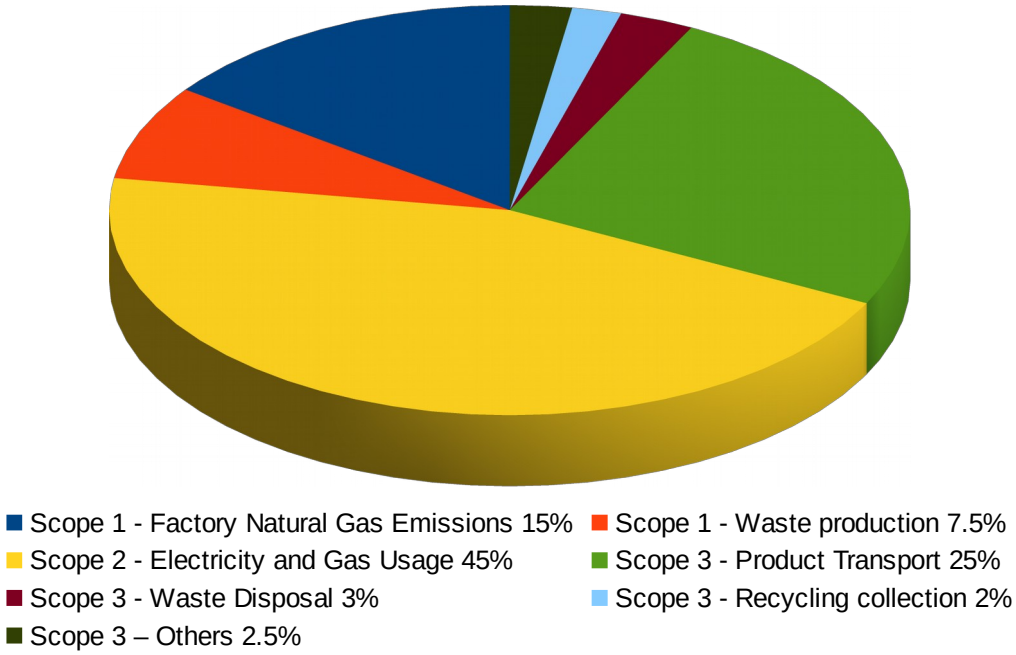
- Water Based Fumes from paint Machine
- Natural Gas Emissions from Laminating Plant
- Non toxic waste water from Water jet and processing machines

Downstream activities –

Scope 3 - Indirect:

- Finished product transportation
- Waste transportation
- Collection of recyclable materials

Carbon Footprint Breakdown



Our estimated carbon footprint is 2,277 tonnes of CO_2 eq.

Electricity purchase – Scope 2:
In 2022 considering our average consumption the amount of electricity purchased represented almost 2,252 tonnes of CO_2 eq.

Our effect on the Environment
At GD Ltd we aim for our products to have a positive impact during the fabrication stage as that make it possible to reduce the energy consumption and hence the CO_2 emissions of users.
Our paint Machine is run using water based paints which produces water based fumes as opposed to solvent fumes from solvent based paint.
We employ people that have no other role in the factory other than to recycle. They collect all our recyclable materials and use our installed specialist machinery that compacts paper and other materials into convenient cubes. These go into special containers and 100% of this waste material is recycled.
All of our non glass and paper waste, such as wood and metal, goes into a skip which is

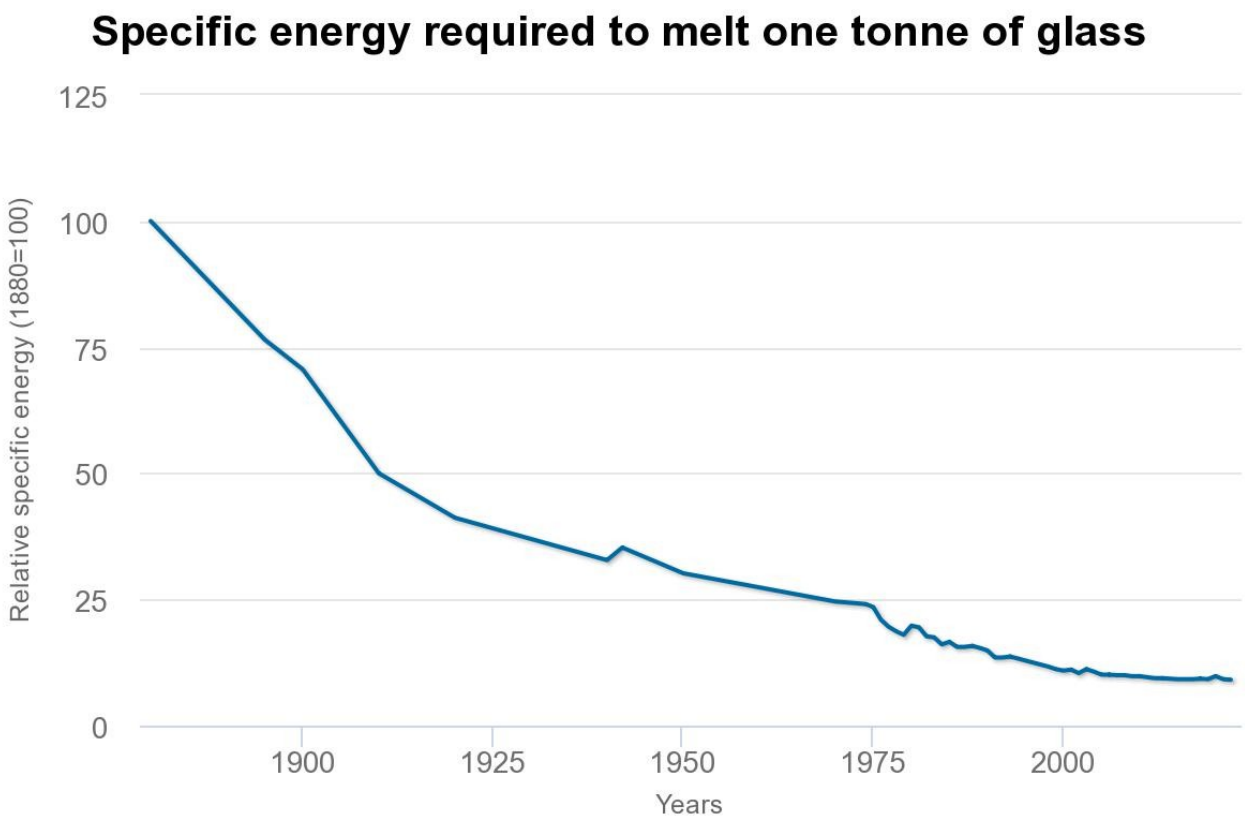
handled by a specialist recycling company who collect, process and recycle the materials. Tinted mirror glass and laminated glass can not be crushed and sent back to glass manufactures for recycling but rather than dump this waste glass we provide it to the tarmac industries, they are able to crush it and use the materials in the construction of tarmac and roads.
Our broken pieces of clear waste glass, known as cullet, is sent back to the glass manufactures. This recycling of cullet helps to reduce CO_2 emissions by saving raw materials and energy for melting. Roughly speaking, an additional 10% of melted glass coming from cullet will allow to decrease melting energy by 2%.

Reach Declaration
Following the European Declaration (EC) No 1907/2–6 of the European Union Parliament and of the Council of 18 December 2006, concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH),
We, Glass Designs Ltd, declare under our sole responsibility that none of the substances identified as Substances of Very High Concern (SVHCs) in the candidate list (https://echa.europa.eu/web/guest/candidate-list-table) is present above 0.1% in glass products mentioned in Annex 1 and that we respect the Article 33 “Duty to communicate information on substances in articles” of the EU registration.

Carbon Dioxide Emissions.
The major environmental impact of glass production is caused by atmospheric emissions from melting activities. GD Ltd does not actually melt or make any glass on site and therefore contributes zero CO_2 into the atmosphere. However we source our glass from responsible manufacturers who aim to de-carbonise flat glass production.

The only greenhouse gas emitted during the glass production is Carbon Dioxide. This is due to the combustion of natural gas and the decomposition of raw materials during melting.
Nitrogen oxides (NO_X) are produced due to high melting temperatures, and in some cases due to decomposition of nitrogen compounds in the batch materials, can contribute to acidification. Decomposition of sulphates in the batch materials produces Sulphur dioxide (SO_2) that also contributes to acidification.
Particles can be released into the atmosphere due to evaporation from the molten glass and raw materials.

Specific energy required to melt glass has been continuously decreasing since the late 1800's. Practically most of the direct CO_2 emissions comes from melting activities. Around 75% of the CO_2 emissions from the furnaces are energy related, with the remaining 25% caused by raw materials decomposing.



The graph above shows the amount of energy needed to produced 1 tonne of glass is approximately 10% of what it was 100 years ago.

Breakthrough in technologies is required

A unique system called 'hot oxycombustion' powers one of the most promising furnaces our supplier uses to make glass that we, at GD Ltd, source to work on. Oxygen is used for combustion instead of air and heat is reused from flue gases to preheat the natural gas before it is injected into the furnace.

The furnace in Boussois (France) was the first float furnace in Europe to operate fully on the hot oxycombustion process and the first in the world to have the natural gas and oxygen preheated which make this the most ecological float furnace in the world.

Electro-melting is another very promising technology that also technological breakthroughs. While limited percentage of electrical melting is not new (usually referred to as electro-boosting), a substantial percentage of melting energy from electricity can't be achieved today due to the strict quality requirements for float, and therefore a major technological breakthrough is required.

Hydrogen can be used to substitute natural gas, carbon capture and storage or use (CCS/CCU) are other potential techniques which require technological breakthroughs and are currently evaluated or tested.

As previously stated GD Ltd are committed to ensure we operate in a sustainable way to ensure the future of generations to come. We are continuously looking at our procedures to see how we can improve the efficiency in order to reduce our carbon footprint and impact on the environment.