# Carbon footprint and findings for the Carbon Smart® Gold Certification

## Lettergold Plastics

22/03/2016

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# 1 Executive summary

Congratulations on becoming Carbon Smart certified for another year. Lettergold Plastics specialise in injection moulding, contract packaging and domestic water treatment products. The organisation have been Carbon Smart certified since 2012 and achieved Gold in 2013/14 through a reduction of total carbon emissions, an improvement in data quality and the achievement of exceptional actions. Lettergold Plastics maintained Carbon Smart Gold this year, having continued to demonstrate their commitment to reducing their environmental impact.

Lettergold Plastics carbon footprint for the reporting period 2014/15 is 130 tonnes. That represents a decrease of 6% on the baseline year of 2012 which has been driven primarily by lower emissions from electricity and fleet. The reduction in electricity consumption is down to Lettergold Plastics investment in more efficient equipment whilst the decrease in fuel consumption is attributable to the company's new fuel efficient van with BlueEFFICIENCY technology.

Lettergold Plastics have maintained their ISO 14001 certification for 2016 and have set clear objectives to continually improve their environmental management system, prevent pollution and generally pursue environmental excellence. A good example of this is Lettergold Plastics move to pay a premium for renewable electricity through their supplier. This resulted in Lettergold Plastics being issued a Climate Change Levy Exemption Declaration from their supplier.

## 2 Introduction and background

The Carbon Smart Certification Programme continues to be the fastest growing environmental programme in the UK and we are glad that you are taking part.

We recognise that over the years Lettergold Plastics have taken positive steps to improve their environmental performance, which we will highlight in this report. Your Carbon Smart report provides the following information:

- An analysis of the level you are at on the Carbon Smart certification programme – to help position yourself against other businesses
- Your carbon footprint – we will tell how well you are performing and provide a visualisation of this
- Guidance on how to maintain a realistic carbon reduction target
- Guidance on how to maintain Carbon Smart certification
- Support available for implementing efficiency measures

Carbon Smart has been provided with the following information about your organisation. This has been used as a basis for calculations and recommendations throughout the certification process.

| | |
|---|---|
| **Organisation name** | Lettergold Plastics Ltd |
| **Organisation address** | Unit 4, Hammond Close,<br>Newmarket,<br>Suffolk,<br>CB8 0AZ |
| **Number of staff** | 20 |
| **Total treated floor area ($m^2$)** | 1,672$m^2$ |

*Table 1: Organisation details*

# 3 Carbon Smart Certification features

Carbon Smart Certification recognises the practical actions and decisions that an organisation has taken to reduce its impact on the environment. Carbon Smart certified organisations have a strong clear message to communicate – they have taken the right steps to tackle their carbon footprint. There are three levels to Carbon Smart Certification: Carbon Smart® Blue, Carbon Smart® Silver, and Carbon Smart® Gold. Each level has differing levels of commitment and action. The table below summarises their individual features and positions you on that scale.

| Features | Commitment to Act | Deliver Savings | Show Leadership |
|---|---|---|---|
| Exceptional actions achieved | | | ✓ |
| Communication of results through engagement and marketing | | | ✓ |
| Data quality rated as 'good' by Carbon Smart | | | ✓ |
| Year on year carbon savings in line with targets | | ✓ | ✓ |
| Review and enhancement of environmental policy documentation | | ✓ | ✓ |
| Use of Carbon Smart logo on marketing materials | ✓ | ✓ | ✓ |
| Carbon Smart certification | ✓ | ✓ | ✓ |
| Robust environmental policy to use in tenders and present to clients and staff | ✓ | ✓ | ✓ |
| Action plan to deliver realistic and affordable business change | ✓ | ✓ | ✓ |
| Internationally compliant carbon footprint | ✓ | ✓ | ✓ |
| | carbon smart BLUE CERTIFIED 2016 | carbon smart SILVER CERTIFIED 2016 | carbon smart GOLD CERTIFIED 2016 |

*Table 2: Carbon Smart certification features*

# 4 Carbon footprint and findings

The carbon footprint for Lettergold Plastics was calculated as 130.1 tonnes $CO_2e$ for the reporting period 01/07/2014 to 30/06/2015.

| | Activity | Tonnes $CO_2e$ Year 1 | Tonnes $CO_2e$ Year 2 | Tonnes $CO_2e$ Year 3 | Tonnes $CO_2e$ Year 4 | % of total | % change baseline | Data Quality |
|---|---|---|---|---|---|---|---|---|
| Scope 1 | Natural gas | 14.8 | 1.4 | 15.7 | 18.4 | 14.2% | 25% | |
| | Fleet | 11.8 | 12.5 | 17 | 6.7 | 5.2% | -43% | |
| Scope 2 | Electricity | 106.6 | 100.3 | 96 | 103.0 | 79.1% | -3% | |
| Scope 3 | Waste | 4.6 | 0.7 | 0.2 | 1.7 | 1.3% | -64% | |
| | Water | 0.3 | 0.5 | 0.5 | 0.3 | 0.2% | -1% | |
| | Total | 138.1 | 115.4 | 129.4 | 130.1 | 100.0% | -6% | |

*Table 3: Total emissions broken down by resource – please note totals have been recalculated due to revisions made to the scope of reporting for year 4*

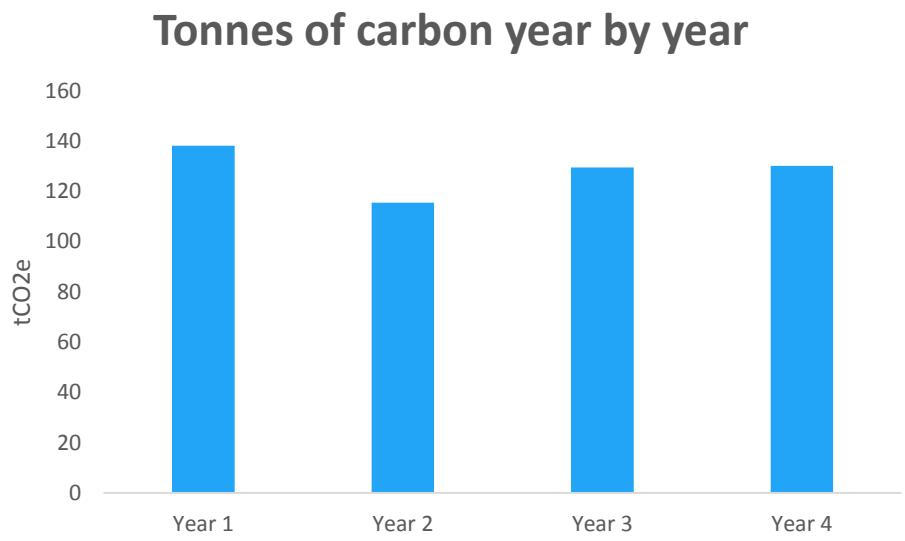



*Figure 1: Annual carbon emissions for Lettergold Plastics*

Figure 2 shows the $CO_2e$ emissions by resource. Lettergold Plastics should focus their effort on the largest segments of the pie which contribute the most to their carbon footprint.

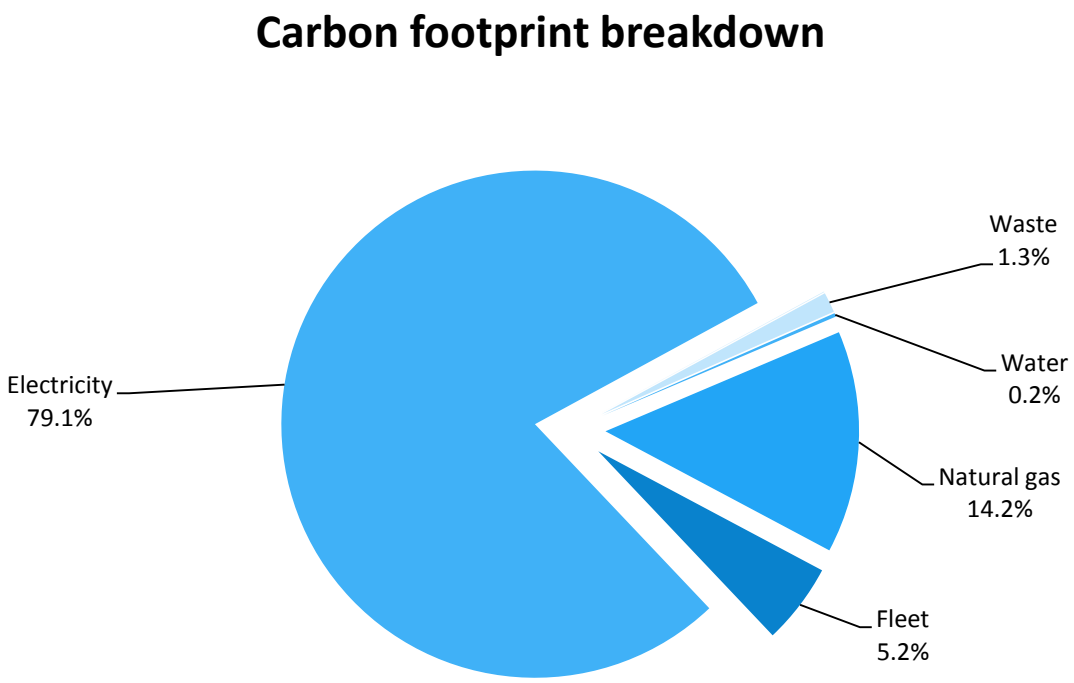



*Figure 2: $CO_2e$ emissions (%) by resource*

In order to compare the carbon efficiency of the business year-on-year as it evolves and changes, metrics can be used to analyse the carbon footprint and to ensure a level of consistency is maintained to measure progress.

| | 2013/14 | 2014/15 | Progress |
|---|---|---|---|
| *Tonnes $CO_2e$ total* | 129.4 | 130.2 | +0.6% |
| *Tonnes $CO_2e$ per employee* | 6.47 | 6.51 | +0.6% |
| *Tonnes $CO_2e$ per unit floor area ($m^2$)* | 0.077 | 0.078 | +0.6% |

*Table 4: Equivalent carbon performance based on key organisational metrics*

Included in the table is a data quality rating based on the accuracy of the data supplied. The rating system works on a three tiered traffic light system with green representing good quality data, orange representing average quality data and red representing poor quality data. The quality of your data is very important as you cannot manage what you cannot properly measure. Higher quality data provides a more accurate carbon footprint and so we encourage all our clients to improve their data quality as they work through the Carbon Smart Certification Programme. Table 4 shows the data quality rating system.

| | |
|---|---|
| | **Good quality data**<br>Primary data sources have been used. Data completeness and accuracy is high |
| | **Average data quality**<br>Mixed primary and secondary data sources. Limited extrapolation with average completeness and accuracy |
| | **Poor data quality**<br>High levels of estimation and benchmarking. Poor completeness and accuracy |

*Table 5: Data quality rating system*

## 5 Carbon footprint reduction target

As you are no doubt aware, setting a carbon reduction target is important as it will give Lettergold Plastics something to aim for over the coming year. The target should reflect what is feasible for the organisation, taking into account financial and resource constraints. Since organisations are constantly changing due to external factors such as economic climate and employee turnover, it is likely that your carbon footprint will fluctuate. Equally, the accuracy of your carbon footprint depends on the quality and scope of data provided. Therefore your carbon reduction target should take into account the need to improve and maintain data quality.

To make your target robust Carbon Smart suggests you take the following steps:

- **Use a relative measure for your carbon footprint target:** To ensure you take into account business fluctuations in economic activity and employee numbers you can divide your carbon footprint by employee numbers or revenue to get a relative figure (i.e. you may want to reduce your carbon footprint by 1 tonne per employee member or 1 tonne per £100,000 turnover)

- **Choose a target that is ambitious yet achievable:** Carbon Smart benchmark targets are 5-8% in the first year and 15% by the third year based on relative figures (NB: For some businesses this target proves conservative and as such we recommend businesses review their carbon footprint and reduction target annually).

**After three years?** A programme of continuous improvement should have emerged within your organisation after three years on the Carbon Smart Programme. Your organisation should continue to set further carbon intensity reduction targets each year, appropriate to business operations. Clear demonstration of adhering to your action plan throughout the business and maintaining excellent data quality are key. Exceptional carbon performance and environmental commitment will secure your organisation Carbon Smart Gold certification on an annual basis.

# 6 Key achievements

Since first working with Carbon Smart in 2012, Lettergold Plastics have worked hard to demonstrate their commitment to improving their environmental performance. Key achievements include the following:

- **Improved data quality year on year**. All data submitted for this report was rated good.

- **Introduced a new, fuel efficiency van with BlueEFFICIENCY technology**. Fleet vehicle emissions are down 43% on the baseline year.

- **Introduced energy efficiency equipment on site.** This has helped drive a 3% reduction in electricity consumption. In particular two of the new moulding machines on site use up to 36% less energy whilst energy efficiency lighting has also been installed.

- **Procured renewable electricity** resulting in the awarding a Climate Change Exemption Declaration in late 2014.

- **Engaged with suppliers to share knowledge and encourage good environmental practice.** For example environmental policies are requested from suppliers.

- **Investigated the feasibility of installing roof mounted solar panels**

- **Maintained ISO 14001 certification**

- **Progressed to, and maintained, Carbon Smart Gold Certification**

# 7 Next Steps

Integrating sustainability into your business is a process that requires both practical alterations to business operations and employee behaviour. Some actions can be made immediately within a business and produce fast results, whilst other changes to business practice require allocation of money and time that may need to take place over a number of years before results can be seen.

Whether implementing short-term actions or longer term solutions, your business should strive towards continuous improvement in the quality of environmental data collected, the uptake and continuation of environmental solutions and employee habits.

The next step for your company is to ensure that continuous environmental improvement and heightened carbon performance are a part of your business's long term plan. Becoming a sustainable business is not a single action, it is an ongoing process that involves commitment to quantifying, monitoring and reducing your environmental impact throughout your business lifecycle.

# 8 Resources and further reading

**Energy Efficiency Financing**

Small or medium-sized enterprises (SME) in England that have been trading for at least 12 months could borrow from £3,000 to £100,000 (£400,000 in Northern Ireland). It is unsecured, interest free and repayable over a period of up to 4 years. There are no arrangement fees and applying is straightforward. See www.carbontrust.co.uk for more information.

**Enhanced Capital Allowances**

The Enhanced Capital Allowance (ECA) scheme is a key part of the Government's programme to manage climate change. It provides businesses with enhanced tax relief for investments in equipment that meets published energy-saving criteria. The website covers equipment that qualifies for the allowance and provides background information about the scheme and its benefits. See www.eca.gov.uk for more information.

# 9 Appendix

## 9.1 Carbon footprint methodology

Carbon Smart follows the Green House Gas (GHG) Protocol produced by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD). This methodology provides detailed guidance on emissions reporting.

This assessment was based on the 'operational boundary' principle, i.e. the emissions associated with operations directly influenced by your company.

The classification method used to group GHG emissions, by the level of control an organisation has over them are categorised into three main types of GHG classes:

- **Direct emissions, scope 1**: Are those which result from fossil fuels burned directly by the business, such as boiler gas, Air Conditioning refrigerant gas, or fuel in company vehicles/fleets.
- **Indirect emissions, scope 2:** These are from imported electricity i.e. power stations to run heating, lighting, electrical equipment within the building.
- **Other indirect emissions, scope 3:** Are from products and services such as the emissions from the consumption of water, waste, business travel, paper etc. The boundaries of this scope are agreed with the organisation and the general rule is to include what a business can quantify, monitor and influence.

## 9.2 Scope, boundary and data collected

The operational boundary[1] was set for the activities carried out at your business.

Where possible and relevant the following activities have been included:

- Scope 1: Natural gas, company cars, non-company cars used for business travel and fleet
- Scope 2: Electricity
- Scope 3: Waste, paper stationery, national/international rail, flights, taxis

The following were excluded from the carbon footprint calculation:

- Staff commute travel
- Non paper stationery
- Off-site staff / partner events

## 9.3 Data Quality Criteria and Guidance

Data quality is an important part of the carbon footprint calculation process. The higher quality the data submitted, the more accurate and meaningful carbon footprint calculations can become. It is also true that resource use that cannot accurately be measured, cannot accurately be managed, so collecting

[1] The operational boundary includes emissions controlled by the organisation and emissions arising from their operations.

robust data is very important. This is probably quite an obvious statement, but a lot of organisations do not currently collect or monitor their energy and resource consumption at all.

There are three important aspects to data quality that we take into account when we calculate your operational carbon emissions.

1. **Source –** the consumption figures you have been able to supply and where they came from e.g.
    - kWh consumption of electricity from meter readings
    - Spend on fuel from receipts for a company car.

2. **Completeness –** the time period your data considers and the coverage within the business, e.g.
    - Natural gas data for one whole year, for two floors of a two storey building
    - Natural gas data for three months for one floor.

3. **Accuracy –** the confidence you have in your data i.e. are these figures 100% accurate, estimates, or unknown?

Carbon Smart rates each individual piece of information you provide to us for the calculation of your carbon footprint following the three tier traffic light system.

All pieces of data will be categorised by source (as primary, secondary or spend) and by completeness, as per the definitions below:

- Primary – actual consumption of fuel / energy / or product with the appropriate units
- Secondary – a figure we can convert into fuel / energy / product consumption simply i.e. mileage, bags of waste etc.
- Spend – data that we can approximate to consumption through a series of assumptions but will include a number of other factors i.e. VAT, levies and other taxes.

The matrix we use to assess your data is in the table below. Each piece of data you submit will fit into this grid accordingly:

| | Actual & complete (90% or more of data) | Partially complete (greater than 50% of property/asset) | Incomplete (less than 50% of property/asset) |
|---|---|---|---|
| **Primary (e.g. litreage)** | | | |
| **Secondary (e.g. mileage)** | | | |
| **Spend** | | | |

*Table 5: Data quality rating system*

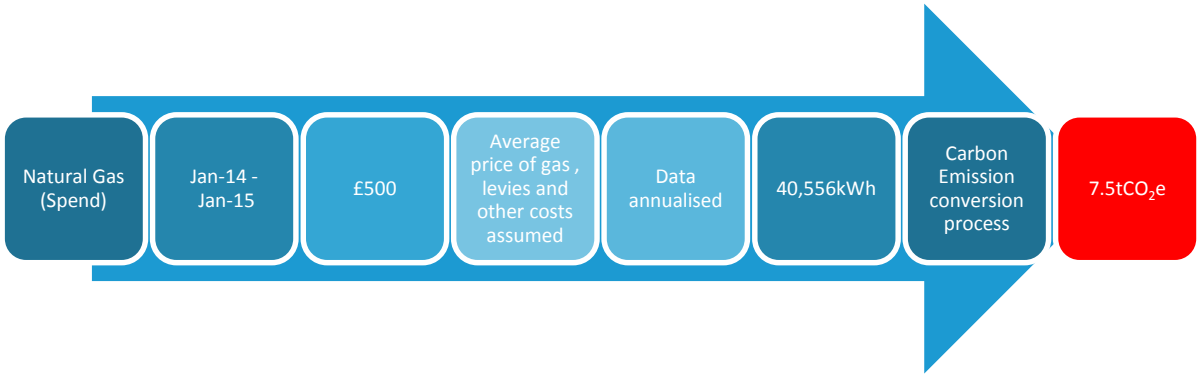
*NB: Estimated, extrapolated, pro-rated or benchmarked (no information available) data are automatically incomplete, 'red' data quality.*

To illustrate some real life examples of data quality, we have provided some examples below:

Example 1: Green Data Quality


Example 2: Orange Data Quality


Example 3: Red Data Quality




Meeting and maintaining your overall data quality rating at the Carbon Smart green data quality level will allow you to show carbon reductions and accurately compare year-on-year performance. This will allow

your organisation to retrieve the highest value from environmental reporting and achieve greater environmental and financial rewards.

## 9.4 Terminology

**Carbon dioxide (or $CO_2$)** - is a gas. Carbon Dioxide is just one of the greenhouse gases which impact on our climate and the weather patterns of the planet, and has been found to contribute to global warming.

**$CO_2e$** - There are six main greenhouse gases which cause climate change and each one of these has a different global warming potential. For simplicity of reporting, the mass of each gas emitted is commonly translated into a carbon dioxide equivalent ($CO_2e$) amount so that the total impact from all sources can be summed to one figure. Volumes of $CO_2e$ in this report are assumed to be at standard temperature and pressure (STP).

**Greenhouse gases** - Greenhouse gases occur naturally in the Earth's atmosphere and create a layer around the earth which keeps the planet warm. However if too many gases are released, as with $CO_2$, the increased concentration levels prevent heat loss from the planet and cause higher temperatures. The name for this is the greenhouse effect. Carbon dioxide is the most prevalent greenhouse gas. Other greenhouse gases include methane (which is produced from the landfill or agriculture activities), and Nitrous oxide (as a result of transport and industrial processes). Greenhouse gases are natural and without them the earth could be 15-30°C colder.

**World Resources Institute (WRI) -** WRI published the Greenhouse Gas Protocol for Project Accounting in 2005. The protocol takes the approach of identifying emissions by 'scope' (setting out Scope 1, 2 and 3) and is widely accepted as the leading protocol for carbon footprint calculation. WRI is an environmental think tank that goes beyond research to find practical ways to protect the earth and improve people's lives. WRI have recognised climate change as a critical threat to people's lives and to the environment.

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clear practical action