NetZero GROUP

CARBON REPORTING GUIDE

SUSTAINABILITY SIMPLIFIED

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ABOUT US

Established ⟶ **2019**

Based in ⟶ **Manchester**

We are a
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Our Clients

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CBRE

Carbon Emissions in the UK

The UK's most prominent source of greenhouse gas emissions is the Transportation sector and closely followed by the Energy Supply sector. In 2018, it was estimated that 23% of the UK's total carbon footprint could be accounted for by transportation. Despite road vehicles being half as polluting as before, the number of miles people are driving on average has drastically increased and is responsible for 55% of domestic transport emissions.

As a near second, the current energy consumption is another major contributor to the UK's carbon emissions. Traditionally, the UK has met its electricity needs using power stations that burn carbon-intensive fuels such as coal and oil. However, substantial progress has been made toward "greening the grid" by making the shift towards renewable technologies.

Reducing carbon emissions in the UK is challenging yet essential. The heavy reliance on carbon-intensive fuel sources make it difficult to adjust quickly and switching to low-emission technologies across sectors such as transportation and energy requires time, extensive investment, and widespread behavioural changes.

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Key Terminology

Greenhouse Gas

Gases that trap heat in the atmosphere, contributing to the greenhouse effect.

CO2e

Carbon Dioxide Equivalent - A standard unit that expresses the impact of various greenhouse gases in terms of the amount of CO2 with an equivalent global warming effect.

Baseline Emissions

Initial measurements of emissions taken at a defined starting point, serving as a benchmark to track reductions over time.

Key Terminology

Net Zero

A state in which an organisation's emissions are minimised as much as possible, with remaining emissions offset or removed to achieve no net contribution to atmospheric CO2.

Decarbonisation

The process of reducing carbon intensity, typically by adopting renewable energy, enhancing energy efficiency, and shifting away from fossil fuels.

Life-Cycle Assessment (LCA)

Methodology for assessing the environmental impacts of a product or service throughout its entire lifecycle, including raw material extraction, production, use, and disposal.

What is a Carbon Footprint?

A carbon footprint is a measure of the total greenhouse gas emissions associated with the activities or operations of an individual, organisation, event or product. It is typically expressed in metric tonnes or kilograms of carbon dioxide equivalent (CO2e) and accounts for all greenhouse gas emissions like methane and nitrous oxide.

Reducing a carbon footprint involves minimising emissions by adopting more sustainable practices, such as improving energy efficiency, implementing renewable technologies, shifting to low-emission transport and supporting eco-friendly products. It is crucial for organisations and individuals to lower their carbon footprint as it plays a key role in slowing the impacts of climate change and building a more sustainable future.

Measuring Carbon Footprints

It is important for carbon footprint measurements to be standardised to ensure they are easily comparable to other and previous carbon calculations. A carbon footprint can be calculated for an organisation, service or an individual person. Key information include organisational insights, data availability and transparency within the supply chain.

The foundations of an accurate carbon footprint begin by establishing a precise baseline. This will act as a benchmark against which future emissions and reductions can be measured.

Producing a carbon footprint can be approached using the following steps:

1. Identifying carbon sources
2. Collect data
3. Choose a calculation method
4. Select appropriate conversion factors
5. Calculate total carbon footprint
6. Data normalisation and publishing

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Identifying Carbon Sources using the GHG Protocol

The Greenhouse Gas (GHG) Protocol is the most commonly used international standard of measuring, categorising and managing emissions. By providing a consistent framework for tracking emissions, the GHG Protocol helps organisations take responsibility for their carbon footprint and to be transparent in their reporting. The GHG Protocol classifies emissions into three "scopes" to help identify and report all the sources of emissions within an organisation's operations.

Unlike Scope 1 and 2 emissions, Scope 3 encompasses a great range of activities that can significantly contribute to an organisation's overall carbon footprint. As it concerns all the emissions associated with the supply chain, both upstream and downstream, that are not fully within the reporting organisation's operational control, quantifying it accurately and managing it effectively is very difficult.

- **Scope 1:** Direct emissions from sources owned or controlled by the company (Eg. On-site fuel combustion, company vehicle emissions)

- **Scope 2:** Indirect emissions associated with a company's purchased energy (Eg. Purchased electricity, heating and cooling)

- **Scope 3:** All further indirect emissions in the company's value chain– both upstream and downstream (Eg. Supplier emissions, business travel, employee commuting, waste generated in operations, distribution etc.)

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The GHG Protocol further subdivides Scope 3 into following categories

1. **Purchased Goods & Services:** Emissions from producing goods and services bought by the organisation (e.g., raw materials, office supplies).
2. **Capital Goods:** Emissions from creating long-term assets used by the company.
3. **Fuel- & Energy-Related Activities:** Emissions from extracting, producing, and transmitting energy and fuels purchased by the business (excluding Scopes 1 & 2).
4. **Upstream Transportation & Distribution:** Emissions from transporting and distributing purchased products, including third-party logistics.
5. **Waste Generated in Operations**: Emissions from disposing of waste produced by the business.
6. **Business Travel:** Emissions from employee transportation for business purposes.
7. **Employee Commuting:** Emissions from staff travelling to and from work.
8. **Upstream Leased Assets:** Emissions from operating leased assets not included in Scopes 1 & 2.
9. **Downstream Transportation & Distribution:** Emissions from transporting and distributing sold products in vehicles not owned or controlled by the organisation.
10. **Processing of Sold Products:** Emissions from processing intermediate products sold by the organisation.
11. **Use of Sold Products:** Emissions from using the company's goods and services.
12. **End-of-Life Treatment of Sold Products:** Emissions from disposing of products at the end of their life cycle.
13. **Downstream Leased Assets:** Emissions from operating assets owned and leased out by the organisation.
14. **Franchises:** Emissions from operating franchises not included in Scopes 1 or 2.
15. **Investments:** Emissions from the organisation's investments.

Spend Based Vs Activity Based Data

Although some data will produce a more credible footprint than others, it is important to first evaluate your organisation's motivations and goals when pursuing the process. Simple Spend-Based Data can still meet current regulatory standards for many SMEs. Here are a few things to consider when approaching data collection to save time and expenses:

Spend-Based Data:

- Cost & Resource Constraints: Less resource-intensive and ideal for measuring smaller carbon footprints.
- Strategic Focus: Allocate resources towards high-emitting activities to focus reduction actions.
- Diminishing Returns: Marginal benefits may not justify efforts for precise data.
- Simplicity & Efficiency: Straightforward approach can allow focus on broader sustainability efforts

Activity-Based Data:

- Improved Accuracy: Provides precise emission measures for more accurate carbon reporting.
- Transparency: Offers clearer environmental impact to customers and stakeholders.
- Competitive Advantage: Contributes more significantly to business perception among investors and customers.
- Support for Science-Based Targets: Activity level data is essential when tracking and meeting net-zero goals.
- Optimised Resource Management: Identifies inefficiencies within operations which likely save costs.
- Compliance: Prepares businesses for stringent future regulations.

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Data Collection

High-quality data is essential for accurate carbon reporting and meeting regulatory requirements. Organisations should use the most precise and relevant sources available, following a data quality hierarchy:

1. Supplier Specific Data: Reflects actual emissions from the supplier's activities.
2. Industry-Specific Data: Provides emissions averages based on typical industry activities.
3. Government Averages: Standardised emissions factors from national or regional statistics.
4. Academic Research: Detailed insights into emissions for specific materials, processes, or regions.
5. Spend-Based Data: Estimates emissions based on expenditures.

Data requirements typically include:
- Electricity usage
- Gas usage
- Water consumption
- Transport and distribution
- Waste generation
- Supply chain

These data points can be recorded via:
- Direct measurement (e.g., meter readings)
- Surveys (e.g., employee commuting)
- Invoices for spend data

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Department for
Business, Energy
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Calculating Emissions using Conversion Factors

After selecting a methodology like the GHG protocol, it's essential to source relevant conversion factors from government reports, published data, or industry standards. The UK government provides annual conversion factors managed by the BEIS for various activities, including energy usage, transport, and materials.

Many organisations use carbon accounting software to automate and simplify emissions data collection, analysis, and reporting. Benefits include:

- **Automated Data Collection:** Syncs with energy bills, meter readings, and fuel logs to reduce manual input and errors.
- **Simplify Data Collection**: Streamlines supplier and employee engagement for gathering carbon data.
- **Handle Large Data Volumes:** Tracks emissions across multiple sites, vehicles, or departments.
- **Track Multiple Data Points**: Manages reporting across all emissions categories for a comprehensive carbon footprint.
- **Automate Emissions Calculations**: Applies correct conversion factors automatically for accurate reporting.
- **Analyse Trends**: Stores historical data to identify trends and validate sustainability efforts.

Setting Carbon Reduction Targets

Carbon reduction targets provide a clear roadmap to decreasing carbon emissions over a long period of time. They allow organisations to align with national and global efforts to meet regulatory requirements and attract environmentally-conscious customers and investors.

What is the Paris Agreement?

Since 2016, The Paris Agreement has aimed to bring all nations into a shared commitment to combat climate change and adjust to its impacts. Specifically, this historic agreement laid out its primary objective to keep global temperature rise well below 2°C above pre-industrial levels and preferably below 1.5°C in alignment with science based climate targets.

Science-Based Targets & SBTi

The Science Based Targets Initiative (SBTi) is an organisation that provides companies a framework to guide them towards setting targets that meet the necessary requirements to prevent the worst effects of climate change. This standard of reduction targets are known as Science-Based Targets (SBTs) and are measurable goals to align with the latest science.

METHODOLOGY: EXEC SUMMARY

NetScope Autonomy Methodology
NetScope Autonomy utilises accounting data from Xero, QuickBooks and Sage to estimate the carbon footprint from your business's activities, following the globally recognised **GHG Protocol Corporate Standard** methodology.

What We Measure

✔ **Property Footprint:** NetScope Autonomy measures your company's property energy footprint using activity level data if available. This forms part of your company's scope 1 and 2 emissions, which are direct emissions from your operations and indirect emissions from purchased electricity.

✔ **Travel footprint:** NetScope autonomy measures you company's transport footprint from both company operated fleet vehicles, other travel for business purposes and employee commuting.

✔ **Indirect supply chain emissions:** Indirect emissions from your company's supply chain, including purchased goods and services, transportation, and other activities.

Our Approach

✔ **Reliable Sources:** Conversion factors and methodologies are derived from government-approved resources and recognised carbon accounting sources.

✔ **Conservative Estimation:** Emissions are intentionally overestimated to avoid underreporting and ensure anticipated significant sources are not overlooked.

This robust and transparent approach empowers businesses to identify their environmental impact and take actionable steps toward sustainability. A full methodology document is available upon request.

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THANK YOU

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