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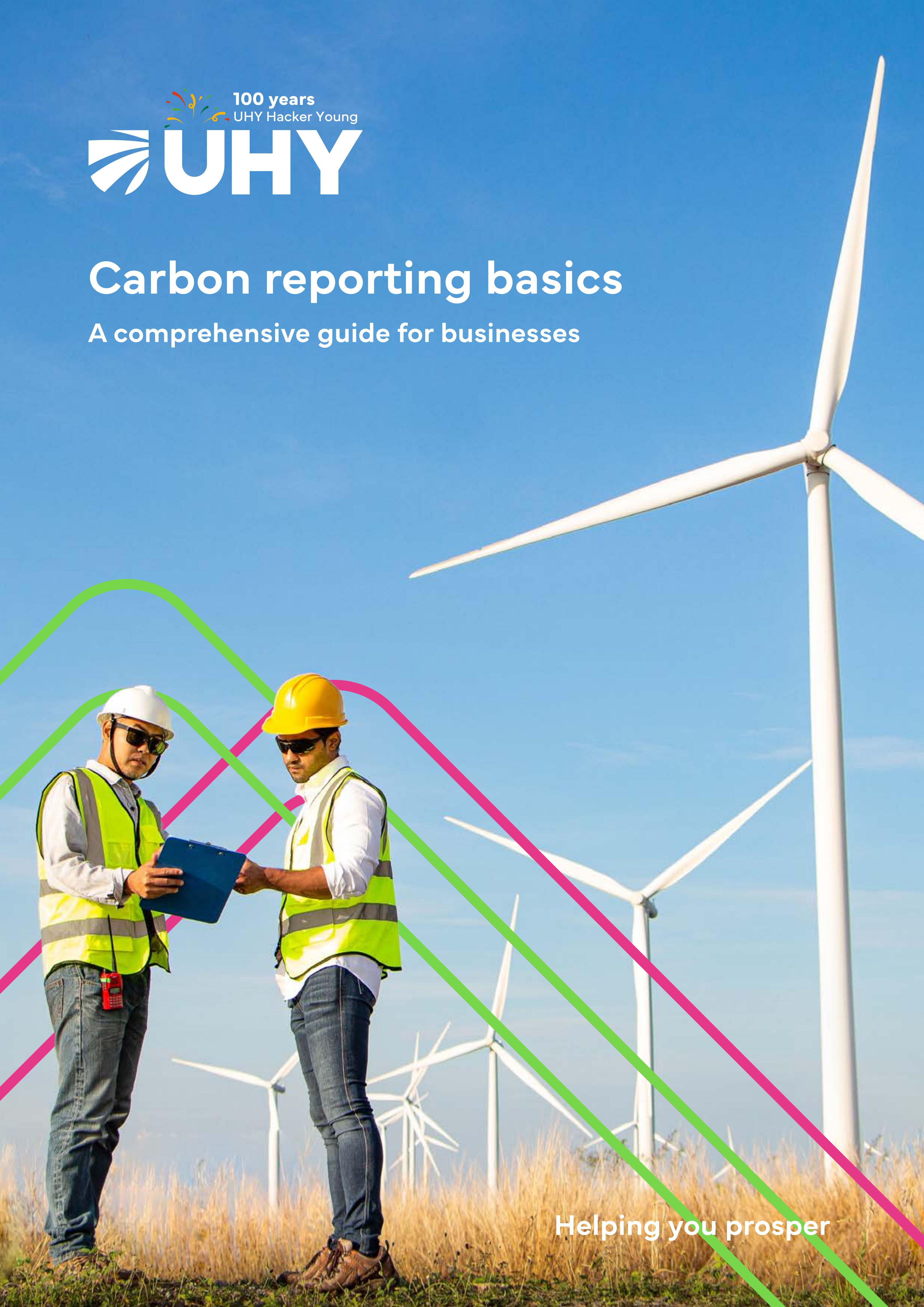
Carbon reporting basics

A comprehensive guide for businesses



Helping you prosper

Carbon reporting basics: a comprehensive guide for businesses

As environmental consciousness continues to shape business practices and regulatory requirements, understanding carbon reporting has become essential for organisations of all sizes. Whether you're just beginning your sustainability journey or looking to enhance your existing carbon management practices, this guide will walk you through the fundamentals of measuring, reporting and managing your carbon footprint.

What are we actually calculating?

Carbon reporting involves measuring and documenting your organisation's greenhouse gas (GHG) emissions. At its core, we're calculating the amount of carbon dioxide equivalent (CO2e) that your business activities generate. This includes not just carbon dioxide, but all greenhouse gases such as methane (CH4), nitrous oxide (N2O), and various fluorinated gases, all converted to CO2 equivalent units for standardised reporting.

The calculation process involves:

- **Activity data:** The quantitative measure of business activities (eg., litres of fuel consumed, kWh of electricity used)
- **Emission factors:** Standardised coefficients that convert activity data into emissions where CO2e values already incorporate the different global warming potentials (GWPs) of all relevant greenhouse gases (eg., kg CO2e per litre of petrol)

Understanding scope 1, 2, and 3 emissions

The foundation of carbon reporting lies in understanding the three scopes of emissions, as defined by the Greenhouse Gas Protocol:

Scope 1: Direct emissions

These are emissions from sources that your organisation owns or directly controls:

- **mobile combustion** - emissions from fuel burned in company-owned vehicles or equipment that move
- **stationary combustion** - emissions from burning fuels in fixed equipment or facilities
- **fugitive emissions** (unintentional releases of gases from pressurised equipment or industrial processes - refrigerant leaks from HVAC systems, methane leaks from natural gas pipelines of valves)
- **process emissions** - emissions from chemical or physical processes, not related to fuel combustion

Scope 2: Indirect energy emissions

These are emissions from the generation of purchased energy consumed by your organisation:

- purchased electricity for offices, facilities and operations
- purchased steam, heating or cooling.

Note: The actual emissions occur at the power plant or energy generation facility, but they're attributed to your organisation as the consumer

Scope 3: Other indirect emissions

These are all other indirect emissions in your value chain, including:

- **Upstream activities:** Purchased goods and services, business travel, employee commuting, waste disposal, transportation and distribution of purchased goods
- **Downstream activities:** Processing of sold products, use of sold products, end-of-life treatment of sold products and investments.

Scope 3 often represents the largest portion of an organisation's carbon footprint, sometimes accounting for 70-90% of total emissions.

However, these can be the most challenging to measure accurately as businesses often don’t have access to emissions data from suppliers, customers or third-party logistics. Many rely on industry averages, or emissions factors, which can be outdated or imprecise, or do not measure scope 3 emissions at all due to these complexities.

What data are we collecting?

Successful carbon reporting requires systematic data collection across multiple areas of your business:

Energy consumption data

- electricity bills and meter readings
- gas consumption records
- fuel purchases for machinery and equipment
- information regarding the tariff you are on.

Transportation data

- business travel records (flights, trains, rental cars)
- employee commuting surveys
- freight and logistics data
- company vehicle mileage or fuel consumption.

Operational data

- waste generation and disposal records
- water consumption
- refrigerant use and leakage
- raw material purchases and supplier information.

Financial data

- spend data for purchased goods and services
- investment portfolios (for financial institutions)
- supply chain expenditure.

Understanding carbon credits and offsetting

Carbon credits represent verified reductions or removals of greenhouse gases from projects such as:

- renewable energy installations
- forest conservation and reforestation
- methane capture from landfills
- energy efficiency improvements
- direct air capture technologies.

When purchasing carbon credits, consider:

- **Additionality:** Would the project have happened without carbon credit funding? (Additionality is a principle that offset projects must result in emissions reductions that wouldn’t have occurred otherwise.)
- **Permanence:** How long will the carbon reduction or removal last?
- **Verification:** Are the credits certified by recognised standards (Gold Standard, VCS, etc.)?
- **Co-benefits:** Does the project provide additional social or environmental benefits?

It's important to note that carbon credits should complement, not replace, direct emissions reductions. The preferred hierarchy is: reduce first, then offset unavoidable emissions.

What does net zero mean?

Net zero is a more ambitious target than carbon neutral. It means:

- reducing all greenhouse gas emissions as much as possible (not just CO2)
- using only high-quality, permanent carbon removals to balance any remaining emissions
- typically requiring 90-95% emissions reductions before offsetting
- covering all scopes of emissions (1, 2 and 3).

The journey to net zero typically follows this path:

1. **Measure:** Establish a comprehensive baseline
2. **Reduce:** Implement efficiency measures and switch to clean energy
3. **Replace:** Transition to low-carbon alternatives
4. **Remove:** Use permanent carbon removal for residual emissions

Where to start your carbon reporting journey

Step 1: Define your scope and boundaries

- determine which entities, facilities and time periods to include
- decide which emission scopes to measure initially
- set your baseline year.

Step 2: Establish data collection systems

- identify data sources and responsible parties
- create standardised data collection templates
- implement regular monitoring procedures.

Step 3: Calculate your emissions

- use recognised emission factors (DEFRA, EPA or local equivalents)
- apply appropriate calculation methodologies
- document assumptions and limitations.

Step 4: Verify and report

- consider third-party verification for credibility
- report using established frameworks (CDP, GRI, TCFD)
- set science-based reduction targets.

Step 5: Develop an action plan

- identify reduction opportunities
- prioritise quick wins and long-term strategies
- engage stakeholders and supply chain partners.

How UHY Hacker Young's sustainable business services team can help

At UHY Hacker Young, our sustainable business services team provides comprehensive support for your carbon reporting and sustainability journey:

Carbon reporting services

- complete greenhouse gas inventories across all scopes
- data collection and management systems
- emission factor research and calculation support
- baseline establishment and target setting.

Reporting and assurance

- preparation of carbon reports for various frameworks
- third-party verification and assurance services
- regulatory compliance support
- board-level sustainability reporting.

Strategy development

- net zero strategy development and implementation
- science-based target setting
- carbon reduction roadmap creation
- supply chain engagement programmes.

Training and capacity building

- team training on carbon measurement and reporting
- stakeholder engagement workshops
- regular updates on regulatory changes and best practices
- ongoing support and guidance.

Technology solutions

- implementation of carbon management software
- data automation and dashboard development
- integration with existing business systems
- monitoring and reporting capabilities.

Making carbon reporting work for your business

Remember that carbon reporting is not just about compliance - it's about understanding your environmental impact, identifying cost-saving opportunities, managing risks and demonstrating leadership to stakeholders. Start with what you can measure accurately, build your capabilities over time and focus on continuous improvement.

The key to successful carbon reporting lies in treating it as an ongoing business process rather than a one-time exercise. With proper support, robust data systems and clear objectives, carbon reporting becomes a powerful tool for driving sustainable business growth.

Whether you're taking your first steps in carbon measurement or looking to enhance your existing sustainability practices, our team at UHY Hacker Young is here to guide you through every stage of your journey towards better environmental stewardship and business resilience.

For more information about how UHY Hacker Young's sustainable business services team can support your carbon reporting and sustainability objectives, please contact us to discuss your specific requirements and develop a tailored approach for your organisation.

Key terms you need to know

Activity data: Quantitative data on operations (eg. energy use, travel miles) used to calculate emissions.

Baseline year: A reference point against which future emissions reductions are measured.

Carbon credits: Tradeable certificates representing the reduction or removal of one tonne of CO2 equivalent from the atmosphere.

Carbon footprint: The total amount of greenhouse gases produced directly and indirectly by an organisation, person, event, or product.

Carbon intensity: Emissions per unit of economic activity, often used to track efficiency improvements.

Carbon neutral: Carbon neutral means balancing out carbon dioxide (CO2) emissions only by removing or offsetting an equivalent amount. It focuses solely on CO2 and is often achieved through carbon offsets (eg. tree planting, purchase of carbon credits).

Carbon offsetting: A way to compensate for greenhouse gas emissions by investing in projects that reduce or remove an equivalent amount of emissions elsewhere.

CDP (Carbon Disclosure Project): A global platform for environmental disclosure.

Decarbonisation: The process of reducing carbon emissions from operations and supply chains.

Emission factors: Coefficients used to estimate emissions based on activity data (eg. litres of fuel burned).

Fugitive emissions: Unintentional leaks of gases from equipment (eg. methane from pipelines).

Net zero: Achieving a balance between the all greenhouse gases emitted and removed from the atmosphere (not just CO2), typically requiring significant emissions reductions before using offsets – only minimal amounts of offsets are allowed.

Science-based targets (SBTs): Emissions reduction targets aligned with climate science to limit global warming to 2°C - ideally 1.5°C - above pre-industrial levels as set out in the Paris Agreement.

Scope 1: Direct emissions from owned or controlled sources (eg. fuel combustion, company vehicles).

Scope 2: Indirect emissions from purchased electricity, steam, heating and cooling.

Scope 3: All other indirect emissions in the value chain (eg. business travel, supply chain, product use).

SECR (Streamlined Energy and Carbon Reporting): UK regulation requiring certain companies to disclose energy use and emissions.

TCFD (Task Force on Climate-related Financial Disclosures): Framework for reporting climate-related financial risks.

Start your sustainable business journey today

Whether you're looking to measure, report or enhance your sustainable business performance, UHY is here to help.

Contact your usual UHY partner to learn more about how our sustainable business services can support your business or visit our website to connect with our team and begin your sustainable business journey.

Through our sustainable business services and shared insights, we can empower you to navigate this journey confidently.

Visit our sustainable business services page for more information.

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