kinovo

Carbon Reduction and Measurement Toolkit

Carbon reduction and measurement toolkit

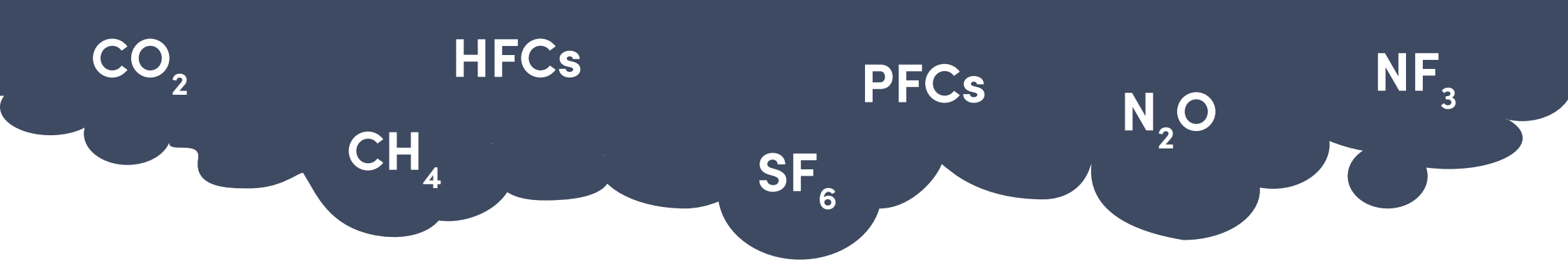
This guide provides practical steps your business can take to:

1. Reduce

REDUCE carbon emissions in your operations. *(See page 5)*

2. Measure

Start to MEASURE carbon emissions, if you have not already started. Measuring emissions will enable you to set a year 1 baseline of your operational emissions (referred to as Scope 1 and Scope 2 emissions). Once you have a baseline for year 1, you will be able to evidence the operational emissions reductions you achieve when you measure year 2. *(See page 6)*



Where to start and what are your carbon emissions?

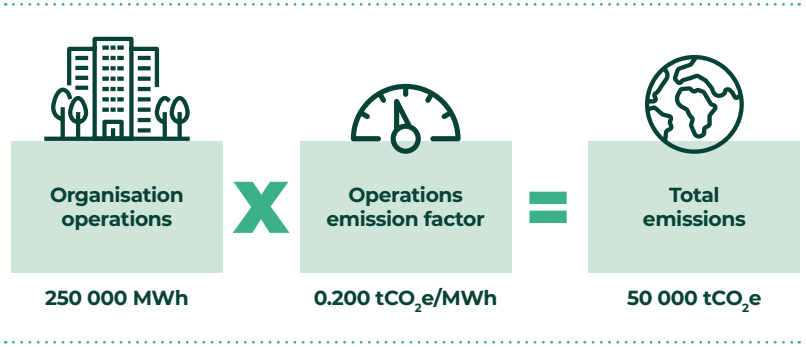
You have been requested to report your company's greenhouse gas emissions to Kinovo as part of their efforts to measure and reduce supply chain emissions. Kinovo reports Scope 3 emissions, which include their use of your company's goods/services within their value chain impact. In order to understand your emissions as our supplier we will annually request your total Scope 1 and Scope 2 emissions for the last full reporting period, an emissions intensity metric (e.g. Scope 1 & 2 emissions per unit of revenue; or per unit of product), emissions from products procured by your company used on Kinovo projects, any Net Zero commitments or targets, and active/planned emission reduction activity. This toolkit contains all the information you need to deliver this and enable you to advance your own Net Zero journey.

What are your carbon emissions?

As a company, your operational activity results in the emitting of greenhouse gas emissions. Greenhouse gas emissions specifically refer to the 7 gases defined by the Kyoto Protocol in combination referred to as 'carbon dioxide equivalent' (CO_2e). These gases are internationally recognised to increase global warming, and companies are now increasingly required to report their contribution to global emissions on an annual basis.

As per the GHG Protocol's Corporate Standard2, **CO_2e is calculated by multiplying input operational activity by an emissions conversion factor to provide an annual emissions output**. This output is recorded in a CO_2e emissions inventory and used to report to stakeholders, including customers, investors, employees and other third parties within your value chain.

CO_2e Carbon dioxide	PFCs Perfluorocarbons
CH_4 Methane	SF_6 Sulphur hexaflouride
N_2O Nitrous oxide	NF_3 Nitrogen triflouride
HFCs Hydroflourocarbons	



CO_2e emission Scopes & Categories

SCOPE 1: Direct emissions

- Consumption of fuel or refrigerant gases in company owned facilities, vehicles or equipment
- Emissions released as part of company processes – manufacuring, chemical transformation etc

SCOPE 2: Indirect emissions from the purchasing of electricity

- Emissions generated off-site via the purchasing of purchased or acquired electricity, steam, heat and cooling for company owned facilities, vehicles or equipment

SCOPE 3: Indirect emissions from the value chain

- All other emissions generated by company activity
- **Upstream emissions** – everything in your value chain to produce your product/service
  - *Purchased goods & services, capital goods, fuel & energy related activity, upstream transportation & distribution, waste, business travel, employee commuting, upstream leased assets*
- **Downstream emissions** - everything in your value chain to consume your product/service
  - *Downstream transportation & distribution, processing of sold goods, use of sold goods, end-of-life treatment of sold goods, downstream leased assets, franchises, investments*

Overview of GHG Protocol Scopes and emissions across the value chain

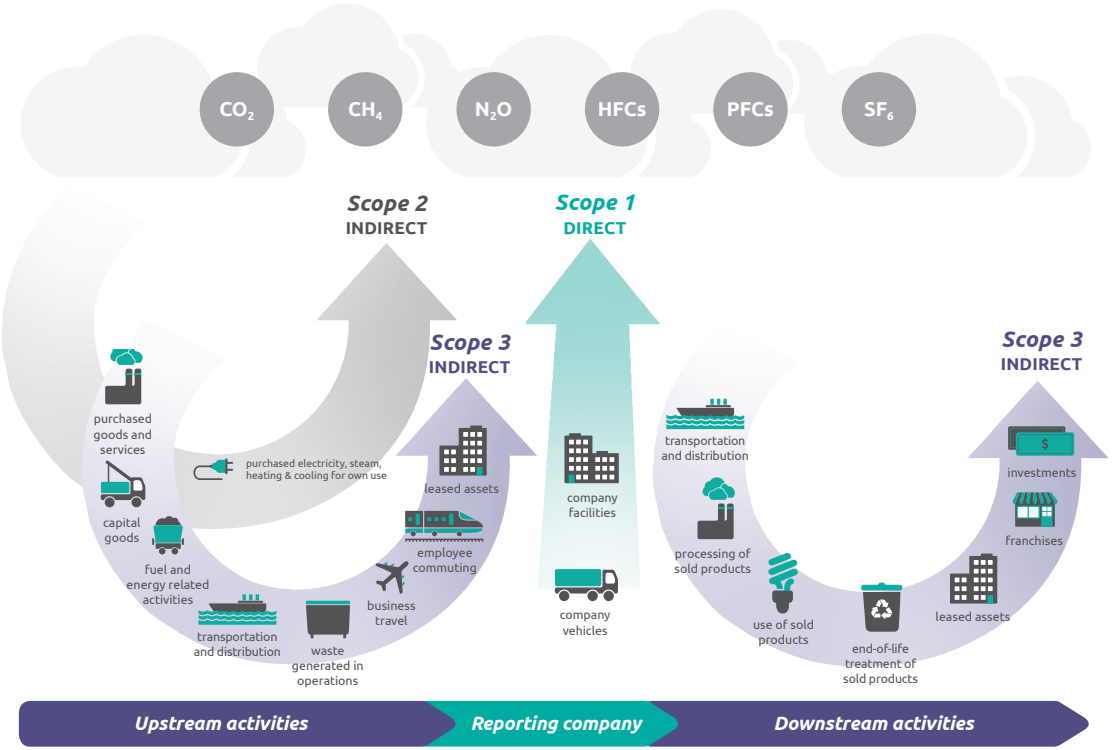


Figure 1. Emission impacts divided by Scope and source. SOURCE: EPA; WRI/WBCSD Corporate Value Chain (Scope 3) Accounting and Reporting Standard (PDF)

1. REDUCE – Practical actions to reduce carbon emissions:

	**Site Efficiency Measures**	It is important to understand baseline energy performance and to consider operational improvements to reduce consumption. On-site efficiency measures include employee engagement and education, regular energy audits to review building energy consumption and actioning audit recommendations, creating environmental management systems (EMS) and sub-meters, and replacing energy intensive equipment with lower carbon options. Use this practical guide to learn more about building efficiency approaches and measures.	+ SMEs could reduce their energy bills by 18-25% by installing energy efficiency measures and implementing behavioural change[3] + EMS installation can result in an 8-15% reduction in energy consumption[4] – Investment costs to transition from carbon intensive equipment
	**Purchase renewable energy**	Switching your business electricity supply to a renewable tariff is one the easiest and most cost-effective ways to reduce operational CO_2e emissions if you have an office. Sustainable Advantage can provide a list of high-quality providers to support action.	+ Significant reduction in energy purchasing costs + Avoid Network charges of 20-60% of energy bills[5] – 1-2% cost increase with renewable tariff[11]
	**Generate renewable energy**	If your company has options to invest in on-site renewable energy generation, this will drastically reduce the CO_2e emissions associated with electricity consumption and can add value to assets	+ Ability to sell excess electricity to UK Grid – p-15p per kWh[6] + Add value to assets and future proof against upcoming building regulation and codes – Investment required to evaluate and install on-site solar/wind
	**Fuel Efficient Driving Behaviour**	Vehicle telematics demonstrate the impact of driving behaviour on fuel efficiency and consumption. Providing driver training on fuel efficiency can help reduce fuel consumption and raise awareness of impact.	+ 10-33% savings on fuel bills[7] and associated CO_2e emissions
	**Purchase EVs**	Purchasing EVs to replace existing fleet will reduce the CO_2e emissions from mobile fuel. It is recommended to align the purchasing with existing replacement cycles. Use this practical guide to learn more about transitioning to EVs.	+ Up to 80% reduction in operations costs of EVs[8] + Overall, 20% reduction in lifetime costs[9]
	**Sustainable Procurement**	Sustainable procurement focuses on selecting sustainable suppliers of goods and services to reduce CO_2e emissions and wider environmental impacts. Engaging with suppliers to ensure they are measuring and reducing CO_2e emissions and selecting local suppliers where possible. Choice of product can also directly impact CO_2e emissions. It is recommended that you focus on sourcing recycled and low-carbon materials, use the materials as efficiently as possible to avoid waste, work to extend product lifecycles, and recycle product where possible.	+ Improved supplier relationships and understanding of sustainability in value chain + Effective sustainable procurement can raise revenue by 5-20% and reduce procurement costs by 9-16%[10] – Potentially costs to engage suppliers

2. MEASURE – How to measure your emissions:

Six step process to measure and report your company's CO_2e emissions:

1	**Establish the reporting boundary**	· Determine company control over operational activity – what falls under direct operational control? · Assess what data to focus resource on capturing what is required for Kinovo's supply chain requests
2	**Review data relevance, materiality & availability**	· Review emission scopes to assess what impact areas are relevant to your company · Review which operations have a material impact on the total emissions (>5% of total emissions) · Review what data is available for reporting and who is responsible for the data internally
3	**Data collection**	· Collect data across company functions - Operations, Finance, HR, Procurement across company footprint · *Refer to the data collection overview and template within this toolkit for support (Appendix 2)*
4 5	**Emission calculation**	· Apply emission conversion factors to company activity data to calculate annual emission impact, including the breakdown of emissions by Scope and sub-category · *Refer to the emission calculation spreadsheet (https://files.smartsurvey.io/3/0/SJI8N2LV/Kinovo_Supply_Chain_Calculator_2023_FINAL.Dist.xlsx) accompanying this toolkit for support*
6	**Reporting & submission to Kinovo**	· Disclose annual company emissions in annual report/ESG report and · Submit emission impacts to Kinovo for their annual reporting or to support tender processes
	Emission management & reduction	· Highlight high impact activity to focus on appropriate decarbonisation initiatives and to create an actionable Carbon Reduction Plan (CRP) · *Refer to the 'How to reduce your emissions?' section of this toolkit for support* · Align CRP, reduction activity and Net Zero targets to Kinovo's own Net Zero target and pathway · Work to improve and expand emission reporting and management over time to encompass full operational impact and to drive emissions reduction

Data Requirements for Kinovo

For the latest financial year:

· Total company revenue (£m) and FTE (full time equivalent)

· Total Scope 1 CO_2e emissions (as relevant to company)

· Total Scope 2 CO_2e emissions (as relevant to company)

· Material Use Scope 3 CO_2e emissions (only relevant if you procure materials for Kinovo)

Tools for measuring your carbon emissions

1. Kinovo Supplier Data Collection Overview (Appendix 1)
2. Kinovo Supplier Data Collection Template (Appendix 2)
3. Supporting Guidance Resources (Appendix 3)

Sustainable Advantage can provide additional support if required relating to carbon measurement, electrical asset installation, and energy procurement. Please email ***info@sustainable-advantage.com*** *for further information.*

Appendix 1. Kinovo supplier data collection overview

Category	Description	Expected data	Data Requirements (Prioritised by data quality)	Data Source	Internal function responsible for data
Scope 1					
Stationary Fuel	Fuel consumed in company-controlled premises / equipment	Natural gas (kWh) Diesel (litres) Fuel oil (litres)	**Consumption (kWh/litres)** OR Estimation using floor area of site	Invoices Energy portal if supply managed by third party	Operations, Finance
Mobile Fuel*	Fuel consumed in company-controlled vehicles	Petrol / diesel (litres)	**Consumption (litres)** OR Distance travelled (km) OR Cost of fuel (£)	Fuel cards, mileage expense records, vehicle mileage	Operations, Finance, HR
Refrigerants	Refrigerant gases consumed in premises or equipment **Only report top-ups**	R-143a R-12 R-290	**Weight of top up (kg)** OR Estimation using floor area of site	F-gas register Service / maintenance invoices	Operations, Finance
Scope 2					
Electricity (buildings)	Purchased electricity consumed in company-controlled premises	Electricity (kWh) Evidence of Fuel mix of supply (% green / brown) *If generate renewable electricity on-site, please record the consumption & grid export*	**Consumption (kWh)** OR Estimation using floor area of site	Invoices Energy portal if supply managed by third party	Operations, Finance
Electricity (vehicles)*	Purchased electricity consumed in company-controlled vehicles		**Consumption (kWh)** OR Distance travelled (km)	Mileage expense records, vehicle mileage	
Scope 3					
Material Use**	Materials used as part of supplied good / service to customer	Concrete / building materials Metals / Plastics Electrical goods	**Weight of material (kg)** OR Cost of the material (£)	Invoices Order records	Operations, Finance, Procurement

**For Plug-in Hybrid cars, you need to record both the fuel and electricity consumption*
***Material use only required for suppliers providing materials directly*

Appendix 2. Kinovo supplier data collection template

Add data to this template on a per site basis.

This data collection template will enable you to use the Kinovo Supply Chain Emissions Calculator (https://files.smartsurvey.io/3/0/SJI8N2LV/Kinovo_Supply_Chain_Calculator_2023_FINAL.Dist.xlsx) accompanying this toolkit.

Category	Description	Example activity data	Total input	Unit	Data Source	Internal function responsible for data
Scope 1						
Stationary Fuel	Fuel consumed in company-controlled premises / equipment	Natural gas		**kWh**	Gas invoices	Operation / Finance
				Square metres		
Mobile Fuel	Fuel consumed in company-controlled vehicles	Petrol / diesel		**Litres**	Mileage expense records	Operation / Finance / HR
				Miles		
				£		
Refrigerants	Refrigerant gases consumed in premises or equipment **Only report top-ups**	R-143a		**kg**	F-gas register / maintenance invoices	Operation / Finance
				Square metres		
Scope 2						
Electricity (buildings)	Purchased electricity consumed in company-controlled premises	*Electricity* *(inc. Fuel mix of supply (% green / brown)*		**kWh**	Electricity Invoices	Operation / Finance
				Square metres		
Electricity (vehicles)*	Purchased electricity consumed in company-controlled vehicles			**kWh**	Mileage expense records	
				Miles		
				£		
Scope 3						
Material Use**	Materials used as part of supplied good / service to customer	Concrete		**kg**	Order records	Operation / Finance / Procurement
				£		

**For Plug-in Hybrid cars, you need to record both the fuel and electricity consumption*
***Material use only required for suppliers providing materials directly*

Appendix 3. Supporting Resources:

Guidance documents:
GHG Protocol Scope 1 & 2 GHG Inventory Guidance

GHG Protocol: Technical guidance for calculating Scope 3 Emissions

Calculation emission factors:
UK.gov Greenhouse gas reporting: conversion factors 2023

References:

1. The Kyoto Protocol:

https://unfccc.int/kyoto_protocol#:~:text=In%20short%2C%20the%20Kyoto%20Protocol,accordance%20with%20agreed%20individual%20targets

2. The GHG Protocol:

https://ghgprotocol.org/corporate-standard

3. https://www.lbhf.gov.uk/business/business-connects/support-and-advice-businesses/cost-doing-business/guide-energy-efficiency-and-cost-savings-your-workplace

4. Based on customer profiling by Sustainable Advantage

5. https://commonslibrary.parliament.uk/research-briefings/cbp-9491/

6. https://energysavingtrust.org.uk/tool/solar-energy-calculator/

7. https://www.theaa.com/driving-advice/fuels-environment/drive-economically

8. https://www.drive-electric.co.uk/guides/general/electric-vehicles-vs-petrol-diesel-hybrid/#:~:text=Cost%20of%20electric%20cars%20compared,combustion%20engine%20(ICE)%20vehicles

9. https://www.fleetnews.co.uk/electric-fleet/policy/are-service-and-maintenance-costs-for-electric-vehicles-really-cheaper

10. https://www.weforum.org/publications/beyond-supply-chains-empowering-responsible-value-chains/

11. Based on the experience of the Sustainable Advantage Energy Procurement Team