

POWERING

SAVING ENERGY ACROSS
NORTH NORTHAMPTONSHIRE



CHANGE

SUPPORT FOR BUSINESS AND COMMUNITY
ORGANISATIONS TO SAVE ENERGY AND CUT CARBON



HOUSEKEEPING



**All attendees
are muted**



**Introduce yourself in
the chat window**



**Post questions to our
presenters in the
chat window**



**The event is being
recorded and will be
made available**

WELCOME!

**NORTH
NORTHAMPTONSHIRE
POWERING
CHANGE PART 2**



AGENDA

11:00 Powering Change: what's on offer

11:05 What is a carbon footprint? Why measure it?

11:15 Sources of carbon emissions: Scope 1, 2 and 3

11:20 What's your boundary?

11:25 Principles of greenhouse gas reporting and data hierarchy

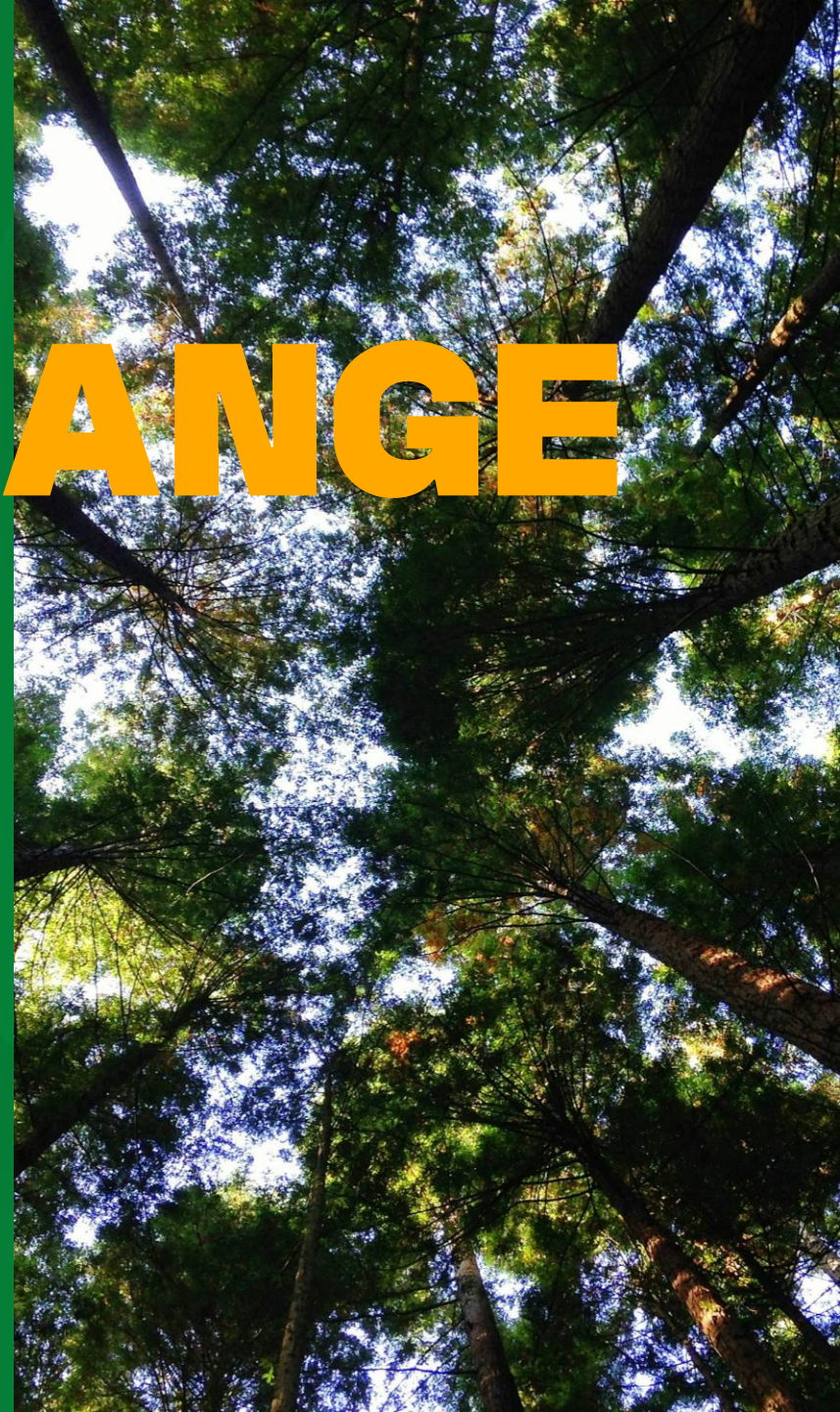
11 30 What data you need to collect

11 45 Next steps in the support programme and Q&A

POWERING CHANGE

A new programme support to cut carbon

This project is funded by the UK Shared Prosperity Fund. UKSPF is a UK government programme that provides local investment funding to improve pride in place and increase life chances, focusing on communities and place, local businesses, and people and skills



WHO WE ARE



Urban Foresight is the UK's leading place-based innovation consultancy. We work around the world on projects that improve lives, protect the environment, and create new economic opportunities.

ANNELIESE ALLEN-NORRIS, PRINCIPAL CONSULTANT



SmartCarbon has supported around 1,000 clients to measure, report and reduce their carbon emissions since 2019, working to bring organisations 'on TRACC' for net zero by 2050 (or sooner).

LEE JACKSON, MANAGING DIRECTOR

What is on offer

POWERING CHANGE

**For business and
community
organisations in North
Northamptonshire**

Free programme of support to understand your energy use and create your own Carbon Reduction Plan.

WHAT IS ON OFFER

- A series of educational webinars
- One-on-one support to help you understand your carbon footprint and energy use
- Access to a free tool to develop a tailored Carbon Reduction Plan for your organisation

WHEN?

6 Nov

13 Nov

Jan 2026



Webinar:
Carbon
reporting

Webinar:
SmartCarbon
Platform

Final opportunity to
complete Carbon
Reduction Plans



Full, open and free access to the platform



One-to-one support to develop your Plan

Why?



CARBON REDUCTION PLANS

Free support
until January 2026

Calculating your carbon footprint and creating a Carbon Reduction Plan can help you:

- Set a net zero target and demonstrate your ambitions
- Access funding for decarbonisation projects in future
- Compete for public sector contracts – PPN 006 now means some tenders *require* a Carbon Reduction Plan



CARBON FOOTPRINTS AND REPORTING



WITH

MOLLY WOODS,
NET ZERO PROJECT MANAGER

m.woods@smartcarboncalculator.com



BRINGING ORGANISATIONS ON “ON TRACCT™” FOR NET ZERO BY 2050



Proven expertise in carbon accounting

Join our courses through
Northumbria University

<https://www.northumbria.ac.uk/study-at-northumbria/continuing-professional-development-short-courses-specialist-training/carbon-champion-carbon-footprinting-management-and-reporting/>



Comprehensive reporting platform

For the entire value chain:

[Carbon Reporting Software | SmartCarbon Calculator](#)



Client focussed support

For guiding Net Zero measurement and
decarbonisation strategy

l.jackson@smartcarboncalculator.com

**WHAT IS A CARBON
FOOTPRINT,
AND WHY SHOULD
WE CALCULATE IT?**



WHAT IS A CARBON FOOTPRINT?

The Greenhouse Gas Protocol defines
a carbon footprint as:

“The total set of greenhouse gas emissions (GHG) caused directly and indirectly by an individual, event, organisation, or product expressed as CO₂e.”

WHAT IS A CARBON FOOTPRINT?

- Includes all 7 greenhouse gases – carbon dioxide, methane, nitrous oxide, and 4x fluorinated gases
- Measures all gases in kgCO₂e - the equivalent quantity of carbon dioxide that would have the same global warming potential
- Carbon dioxide: most prevalent greenhouse gas (75%). Of that, around 75% comes from the burning of fossil fuels.
- Methane: less abundant (18%). Mainly arises from livestock digestive processes and decomposition, e.g. landfill. However, 27x as potent as carbon dioxide in terms of trapping heat.
- Nitrous Oxide: small amount (4%) but is 273x as potent. Main contributor is fertiliser.
- Fluorinated gases: small amount (2%), but are 10,000x plus as potent. Refrigeration and air conditioning are common sources.



WHY MEASURE?

Because it helps you be more effective in reducing your carbon footprint:

- Discover the carbon impact of different parts of your organisation
- Prioritise action that reduces the highest impact areas
- Set targets and strategies for carbon reduction
- Monitor success against targets

Because others might require you to do so:

- Regulators
- Customers
- Funders



SOURCES OF CARBON EMISSIONS: SCOPE 1, 2 AND 3



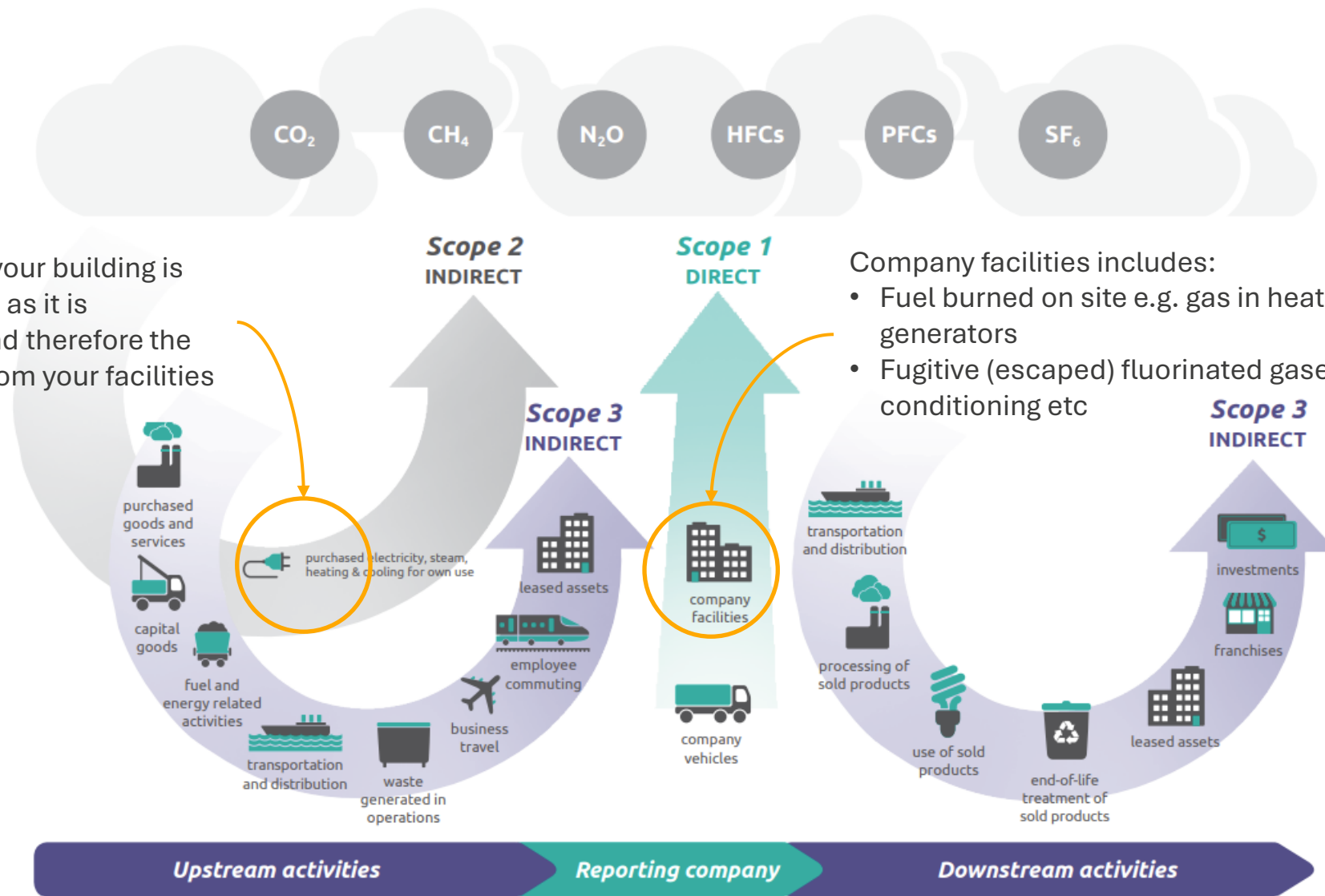
Figure [1.1] Overview of GHG Protocol scopes and emissions across the value chain

SCOPES

Electricity usage in your building is included in scope 2, as it is generated off site and therefore the emissions are not from your facilities

Company facilities includes:

- Fuel burned on site e.g. gas in heating, or diesel in generators
- Fugitive (escaped) fluorinated gases from air conditioning etc



Source: Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard

WHAT TO INCLUDE?

Your 'organisational boundary':

- Operational control approach, which is defined as:

“A company has operational control over an operation if the former or one of its subsidiaries has the full authority to introduce and implement its operating policies at the operation.”

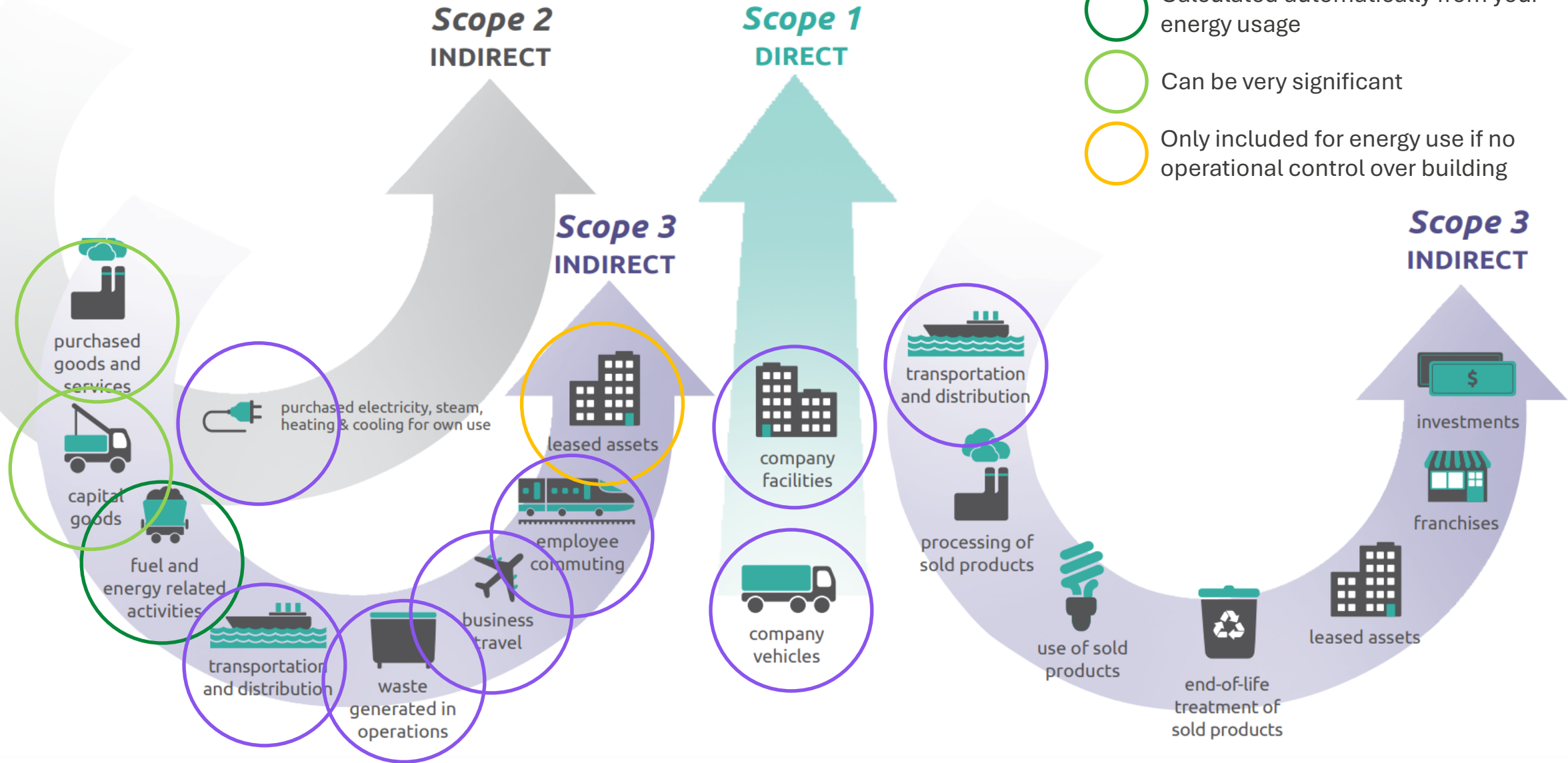
- Energy use associated with everything that your organisation has operational control of is measured as part of your scope 1 and 2 emissions

For example:

- Rented building, control over use, including (some) control over energy consumption, and you pay energy bills – INCLUDE in energy emissions in scope 1 and 2
- Serviced building, no control over energy consumption and you do not pay energy bills – EXCLUDE energy emissions from scope 1 and 2, but include in scope 3 upstream leased assets.

WHAT TO INCLUDE?

- Required under PPN 006 for major public sector tenders
- Calculated automatically from your energy usage
- Can be very significant
- Only included for energy use if no operational control over building



WHAT TO INCLUDE?

Your SmartCarbon account will be:

- Configured to include these specific areas
- Further tailored for your specific activity (from online form info)
 - Specific options within each activity selected, e.g. scope 1 company facilities will show your specific heating energy (e.g. gas)
 - N/A activities will be closed, e.g. you may not have any company vehicles

PRINCIPLES OF GREENHOUSE GAS REPORTING AND DATA HIERARCHY



GREENHOUSE GAS ACCOUNTING AND REPORTING PRINCIPLES

Transparency

Address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any relevant assumptions and make appropriate references to the accounting and calculation methodologies and data sources used.

Relevance

Ensure the GHG inventory appropriately reflects the GHG emissions of the company and serves the decision-making needs of users – both internal and external to the company.

Accuracy

Ensure that the quantification of GHG emissions is systematically neither over nor under actual emissions, as far as can be judged, and that uncertainties are reduced as far as practicable. Achieve sufficient accuracy to enable users to make decisions with reasonable assurance as to the integrity of the reported information.

Consistency

Use consistent methodologies to allow for meaningful comparisons of emissions over time. Transparently document any changes to the data, inventory boundary, methods, or any other relevant factors in the time series.

Completeness

Account for and report on all GHG emission sources and activities within the chosen inventory boundary. Disclose and justify any specific exclusions.

Source: Greenhouse Gas Protocol, reordered by SmartCarbon for TRACC

ACCURACY AND DATA COLLECTION HIERARCHY

‘Primary’ data that is specific to your consumption of resources, e.g. litres of diesel, is more accurate than ‘secondary data’, e.g. £ spent on diesel

The data formats set up in your SmartCarbon account allow:

- Use of primary data where it is more readily available, e.g. litre of fuel in company vehicles
- Use of secondary data where it is less readily available, e.g. expenses associated with mileage claims for business travel

ACCURACY AND DATA COLLECTION HIERARCHY

If there are data gaps:

- Do what you can to obtain it – e.g. ask your landlord for energy bills
- If still unavailable, make evidence-based estimates based on your knowledge or other related information available, and then
- Document the basis of it, including assumptions made, extrapolation of other data etc

WHAT DATA YOU NEED TO COLLECT



DATA COLLECTION – MANAGING THE PROCESS

Optional use of the data tracker provided with your SmartCarbon calculator account.

Purpose:

- Identifies the data you need to collect
- Identifies who is responsible for collecting it and where it is
- Allows you to track your progress in collecting it
- Allows you to log any data gaps, assumptions or estimations
- Allows you to track your progress in uploading it into the calculator
- Set up a storage location for your data files
- Structure folders and name files logically so you can find what you need
- Create summary files if needed to collate data from raw data files – e.g. spreadsheet listing monthly energy usage taken from individual utility bills

Scope	Category	Ref	Sub Category	Description	Applicable?	Reason for exclusions	Data type & unit(s)	Data sources	Data collector	Data holder	Data collection status	Data collection comments	Data completeness and accuracy comments
Scope 1	Facilities	1.1	Heating Fuel	Fuel consumption for heating of buildings (e.g. gas boilers, heating oil etc.)			Fuel type AND fuel consumption (litres OR kVh)	Utilities invoices Meter readings Environmental Management System (EMS) report Delivery invoices Landlord's report					
		1.2	Plant Equipment	Fuel (diesel, petrol etc.) used for plant equipment including backup power (e.g. diesel generators) and diesel powered fire sprinkler systems.			Fuel type AND consumption (litres OR kVh)	Delivery invoices Service records					
		1.3	Refrigeration gases top-up (if applicable)	Fugitive emissions from refrigerant used in air conditioning units and refrigerators. Require amount of refrigerant topped up within the reporting period, if any.			Refrigerant type AND top up quantity (kg)	Invoices Service records					
		1.4	Process emissions	Emissions resulting from other processes being undertaken within the facilities, such as industrial or agricultural processes.			[dependent on the process]	[dependent on the process]					
		1.5	Onsite Renewables	Electricity produced from on-site renewables			Generation (kVh)	Meter readings Environmental Management System (EMS) report					
	Fleet	1.6	Organization Fleet (organisation owned/managed vehicles)	Vehicles owned or fully leased by the business.			Fuel type AND fuel consumption (litres) OR Vehicle type AND distance travelled (km)	Vehicle logs Fuel card invoice Expense claims					
Scope 2	Electricity	2.1	Mains Electricity consumption	Electricity consumed in buildings and machinery			Consumption (kVh) AND tariff type (green/renewable or standard)	Utilities invoices Meter readings Environmental Management System (EMS) report Landlord's report					
		2.2	Onsite Renewables	Electricity produced from on-site renewables			Generation (kVh)	Meter readings Environmental Management System (EMS) report					
		2.3	Electric Vehicles (EV)	Electricity consumed by on-site and off-site EV charging			Consumption (kVh) OR Distance (miles)	Utilities invoices (on-site charging) Meter readings (on-site charging) Charging invoices (off-site charging)					

DATA COLLECTION – SCOPE 1

Activity	Data type and units	Typical data source
SCOPE 1		
Heating fuel	e.g. gas in kWh, oil in litres, or wood pellets in tonnes	Energy bills
Fugitive F-gases	e.g. R-404A in kg	Air conditioning service records
Company vehicles	e.g. diesel or petrol in litres	Fuel cards

DATA COLLECTION – SCOPE 2

Activity	Data type and units	Typical data source
SCOPE 2		
Electricity	Electricity in kWh	Energy bills
Electricity for EVs (company vehicles)	Electricity in kWh – from EV charge points (separately metered on site, or off site)	Energy bills / charging invoices

DATA COLLECTION – SCOPE 3

Activity	Data type and units	Typical data source
SCOPE 3: CAT 01 PURCHASED GOODS AND SERVICES		
Water supply	Water usage in m3	Water bill
Other goods and services	£ spent per type of supplier including VAT – selection of common supplier types (by SIC code) included	Expenditure list (revenue)

Spend on suppliers of goods and services needs to **EXCLUDE** spend on:

- Anything that is accounted for under another category to avoid double counting such as:
 - Energy and fuel bills, including fuel card payments
 - Capital goods – see later
 - Waste collection service - see later
 - Transportation and distribution – see later
- Expenditure that is not related to receiving goods or services from suppliers, including:
 - Salaries
 - Tax payments to HMRC
 - Rent on leased properties

DATA COLLECTION – SCOPE 3

Activity	Data type and units	Typical data source
SCOPE 3: CAT 02 CAPITAL GOODS		
Capital goods	£ spent per type of supplier including VAT – selection of common supplier types (by SIC code) included	Expenditure list (capital)

Capital goods:

- Are final products that have an extended life and are used to manufacture a product, provide a service, or sell, store or deliver merchandise
- Are treated as fixed assets or plant, property and equipment (PP&E) in financial accounting
- Typically include equipment, machinery, buildings , facilities and vehicles

DATA COLLECTION – SCOPE 3

Activity	Data type and units	Typical data source
SCOPE 3: CAT 03 FUEL AND ENERGY-RELATED ACTIVITIES		
Transmission and distribution (T&D) for UK national grid electricity	kWh – automatically entered by the platform based on the kWh of electricity usage	Not required - automatic
Well-to-tank (WTT) emissions for all fuel and energy-related activities	kWh, litres, etc - automatically entered by the platform based on the units of fuel and energy usage	Not required - automatic

Automatically calculated:

- You don't need to do collect any additional data
- You don't need to enter any additional data
- N.B. development area on the platform – this may appear differently in the near future

DATA COLLECTION – SCOPE 3

Activity	Data type and units	Typical data source
SCOPE 3: CAT 04 UPSTREAM TRANSPORTATION AND DISTRIBUTION		
Postal and courier services	£ spent	Expenditure list (revenue)
Air freighting	£ spent	
Rail freighting	£ spent	
Sea freighting	£ spent	
Warehousing and storage	£ spent	

Transportation that is:

- From a supplier to you
- From you to a customer, where arranged and paid for by you

Potential difficulty: delivery charge elements associated with purchased goods should be included here, but if not possible to collate without reviewing high numbers of individual invoices, this can be left in category 1.

DATA COLLECTION – SCOPE 3

Activity	Data type and units	Typical data source
SCOPE 3: CAT 09 DOWNSTREAM TRANSPORTATION AND DISTRIBUTION		
HGV	tonne.km	Customer / courier provided

Transportation that is:

→ From you to a customer, where arranged and paid for by the customer

Potential difficulty: delivery charge elements associated with purchased goods should be included here, but if not possible to collate without reviewing each individual invoice, this can be left in category 1.

DATA COLLECTION – SCOPE 3

Activity	Data type and units	Typical data source
SCOPE 3: CAT 05 WASTE		
Commercial and industrial waste (closed loop) – i.e. recycling	tonnes	Waste transfer notes Waste contractor invoices
Commercial and industrial waste (combustion) – i.e. general waste sent to waste incineration	tonnes	
Commercial and industrial waste (landfill) – this i.e. general waste sent to landfill	tonnes	
Wastewater / water treatment	m ³	Water bills

If you don't know

- If your waste goes to incineration or landfill – ask you waste contractor or look on their website. Incineration is more common.
- The weight of your waste, and can't find out, estimation is permissible...

HELPFUL WASTE VOLUME TO WEIGHT CONVERSION

Volume of Typical Waste Bins and Bags

To help you estimate volume, the information below shows the capacity of typical waste bins shown in litres

Container	Volume
Standard kitchen food waste caddy	5 Litres
Small / medium kitchen pedal bin	30 Litres
Standard bin bag / refuse sack	60 Litres
Large kitchen flip top /swing top bin	60 Litres
Standard household wheelie bin	240 Litres
Medium 4 wheeled bin	660 Litres
Large 4 wheeled bin	1100 Litres

Then multiply by:

- Number of collections
- How full it is (up to 100%)

Conversion Factors for Common Household Wastes

e.g. a food waste caddy (5 litres) x food waste conversion factor 0.425 = 2.125 Kg
To show this in tonnes divide by 1000 to give 0.00213 Tonnes

Waste Material	Conversion Factor in Kg
Food waste	0.425
Plastic bottles and containers	0.01
Plastic bags and film	0.078
Cans (aluminium)	0.026
Cans (steel)	0.052
Cardboard	0.094
Garden / green waste	0.231
Paint	0.8
Paper	0.129
Mixed waste electrical and electronic equipment (WEEE)	0.113
Mixed wood	0.307

Sources: From Merseyside Recycling and Waste Authority [Volume_Kg-Conversion-factors.pdf](#)

DATA COLLECTION – SCOPE 3

Activity	Data type and units	Typical data source
SCOPE 3: CAT 06 BUSINESS TRAVEL		
Road travel	£ spent	Mileage claims
Rail travel	£ spent	Expense claims Ticket invoices Credit card statements
Flights - domestic	Calculate distance in km from origin and destination	Various online flight distance calculators exist
Flight – short haul (business class or economy)		
Flights – long haul (business class or economy)		
Hotels stays – average global	Number of nights	Expense claims Invoices
Hotels stays – UK		

DATA COLLECTION – SCOPE 3

Activity	Data type and units	Typical data source
SCOPE 3: CAT 07 EMPLOYEE COMMUTING		
Employee commuting	FTE who commute	HR Staff surveys
Working from home	FTE who work from home	

DATA COLLECTION – SCOPE 3

Activity	Data type and units	Typical data source
SCOPE 3: CAT 08 UPSTREAM LEASED ASSETS – ONLY ADDED IF NEEDED		
As scope 1 and 2, but for serviced buildings where you have no control over energy usage	As scope 1 and 2	Landlord

If you can't obtain energy usage from your landlord:

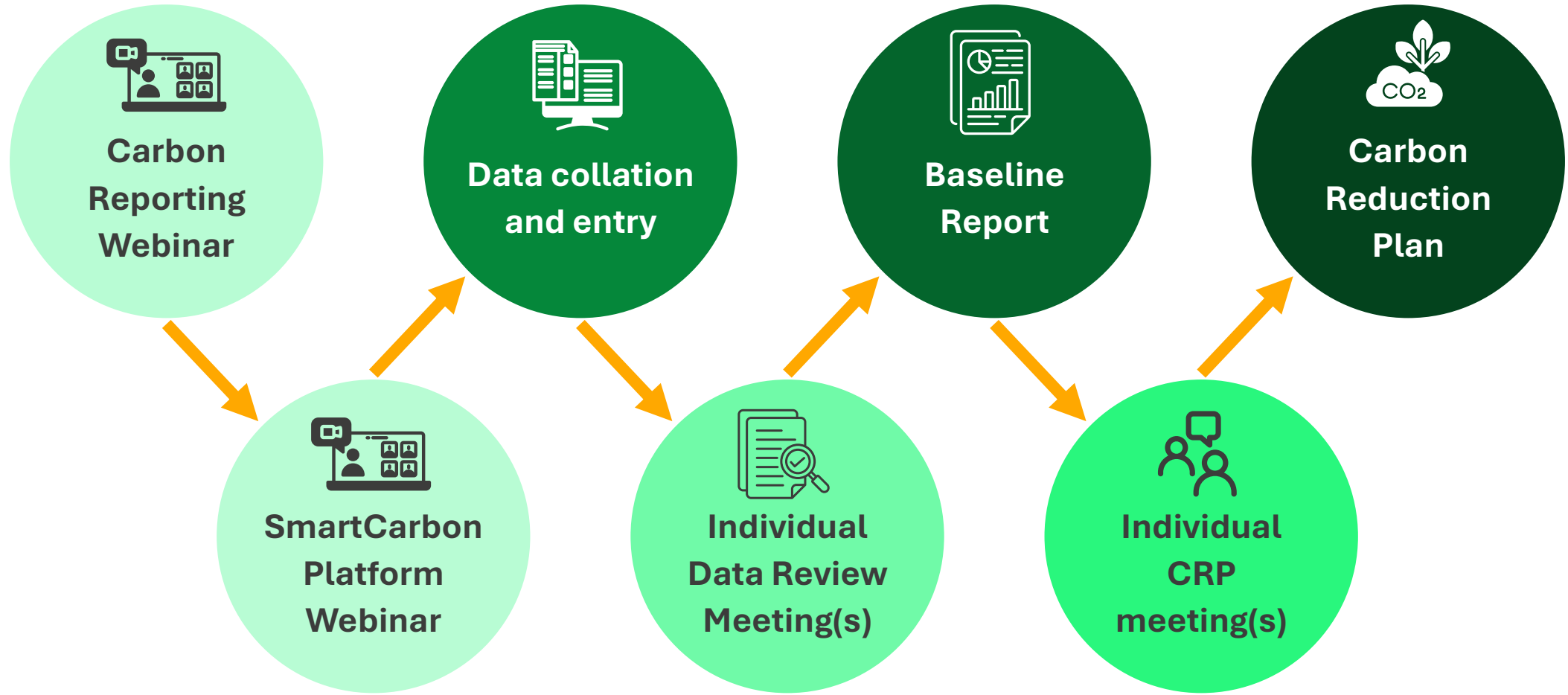
- Calculate your floor area
- Estimate using benchmarks...

HELPFUL ENERGY BENCHMARKS

Building Type	Electricity (kWh/m ²)	Gas (kWh/m ²)
Arts, community & leisure	18	107
Education	51	176
Emergency Services	56	200
Factories	30	83
Health	81	193
Hospitality	112	242
Offices	59	166
Shops	84	205
Warehouses	27	62
Other	43	112

Sources: *The Non-Domestic National Energy Efficiency Data-Framework 2022 (England and Wales)* at https://assets.publishing.service.gov.uk/media/62bc5a35d3bf7f2915159f64/non_domestic_need_data_framework_2022.pdf, Figure 19 and 20, p 26-27

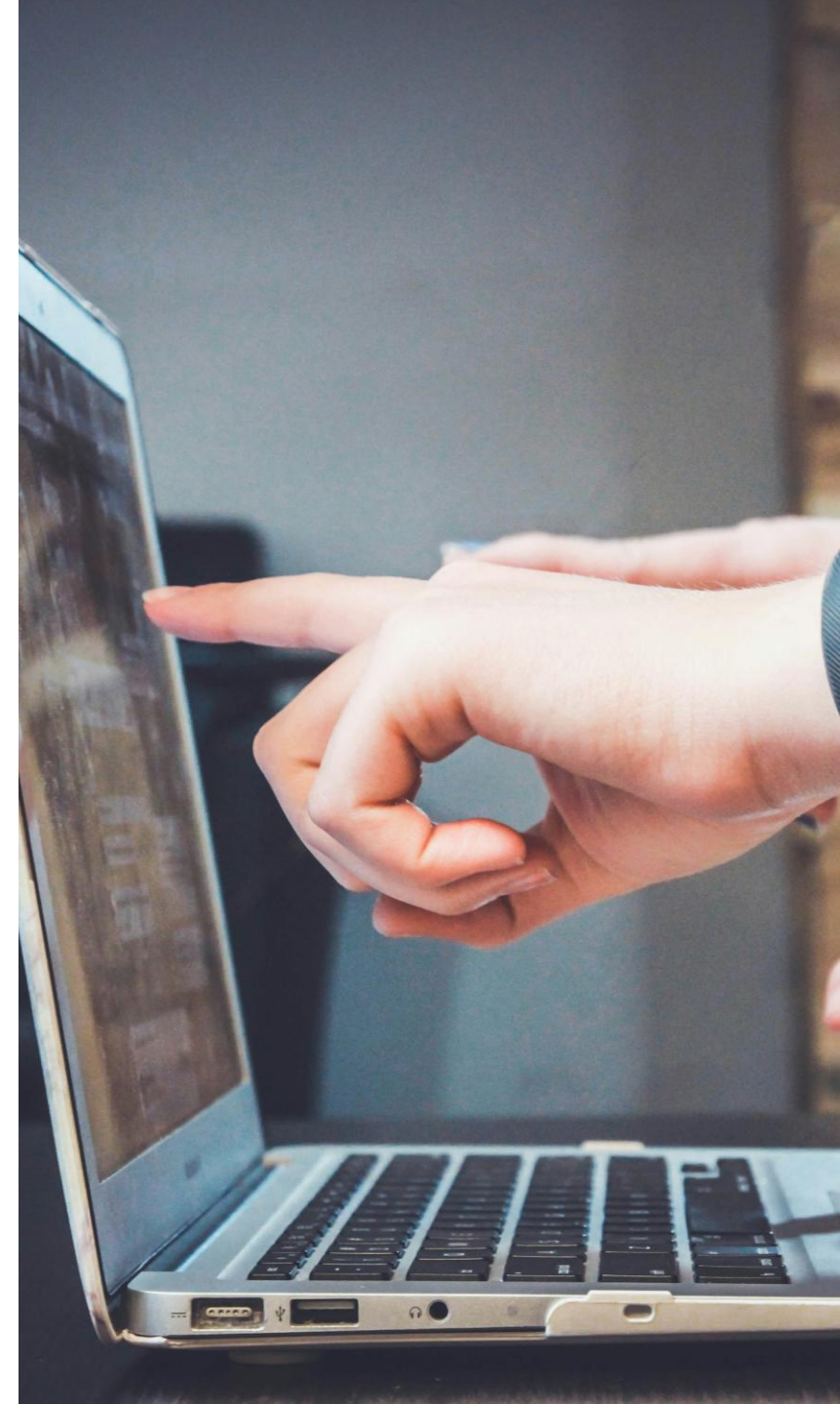
WHAT YOU WILL GET FROM SMARTCARBON



LEVEL OF SUPPORT

- Empowering you to collate and enter your data accurately (not doing it on your behalf)
- Individual data review meeting(s) – answering questions and sense checking data (not checking accuracy)
- Carbon Reduction Plan – identifying priority decarbonisation actions (not quantifying reduction potential)

Happy to take on organisations as individual (paying) clients if more in-depth support is required



SIGNING UP

1. Go to <https://poweringchange.urbanforesight.com/>

- Use online form to provide us with information about your organisation.
- Join the next webinar to find out how to use the platform, or watch a recording if you can't make it.

2. Account set up & login details

- We'll set up the platform for you. We'll then email you with login in details and info to get you started.
- The email includes a link to book a review meeting with us when you're ready

3. Webinar follow up:

- Links to webinar recordings and presentation slides



QUESTIONS



POWERING CHANGE KEY DATES



WEBINAR / EVENT DATES

Carbon Reporting (repeat)	Thu 6 th Nov	Zoom
SmartCarbon Platform (repeat)	Thu 13 th Nov	Zoom

**Platform is free and
support is available until
31 January 2026**

POWERING

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SUPPORT FOR BUSINESS AND COMMUNITY
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