The Zero Carbon Transition

Making Sense of Scope 3 Carbon Emissions

2021

Introduction

The Energy & Carbon Solutions Team

- 30 Team Members
- Chartered Energy Managers
- Chartered Engineers
- Design Engineers
- Carbon Experts
- Technology Specialists
- Certified Measurement and Verification Professionals
- Project Managers
- UK wide locations

Agenda

1. Webinar 1 Recap
2. What are Scope 3 Emissions?
3. Scope 3 Measurement & Reporting
4. Approaches to Management of Scope 3 Emissions
5. Carbon Offsetting & Insetting
6. Questions

Poll 1:

Are you considering scope 3 emissions in your carbon reporting this year?

Yes/No

1

Webinar 1 Recap

Greenhouse Gases (GHGs) – Kyoto Protocol

The Kyoto Protocol is an international treaty that commits state parties to reduce GHG emissions; it was adopted in Kyoto, Japan, on 11 December 1997 and entered into force on 16 February 2005. ‘There are currently 192 participant states.

The Kyoto Protocol applies to **seven main greenhouse gases** deemed to be responsible for the majority of global warming:

- Carbon dioxide (CO2)
- Methane (CH4)
- Nitrous oxide (N2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulphur hexafluoride (SF6)
- Nitrogen Trifluoride (NF3)

Carbon Dioxide Equivalent (CDE)

The carbon dioxide equivalency for GHG is obtained by multiplying the mass and the Global Warming Potential (GWP) of the gas

For example:

1 tonne of Methane, CH_4 = 1 x 28 (GWP) = 28 tonnes CO_2 equivalent.

1 tonne of HFC-134a = 1 x 1300 (GWP) = 1300 tonnes CO_2 equivalent

Carbon Dioxide Conversion Factors

The DEFRA figures cover all types of carbon emissions that you can think of and many you might not think of:

- ✓ Refrigerants
- ✓ Business travel; land, sea & air
- ✓ Water supply, water treatment
- ✓ Material use in construction
- ✓ Production of goods; food & drink, clothing, paper, white goods, plastics, metals, compost!

What is Carbon? – Key points

When we talk about carbon, we are normally referring to it's gaseous form, Carbon Dioxide (CO_2)

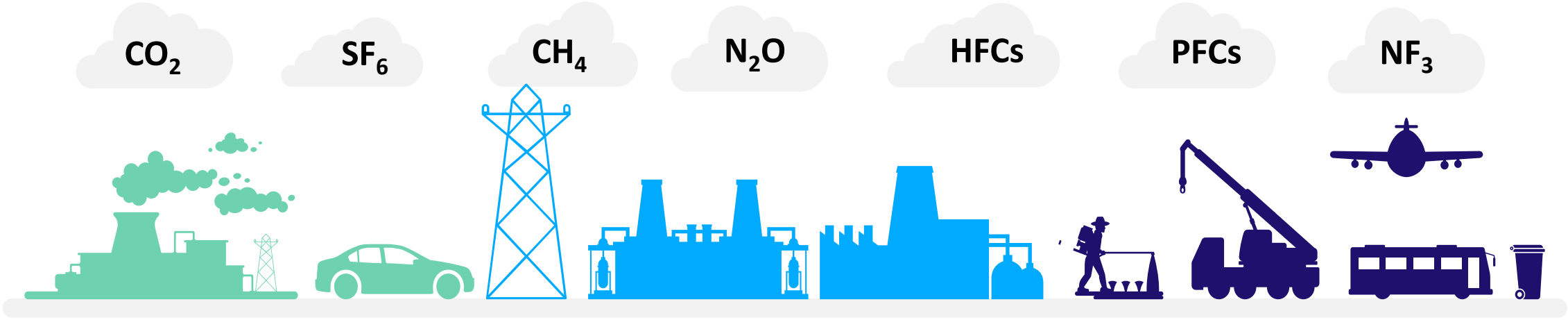
There are seven main greenhouse gases (GHGs) - including carbon dioxide

Global warming potential (GWP) is a measure of how much heat a GHG traps in the atmosphere, relative to carbon dioxide

The GWP is used to calculate a Carbon Dioxide Equivalent (CDE) figure

We need to reduce all GHGs – not just carbon!

Types of Carbon Emissions



SCOPE 1

Direct emissions

Fuel combustion
Owned vehicle fleet
Process/Fugitive emissions

SCOPE 2

Energy indirect emissions

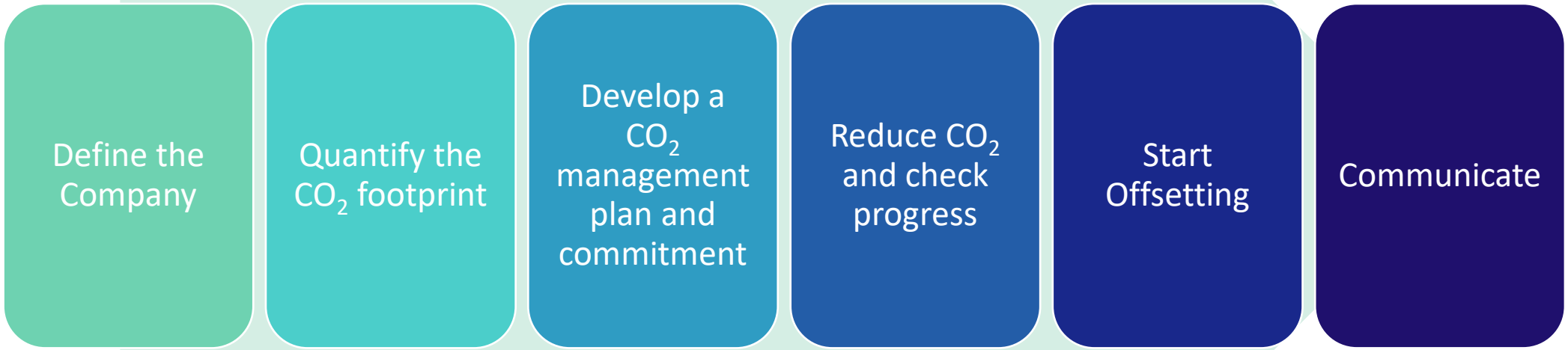
Purchased electricity for own use
Purchased heat, steam, cooling for own use

SCOPE 3

Other indirect emissions

Purchased goods and services
Product use
Waste disposal
Transportation and distribution
Employee business travel

The basis for most certification - PAS 2060



What does Net Zero Carbon mean? – Key points

Zero carbon, net zero and carbon neutral are often used interchangeably but they are different

Zero carbon means that no emissions are generated

Carbon neutral or net zero means that any emissions that are still being generated are being offset

You need to understand what you are making net zero and where your emissions are coming from

Accreditation standards are important – we recommend using PAS2060 (2050)

Poll 2:

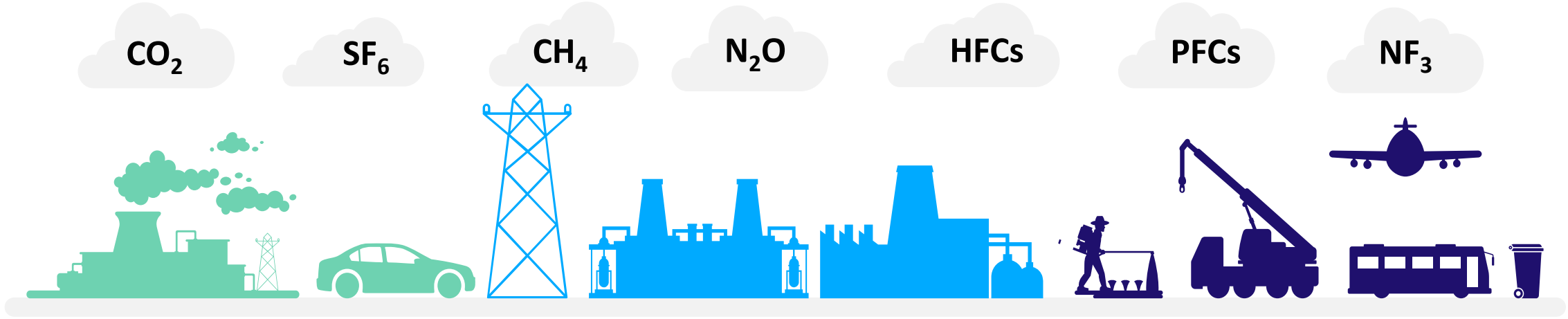
Are you aware of the Greenhouse Gas (GHG) Protocol?

Yes/No

2

Scope 3 Emissions

Types of Carbon Emissions



SCOPE 1

Direct emissions
Fuel combustion
Owned vehicle fleet
Process/Fugitive emissions

SCOPE 2

Energy indirect emissions
Purchased electricity for own use
Purchased heat, steam, cooling for own use

SCOPE 3

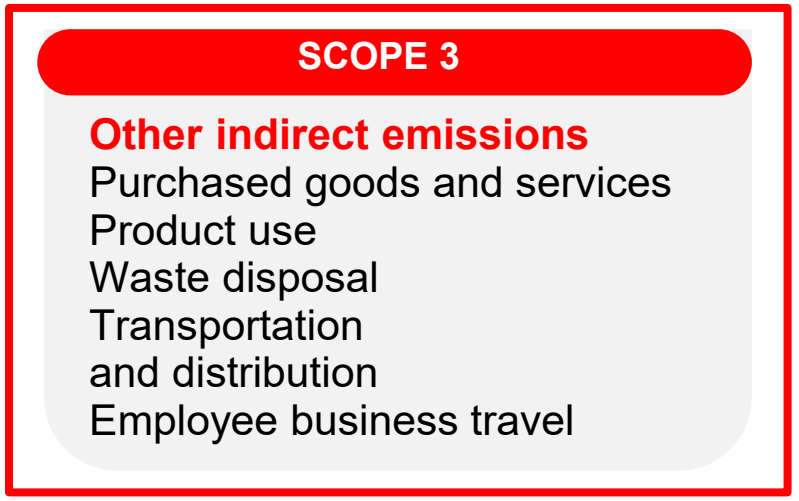
Other indirect emissions
Purchased goods and services
Product use
Waste disposal
Transportation and distribution
Employee business travel

Scope 3 Emissions - Definitions

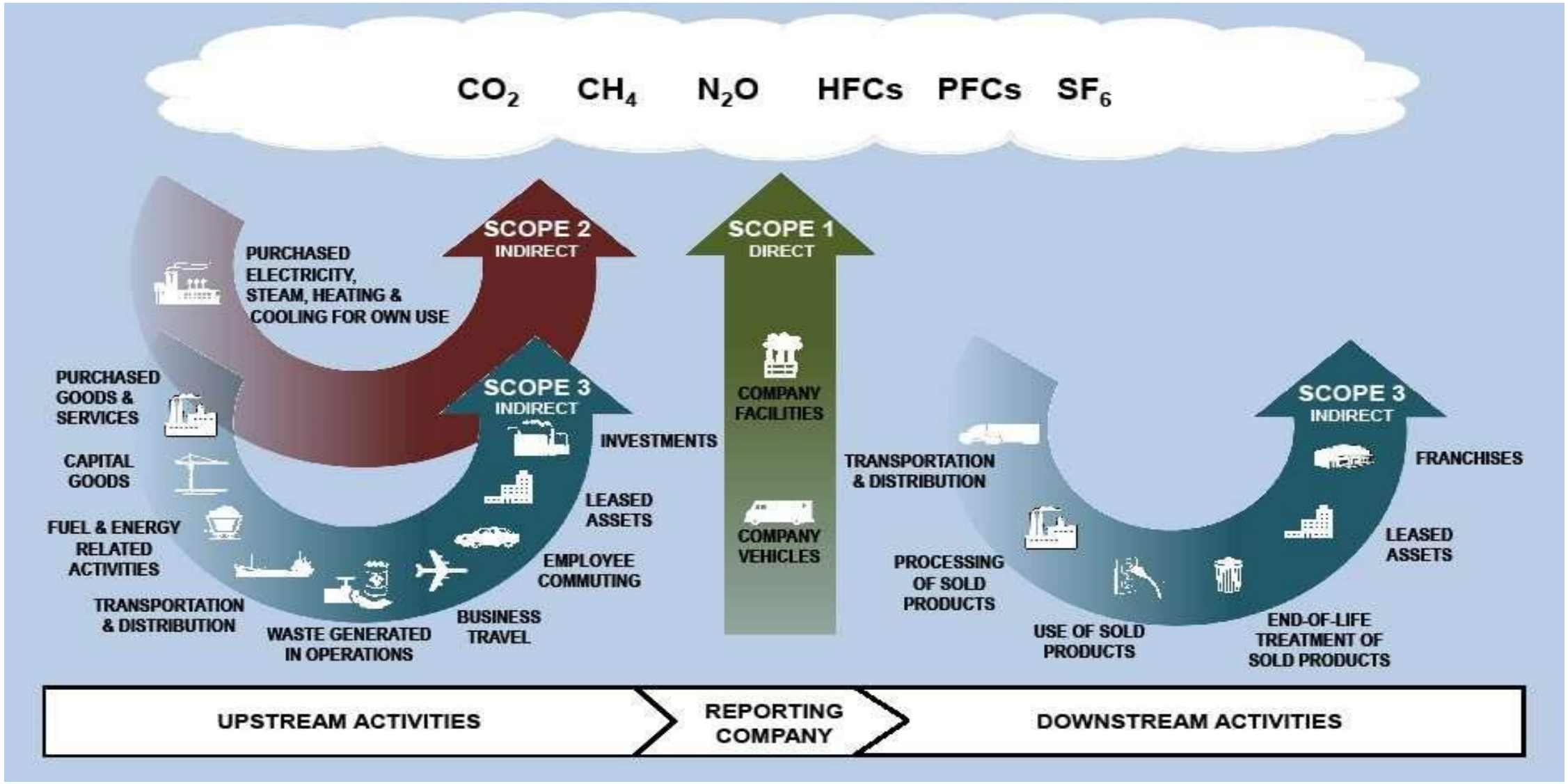
Scope 3 emissions are the result of activities from assets not owned or controlled by the reporting organisation, but that the organisation indirectly impacts in its value chain.

Scope 3 emissions, also referred to as value chain emissions, often represent the majority of an organisation's total GHG emissions.

<u>The scope 3 emissions for one organisation are the scope 1 and 2 emissions of another organisation.</u>



Overview of GHG protocol scopes and emissions across the value chain



Scope 3 Emissions - Categories

Upstream or downstream	*Scope 3 category*
Upstream Scope 3 emissions	1. Purchased goods and services 2. Capital goods 3. Fuel and energy related activities (not included in scope 1 or scope 2) 4. Upstream transportation and distribution 5. Waste generated in operations 6. Business travel 7. Employee commuting 8. Upstream leased assets
Downstream Scope 3 emissions	9. Downstream transportation and distribution 10. Processing of sold products 11. Use of sold products 12. End-of-life treatment of sold products 13. Downstream leased assets 14. Franchises 15. Investments

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Measurement & Reporting

Scope 3 Emissions - Measurement

Benefits of measuring Scope 3 emissions

For many organisations, the majority of their greenhouse gas (GHG) emissions lie outside their own operations. By measuring Scope 3 emissions, organisations can:

- Assess where the high emissions are in their supply chain
- Identify resilience risks in their supply chain
- Identify range of supplier emissions performance
- Identify cost reduction opportunities in their supply chain
- Engage suppliers and assist them to implement sustainability initiatives
- Improve the carbon footprint of their products and services
- Positively engage with employees to reduce emissions due to business operations. e.g. travel

Greenhouse Gas Protocol

- GHG Protocol supplies the world's most widely used greenhouse gas accounting standards.
- The Corporate Value Chain (Scope 3) Standard allows companies to assess their entire value chain emissions impact and identify where to focus reduction activities.
- The Product Standard can be used to understand the full life cycle emissions of a product and focus efforts on the greatest GHG reduction opportunities.

GREENHOUSE GAS PROTOCOL

PAS 2050

- Publicly Available Specification (PAS) 2050 was developed by the British Standards Institution in 2008 (revised in 2011).
- Very similar principles to GHG Product Standard.
- *PAS includes requirements for recording while the GHG Product Standard includes requirements for public reporting.*

Streamlined Energy & Carbon Reporting (SECR)

SECR is a new mandatory energy and carbon reporting scheme that was introduced by the government in April 2019.

SECR affects:

- Quoted companies
- Large unquoted companies
- Large LLPs

‘Large’ is defined as having two of the following:

Streamlined Energy & Carbon Reporting (SECR)

Large companies need to report on:

- UK energy use (as a minimum electricity, gas and transport)
- Information about energy efficiency action taken in the financial year
- Scope 1 and scope 2 greenhouse gas emissions
- Part of their annual accounts filed with Companies House
- At least one intensity ratio

Streamlined Energy & Carbon Reporting (SECR)

For large unquoted companies and LLPs, some Scope 3 emissions are mandatory – most are not.

You must disclose energy use and related emissions from business travel in rental cars or employee-owned vehicles where they are responsible for purchasing the fuel.

Reporting other Scope 3 emissions is voluntary, but strongly encouraged where this is a material source of emissions.

Science Based Targets

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

- Develop complete Scope 3 inventories, at least using a screening approach when Scope 3 emissions are significant.
- If your Scope 3 emissions account for >40% of total Scope 1, 2 and 3 emissions, a Scope 3 target should be set.
- Scope 3 targets can be framed as absolute emissions or emissions intensity targets.
- Considered ambitious if they lead to reductions in absolute emissions or emissions intensity in line with 1.5°C, well-below 2°C, or 2°C pathway or do not lead to growth in absolute emissions and reduce emissions intensity by an average of at least 2% per year.
- Scope 3 targets can be alternatively framed as targets to engage value chain partners in settings SBTs (supplier or customer engagement targets).
- The Scope 3 target boundary of all Scope 3 targets should collectively cover at least 2/3rds of total Scope 3 emissions.

Data Sources - Identifying Relevant Scope 3 Activities

Criteria	Description of activities
Size	They contribute significantly to the company's total anticipated Scope 3 emissions
Influence	There are potential emissions reductions that could be undertaken or influenced by the company
Risk	They contribute to the company's risk exposure (e.g., climate change related risks such as financial, regulatory, supply chain, product and technology, compliance/ litigation and reputational risks)
Stakeholders	They are deemed critical by key stakeholders (e.g., customers, suppliers, investors or civil society)
Outsourcing	They are outsourced activities previously performed in-house, or activities outsourced by the reporting company that are typically performed in-house by other companies in the reporting company's sector
Sector guidance	They have been identified as significant by sector-specific guidance
Spending or revenue analysis	They are areas that require a high level of spending or generate a high level of revenue (and are sometimes correlated with high GHG emissions)
Other	They meet any additional criteria developed by the company or industry sector

Emissions Data – Where to look

Your Data Sources

Electricity meters/bills

Water meters/bills

Effluent meters/bills

Waste transfer notes

Expenses claims

Procurement records

DEFRA conversion factors

Supply Chain

Energy data vs production data

Carbon intensity metrics

SECR reports – Scope 1 & 2

Product/unit/material carbon footprints

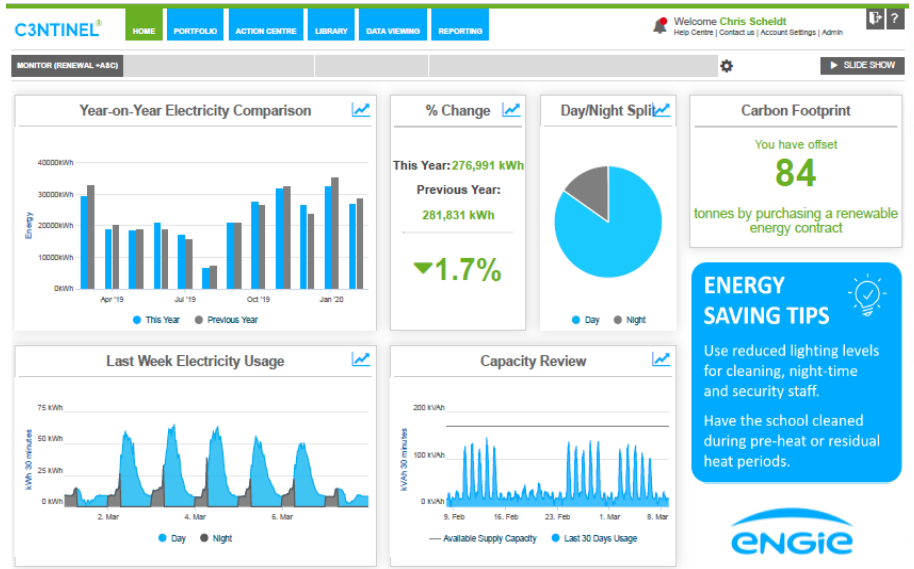
DEFRA conversion factors

Use Am&T to Record & Track

Data Viewing: main self-service area, facility to run dynamic charts, CO_2 and £ conversions, and export raw data.

Dashboards: a summary of headline figures, can be used as a landing page or a front-of-house display.

Reports: suite of conventional summary reports to be run on-screen or via scheduled emails



Measurement & Reporting: Key points

- Define your boundary
- Identify relevant and significant sources
- Choose a recognised methodology and standard
- Identify the data sources
- Set up a data monitoring and reporting system

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Management of Scope 3 Emissions

Scope 3 Emissions – Reduction Management

Question: Are all scope 3 emissions outside of your direct control?

Not really!

The emissions per unit may be, but the number of units you use are not!

Scope 3 Emissions – Examples in your control

Energy related emissions not in scope 1 & 2

Activity	Type	Unit	Year	kg CO_2e
T&D- UK electricity	Electricity: UK	kWh	2020	0.02005

Water Supply

Activity	Type	Unit	kg CO_2e
Water supply	Water supply	cubic metres	0.344
		million litres	344.0

Water Treatment

Activity	Type	Unit	kg CO_2e
Water treatment	Water treatment	cubic metres	0.708
		million litres	708.0

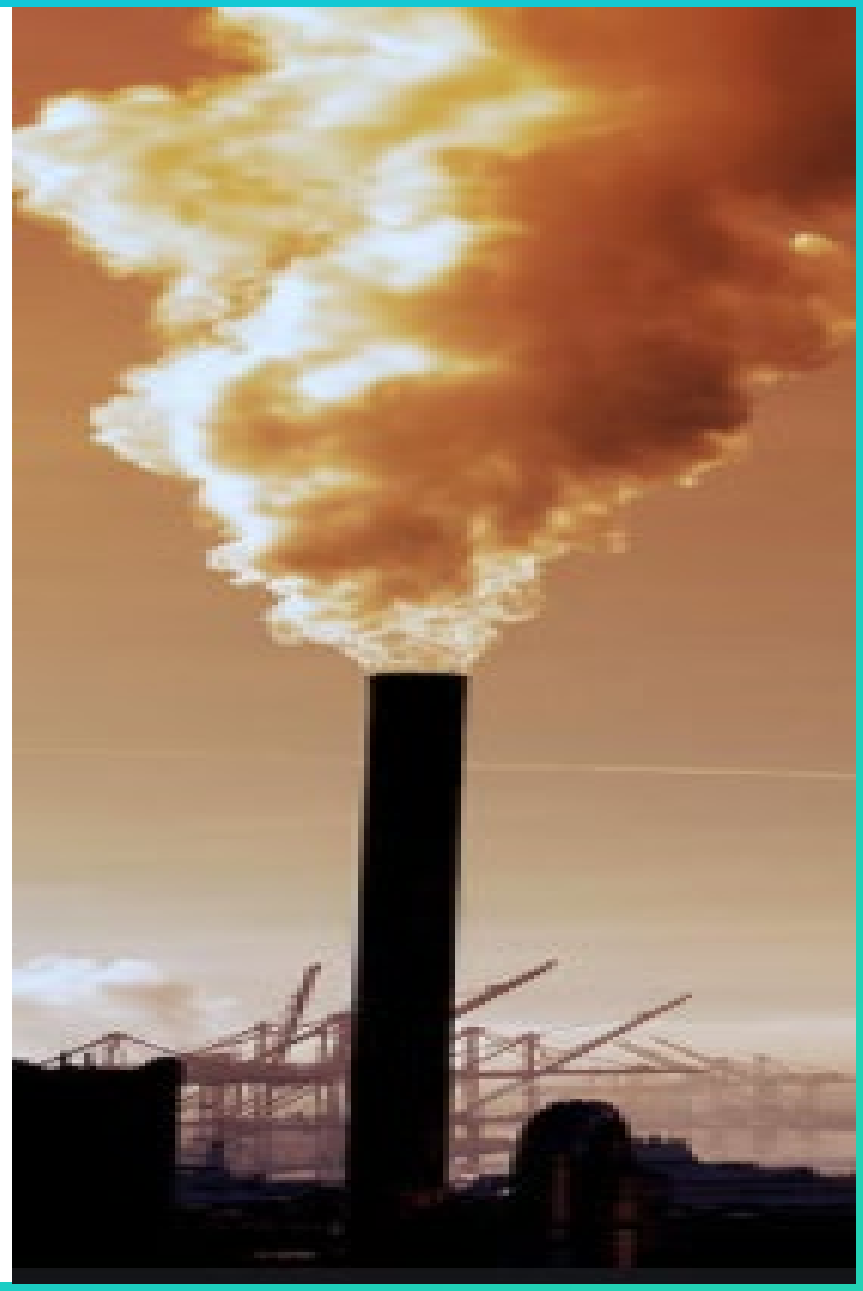
Waste Disposal

Material Use

Business Travel

Reduce Controllable Scope 3

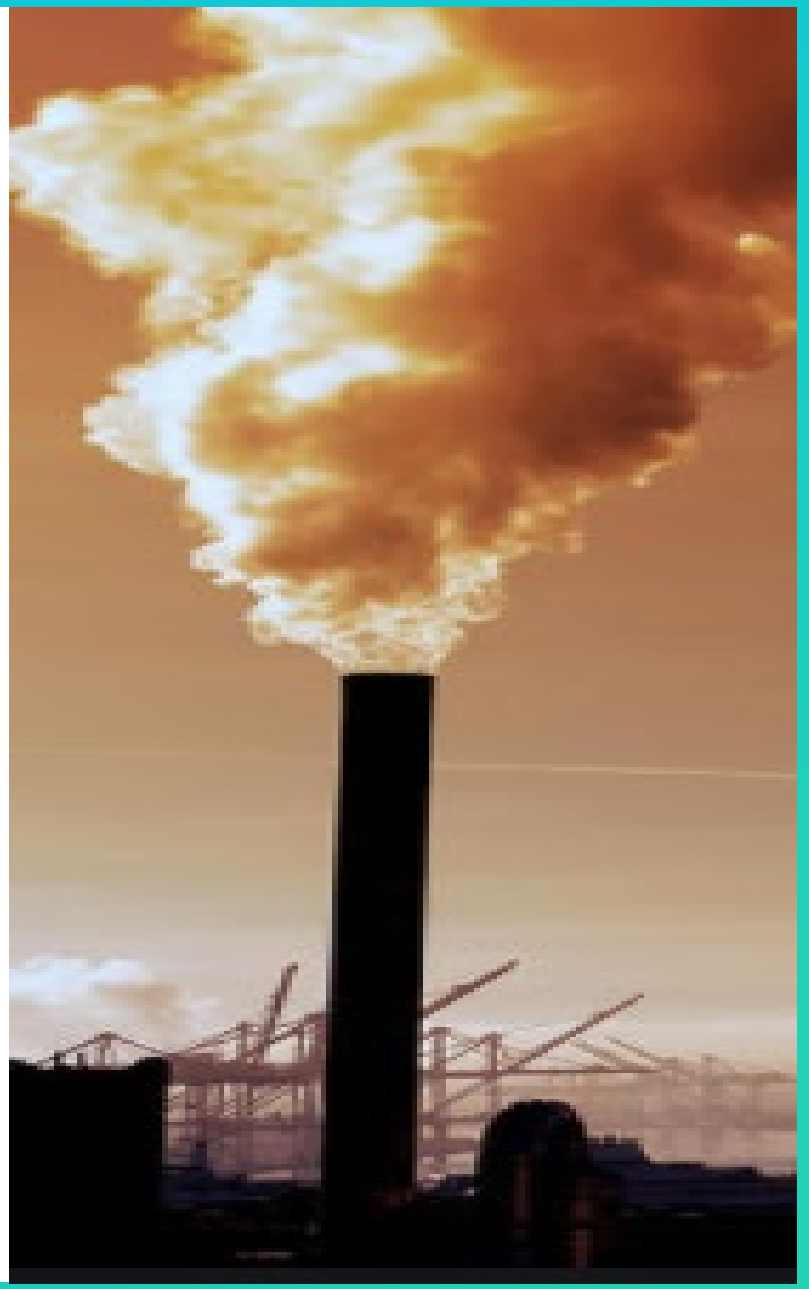
- Energy Efficiency – reduce kWh, reduce T&D emissions
- On-site generation – reduce import kWh, reduce T&D emissions
- Water Efficiency / Water Recycling – reduce water supply and water treatment emissions
- Reduce material use, reduce waste, packaging – reduce associated emissions
- Remote work / virtual meetings – reduce commuting / business travel emissions



Reduce Controllable Scope 3

Employee Engagement

- Engage employees and visitors by communicating Company performance and targets through the self-configurable C3NTINEL Dashboards.
- The widgets are highly configurable and able to incorporate imagery, company branding and video footage.
- Multiple dashboards can be created, with the option to cycle through as slideshow.
- Dashboards can be presented through a foyer display screen, as well as on personal computer monitors.
- Clearly communicate the benefits of all the good energy efficiency efforts being undertaken by employees.



Supply Chain Emissions Reduction

1. Optimising a company's own production processes resulting in reduced demand for goods and services

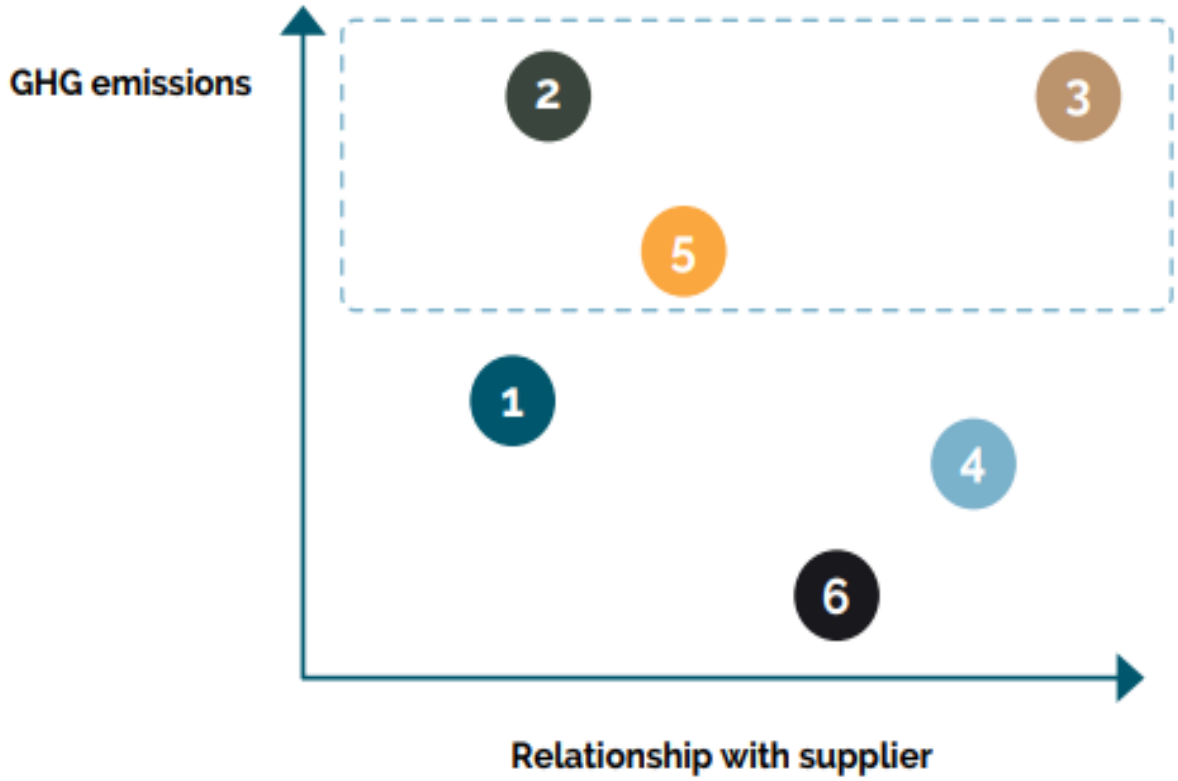
2. Making different purchasing decisions to favour low-carbon products or services

3. Purchasing from suppliers with a low carbon footprint

4. Engaging with suppliers to reduce emissions across the value chain

Procurement Policy

- Identify key suppliers – top 80% of spend / volume
- Request Data – Make it a mandatory requirement for suppliers
- Differentiate by GHG emissions
- Fixed or Flexible Supplier ?
- Make decisions based on carbon footprint / embedded carbon



Supply Chain Engagement Programme

Stage 1: Develop a supply chain engagement strategy

Step 1. Identify (suppliers to engage)
Step 2. Formulate the strategy

Stage 2: Implement the supply chain engagement strategy

Step 3. Communicate
Step 4. Collaborate
Step 5. Support
Step 6. Monitor
Step 7. Reinforce

Supply Chain Engagement - Communication

Communication method	Description
Online platform	Facilitates the exchange of views and ideas on best practices between suppliers.
Non-interactive contact	Verbal or written contact from a company to its suppliers, without an interactive open dialogue. Example: McDonald's sends out regular newsletters to suppliers communicating expectations and sharing best practices.
Open events	An open meeting between company, suppliers and third-parties, where ideas and views on best-practices can be exchanged.
Interactive meetings	Regular meetings, often at management level.
Webinars and videos	Often one-way communication in an engaging way.

Supply Chain Engagement –
Collaboration / Support

- **Company Set Standards:** General minimum requirements set for suppliers e.g. a code of conduct or section in the contract.
- **Third Party Standards:** Standards set for suppliers based on external independent organisation e.g. SBTi, PAS 2060/50, ISO….
- **Support**

Engagement actors	Types of support
Company to supplier	• Workshop / training • Goal setting • Technical guidance • Financial support
Supplier to supplier	• Knowledge sharing
Third party to supplier	• Workshop / training • Tools (e.g. frameworks or software)

Supply Chain Engagement – Monitor

- Track whether or not parties are sticking to the agreements they made.
- Track GHG emissions reductions resulting from these agreements.

Methods to track progress	Description and recommendations for use
Private reporting of supplier to company	• Reporting information can be tailored to the company's specific needs.
Public reporting of supplier	• Established mechanisms and questionnaires can streamline information asks to suppliers from multiple purchasers.
Audits	• Costly and time consuming but the most accurate.

Supply Chain Engagement –
Reinforce

- Incentives for the suppliers to uphold their end of the agreement.
- Choose to enforce positive or negative consequences as a response to the success or failure of a supplier.

Methods to reinforce supplier behavior	Description and recommendations for use
Priority in contract procurement	Giving high-performing suppliers priority in contract biddings, or making environmental performance a part of the procurement decision in a different way.
Improvement program	Mandatory implementation of an improvement program to measure and reduce the climate impact of the supplier.
Switch supplier	Changing to another supplier, when supplier is not fulfilling the agreement. Likely a last resort for failure to comply.
Private appraisal	Award a supplier with non-public appraisal.

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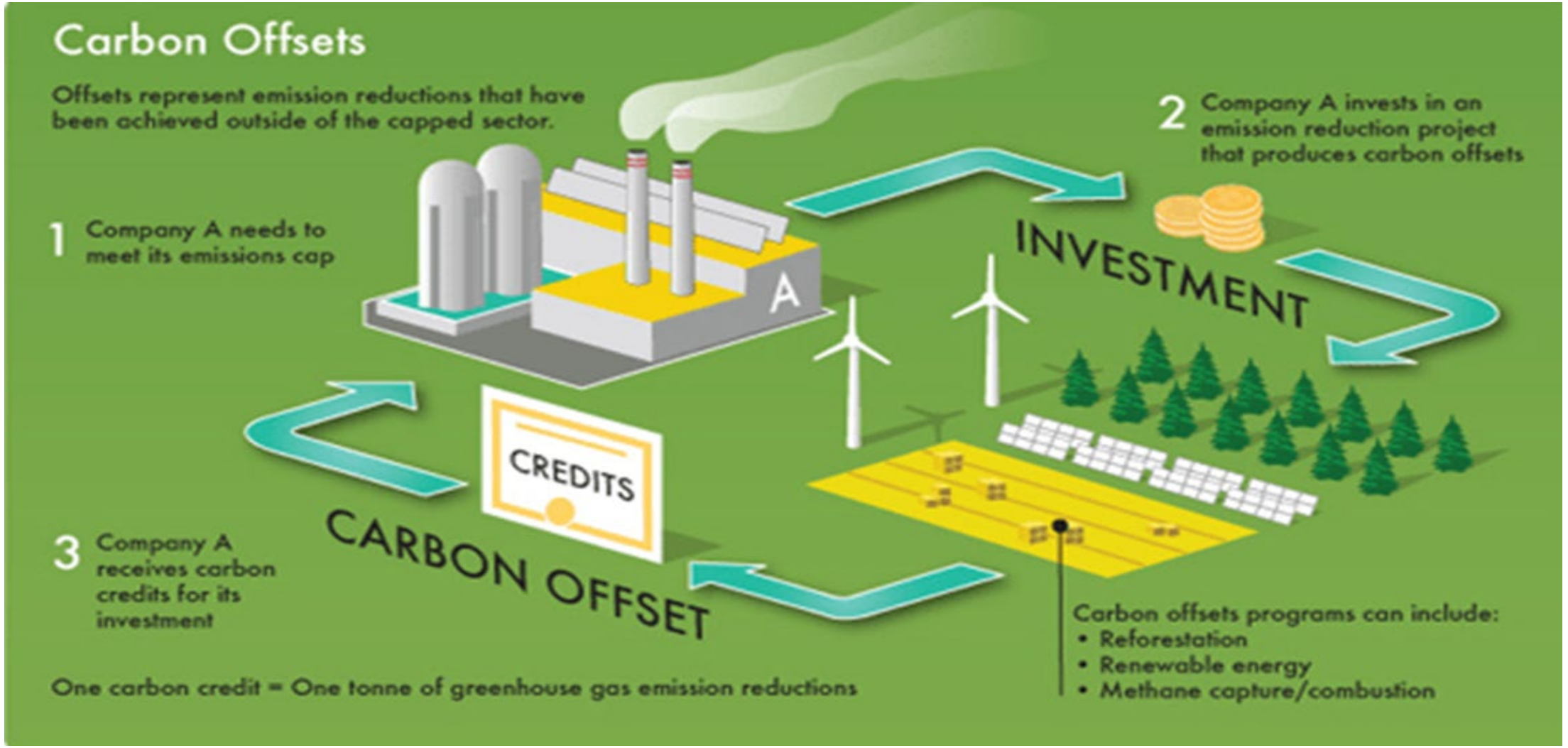
Carbon Offsetting & Insetting

Offsetting

CARBON COMPENSATION



Offsetting

- Improved Cookstoves for Social Impact in third world countries
- Borehole Rehabilitation Projects in third world countries
- UK Tree Planting + Brazil Reducing Deforestation
- Landfill Gas Management & Power
- Wind farms
- Hydro Projects
- Solar Projects
- Geothermal

- Certified Emission Reductions (CERs)
- Gold Standard CERs
- Gold Standard Verified Emission Reductions (VERs)
- Verified Carbon Standard (VCS) certified credits

What is Carbon Insetting?

“ Carbon insetting is an investment by your company in emissions reduction projects, verified by an offset standard within your supply chain. ”

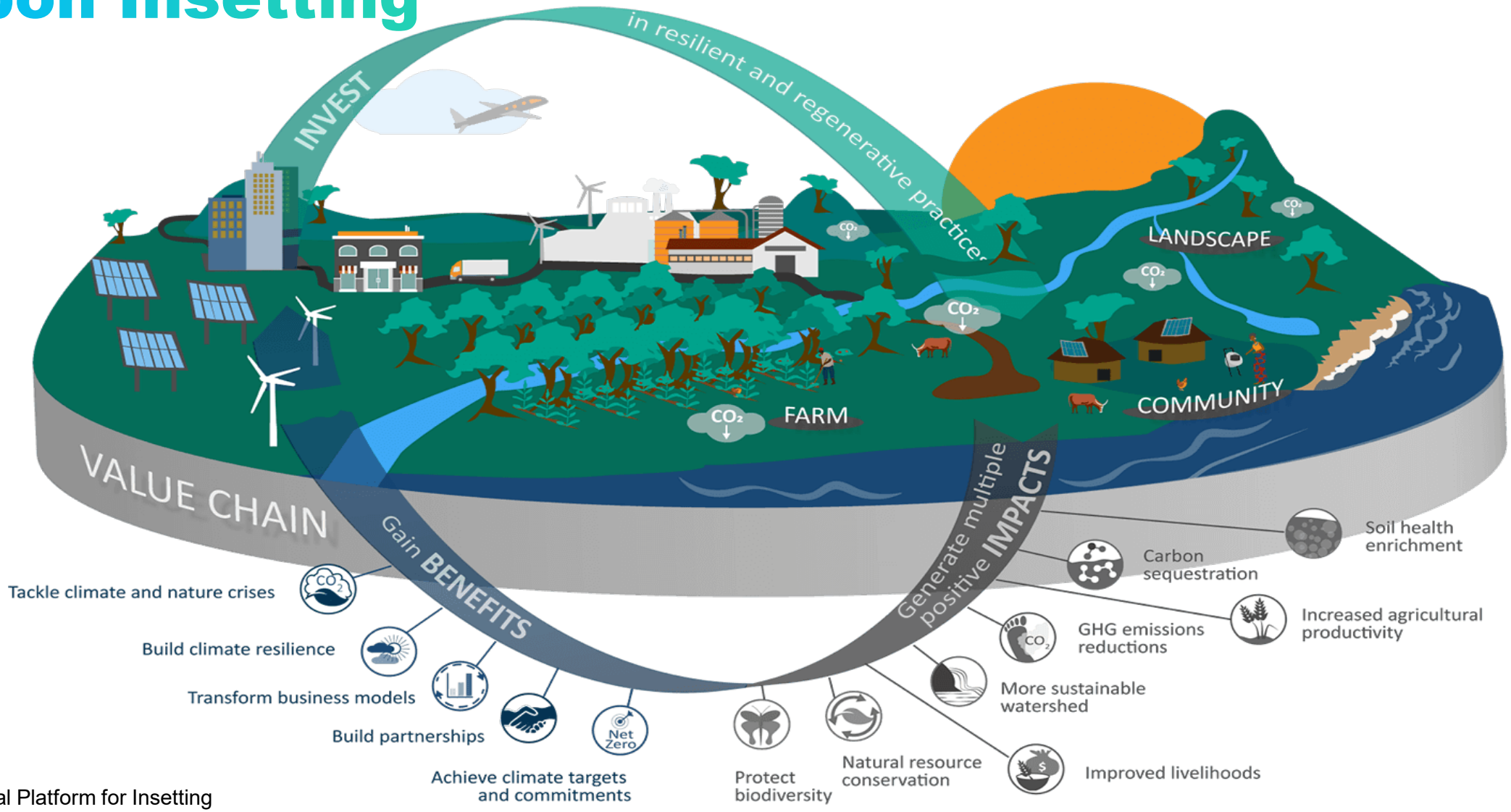
- In contrast to emissions reduction in external climate protection projects (carbon offset), climate protection money remains within your company’s value creation cycle.

It should provide:

- Additionality
- Measurability
- Permanence
- Verifiability

CERTIFIED
CARBON-INSET ®
PRODUCT

Carbon Insetting



Source: International Platform for Insetting

Carbon Insetting Examples

Set up a Climate Protection Fund	
Invest in raw material production efficiency / energy efficiency	Carbon reduction, cost reduction, cheaper product?
Invest in renewable on-site generation for suppliers	Carbon reduction, cost reduction, cheaper product?
Invest in agriculture	Natural carbon sinks Improved soil health Promote biodiversity Support livelihoods

Benefits of Carbon Insetting

CARBON COMPENSATION

More control

Identifies strengths & weaknesses

Closer supply chain management

Strengthened relationships

Improved supply chain efficiency & resilience

Potential cost reduction

Responsible business goals

Corporate Social Responsibility PR & Marketing

OUR AMBITION

OUR STRATEGY IN ACTION

BE WORLD LEADER IN THE ZERO-CARBON TRANSITION "AS A SERVICE"

Faster growth, higher value, better impact

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