

SUPPLY CHAIN AND CLIMATE CHANGE FOR SMES

Session 1



20th March 2024

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Temple Group

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INTRODUCTIONS



Dr. Maja Radivojevic

Climate and Carbon Consultant

with experience spanning wide range of areas, from conducting organisational carbon footprint assessments to development of sector-specific carbon reduction plans for both private and public sector bodies.



Dr. Xiangyu Sheng

Director of Air Quality & Climate Change

Dr. Sheng is a leading expert in Carbon and Climate field with nearly 30 years of experience supporting public and private sector organisations to develop plans and facilitate transition to low carbon economy.



TEMPLE

Temple is a leading **independent environmental consultancy**, specialising in the environment, sustainability, ecology, planning and socio-economics.

Proud to have a reputation for excellence, working on complex infrastructure, planning and social programmes.

Part of the B-Corp community.

“CREATING SUSTAINABLE FUTURES”

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SOUTHWARD CLIMATE COLLECTIVE

The Southward Climate Collective is a new 12-month programme designed to support SMEs across the borough in acting on climate.

Participating businesses have chosen to take part in one of four programme streams – **waste, energy, freight, supply chains** – through which they receive tailored technical support and training.

Better Bankside is one of the organisations coordinating, guiding and supporting the scheme. Temple has been appointed as a technical partner.



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Supply chain for SMEs series:

1. Supply chain and climate change	March 2024
2. Supply chain management	May 2024
3. Due diligence in Procurement	September 2024



House rules



Please keep your microphones muted



Get involved in our poll questions



Ask question using the chat box



Questions will be answered live during the Q&A part

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Question 1 : From which industry sector do you come from?

Question 2: Why did you sign up for this session?

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CONTENTS

1. Setting the scene
2. Key drivers and benefits of measuring supply chain emissions
3. What is my supply chain? Step-by-step guidance on calculating your GHG emissions
4. Scope 3 emissions exercise
5. Further resources
6. Q & A



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COURSE OVERVIEW

Course Aim

- To provide an understanding of the connection between supply chains and climate change impacts, and contribution of SME supply chains to emissions;
- To provide an understanding of supply chain emissions measurement, and why it is needed;
- Equip you with key knowledge and skills to help you assess your company's supply chain emissions.

Course Objectives:

By the end of the is course, you will be able to:

- Understand the contribution of SME supply chains to emissions, and importance and relevance of addressing these emissions;
- Assess the case for measuring scope 3 emissions, including the associated environmental and economic benefits;
- Measure your own supply chain impacts and understand associated difficulties.



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Why sustainability matters?



Steffen et al. The trajectory of the Anthropocene: The Great Acceleration (Anthropocene Review) 16 January 2015. Design: Globaia



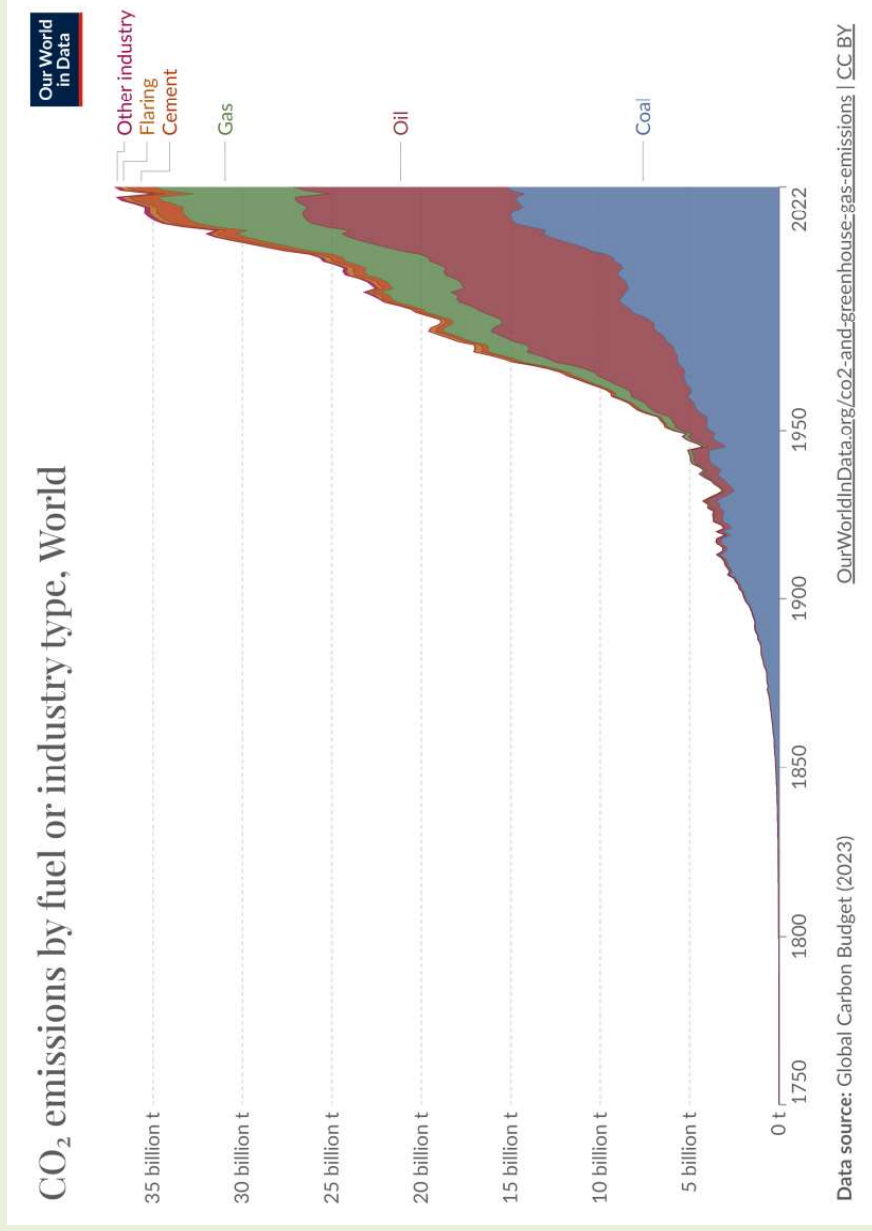
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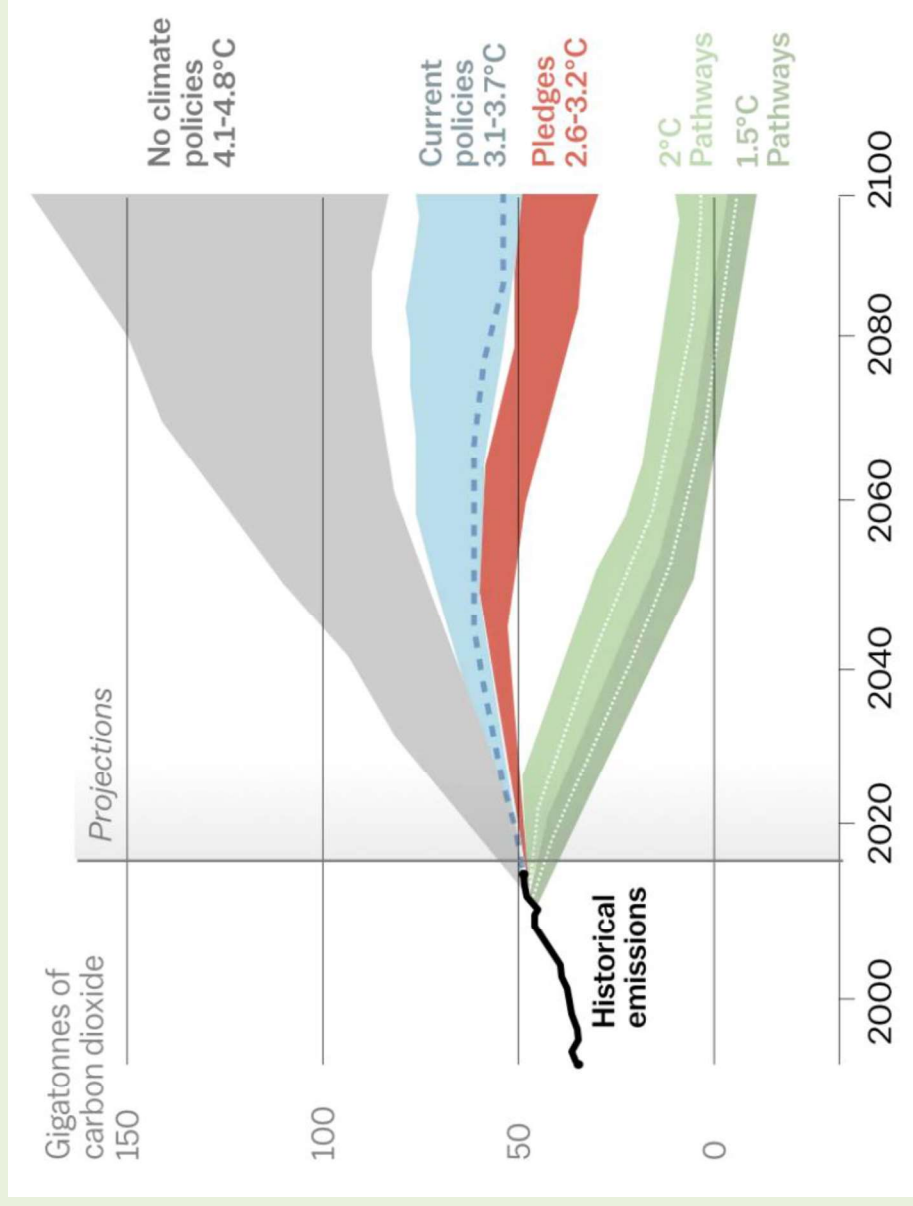
Anthropogenic emissions occurred in the last 40 years have been the highest on record

“It’s not that the world hasn’t had more carbon dioxide, it’s not that the world hasn’t been warmer. The problem is the speed at which things are changing. We are inducing a sixth mass extinction event kind of by accident and we don’t want to be the ‘extinctee.’”

- Bill Nye



Projected warming by 2100



Source: The Climate Action Tracker (2023)



2015 Paris agreement

- Goal to limit increase of global temperatures to below 2 degrees Celsius above pre-industrial levels
- To be achieved through governmental pledges and control of GHG emissions

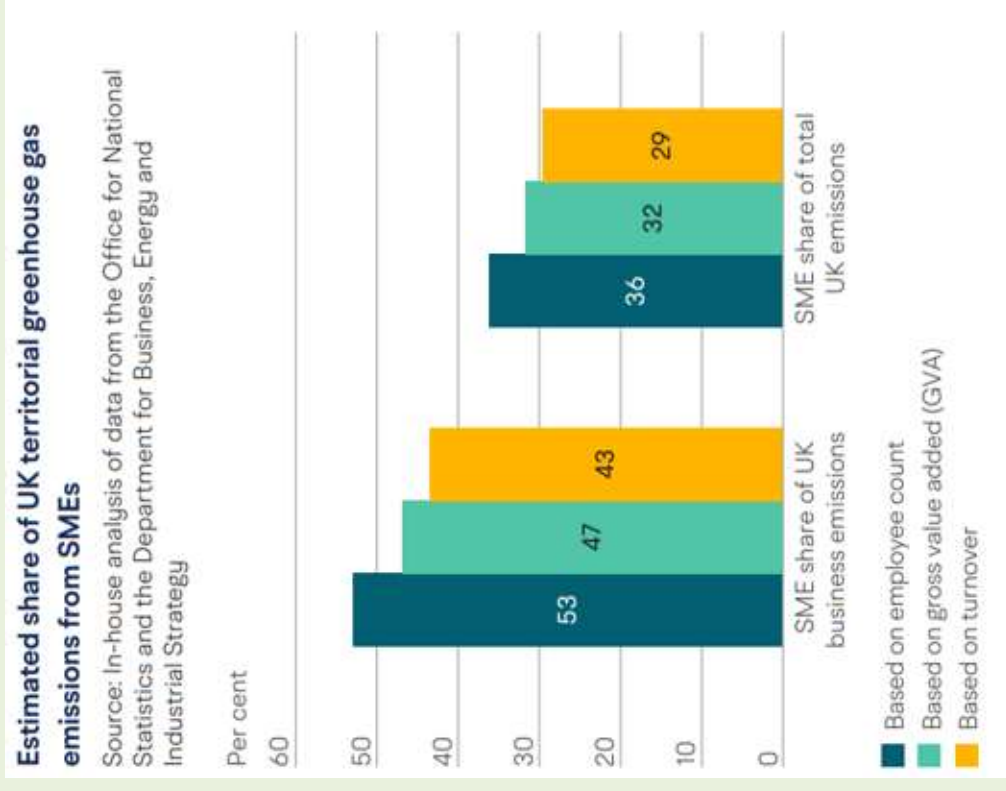
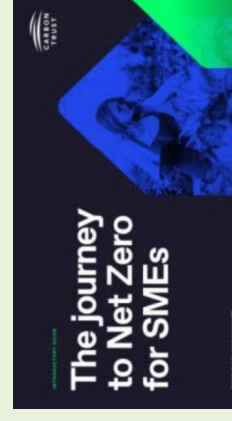


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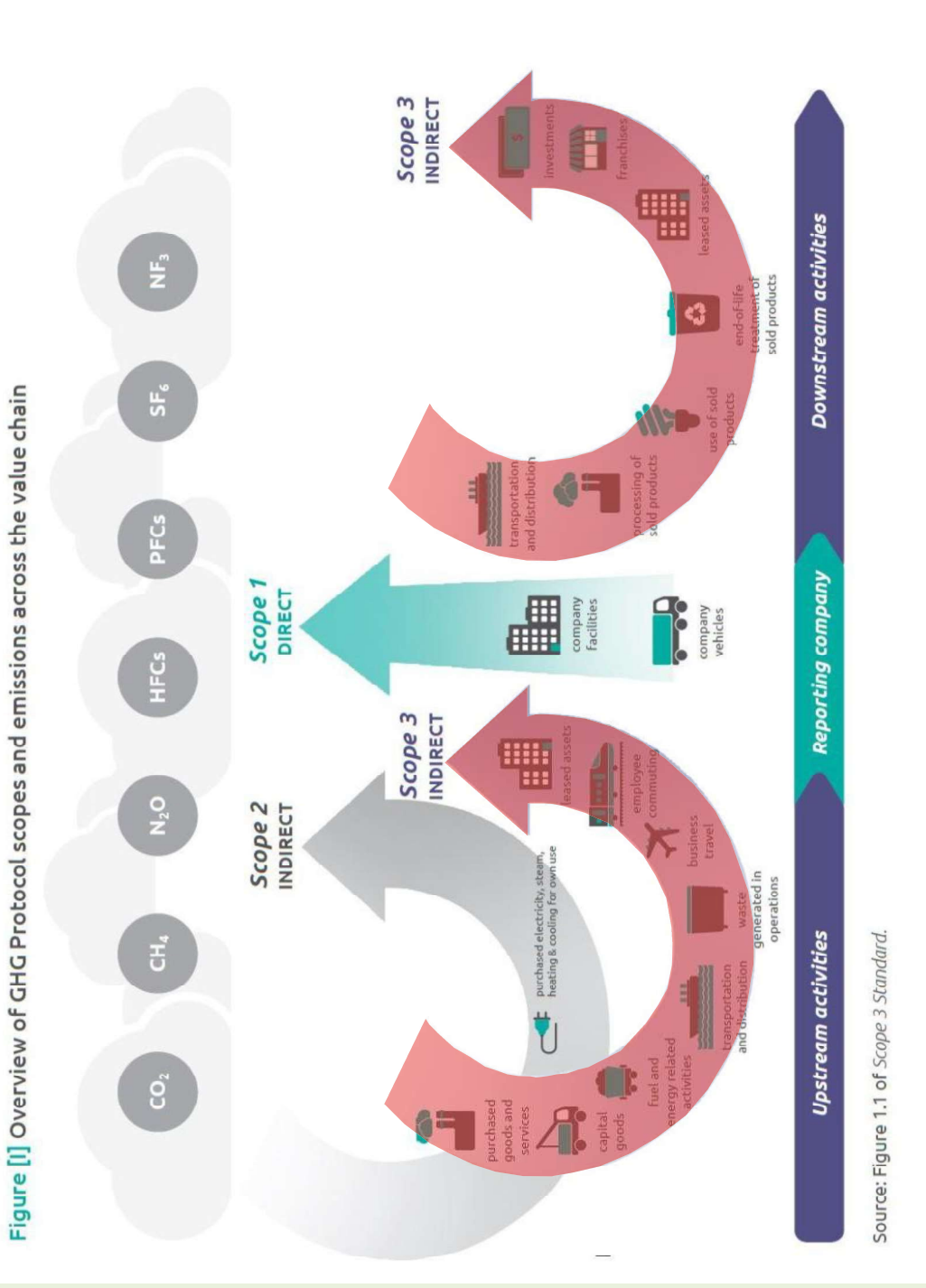


Business are taking action to be part of the 2C solution

- Within the UK business activities account for half of all emissions, and **SME emissions account for half of all UK business emissions, 32 % of UK total**
- Given the quantity of their collective emissions, SMEs have an important role to play in the effort to limit global warming to below 2°C in line with the Paris Agreement targets
- Over 800 UK companies have committed to setting **Science-based targets**, but more participation is needed from SMEs, who make **only 18%**
- Carbon Trust published 'Net Zero roadmap for SMEs' guidance which can be followed to facilitate journey to decarbonisation



Organisational carbon emissions



Source: Figure 1.1 of Scope 3 Standard.

➤ **Scope 1 emissions** are under operational control of the company

➤ **Scope 2** are indirect emissions from purchased energy

➤ **Scope 3 emissions** are all other indirect emissions across organisational value chain, which can make up to 90% of the overall carbon footprint. This makes them the **key part of managing climate risk**



Navigating Scope 3 supply chain categories

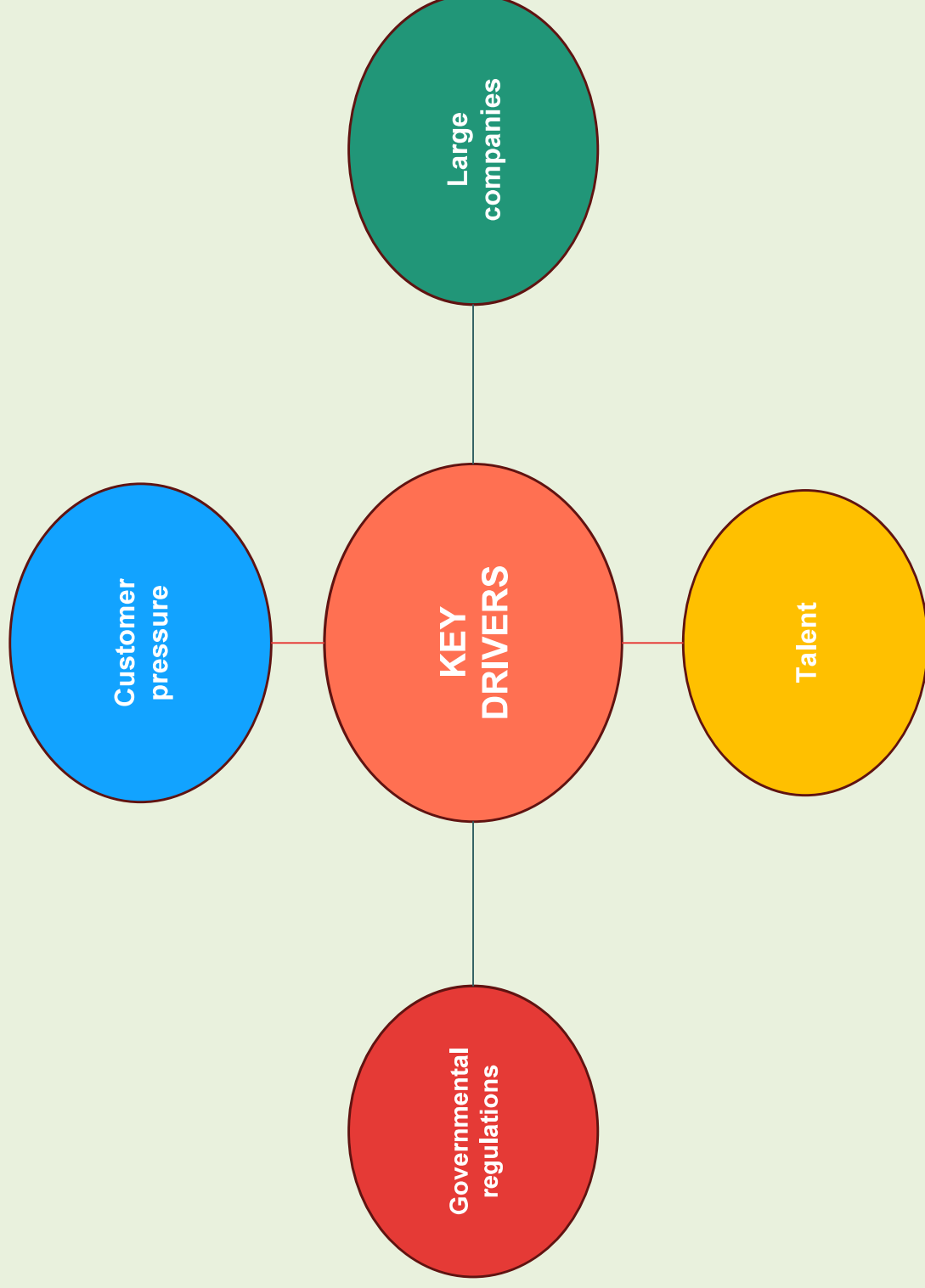
- The GHG protocol splits Scope 3 emissions in 15 categories
- Key component of Scope 3 emissions is represented by the **supply chain emissions**

Upstream categories	Downstream categories
Purchased Goods 	Downstream transportation and distribution 
Capital Goods 	Processing of sold products 
Fuel and energy related activities 	Use of sold product 
Upstream transportation and distribution 	End of life treatment of sold products 
Waste generated in operations 	Downstream leased assets 
Business travel 	Franchises 
Employee commuting 	Investment 
Upstream leased assets 	

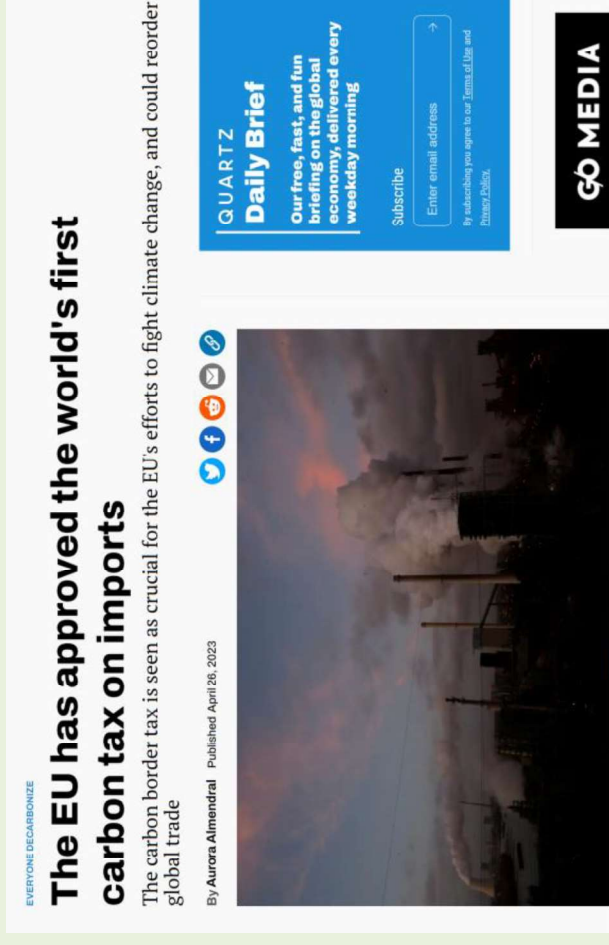
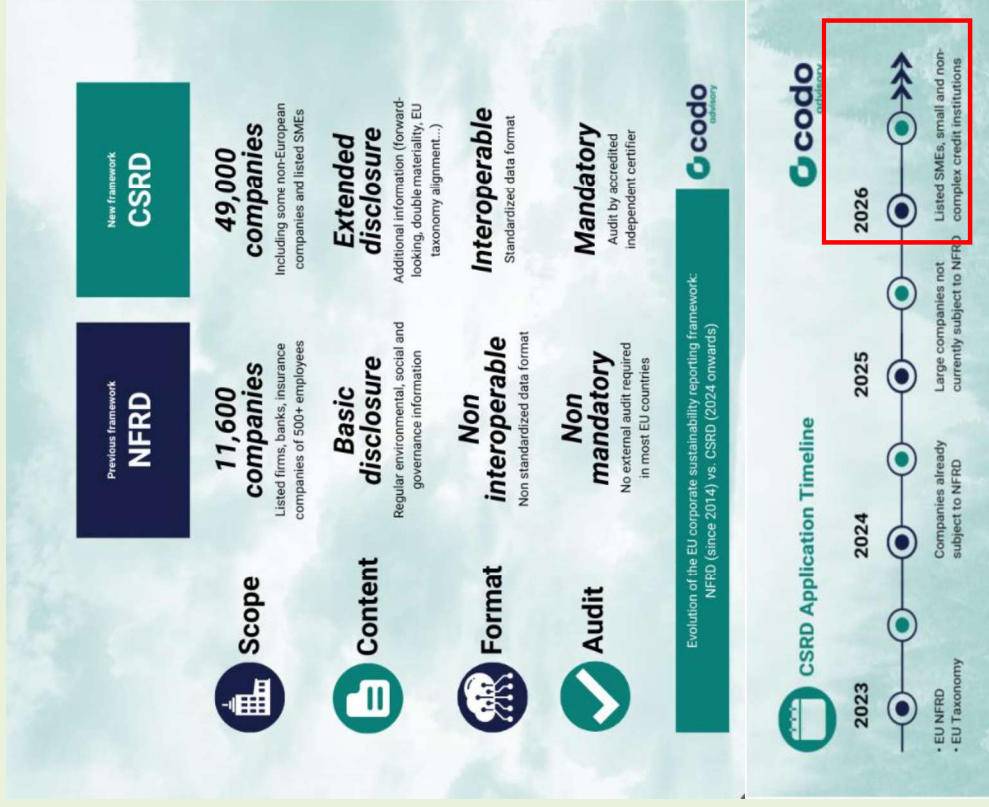


What are main drivers of emission disclosure?

Question: Who do you think the key drivers are?



Regulatory requirements



- Mandated climate disclosure (e.g. CSRD) might affect SMEs doing business in the EU
- Currently no legal requirement to measure emissions in the UK, but considering that UK's Net Zero 2050 target is legally binding, further requirements are expected soon (e.g. SECR, UK government's 'Powering up Britain' strategy to come into effect in 2025, requirement to contribute to local council's net zero goals)



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Larger companies expecting their suppliers to take action

SMEs who supply to large companies need to disclose their emissions to avoid missing out on future contracts and growth opportunities, as the wider supply chain increasingly demands low carbon products and services.

You may be asked for the following sustainability information by the public sector and any large businesses that you supply:

- **Carbon Reduction Plan (CRP):** a document that summarises your current emissions and your plans to reduce these
- **Net Zero Commitment:** a public commitment (can be published on your company website) to achieve net zero by 2050 or earlier

“78 percent multinationals (MNCs) will remove suppliers that endanger their carbon transition plan by 2025”.
- Standard Chartered¹

PRESS RELEASE
April 14, 2022

Apple helps suppliers rapidly accelerate renewable energy use around the world

More than 200 suppliers committed to using only clean power, will help bring on nearly 16 gigawatts



¹Source: Carbon dated, Standard Chartered Bank, July 2021

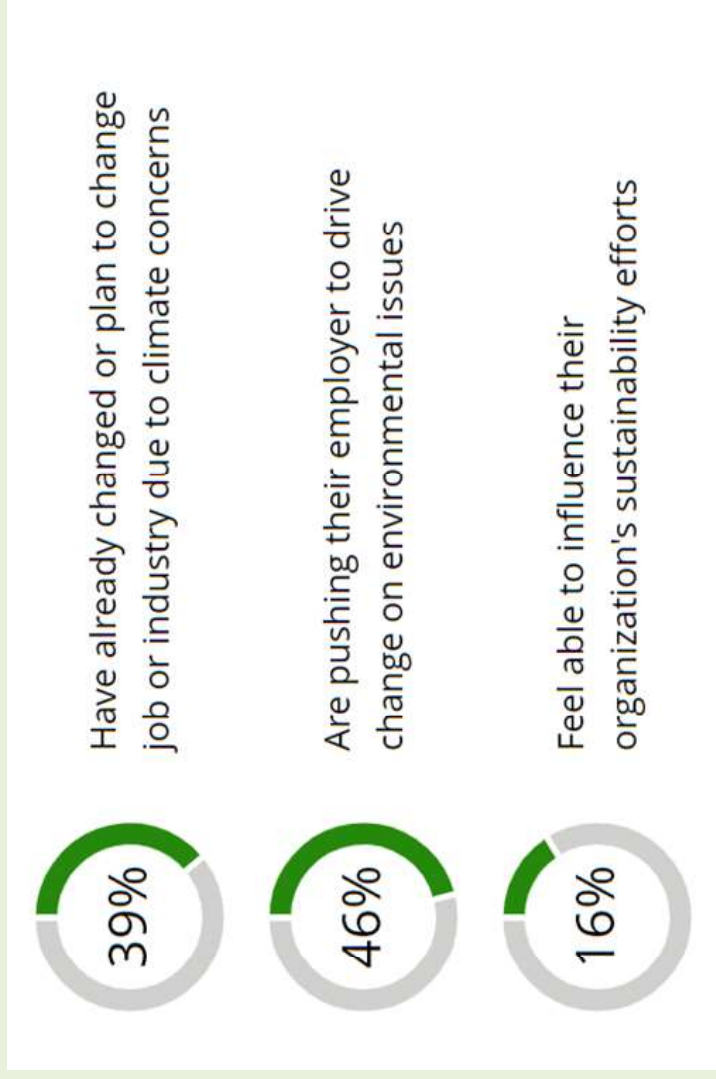


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Pressure from workforce

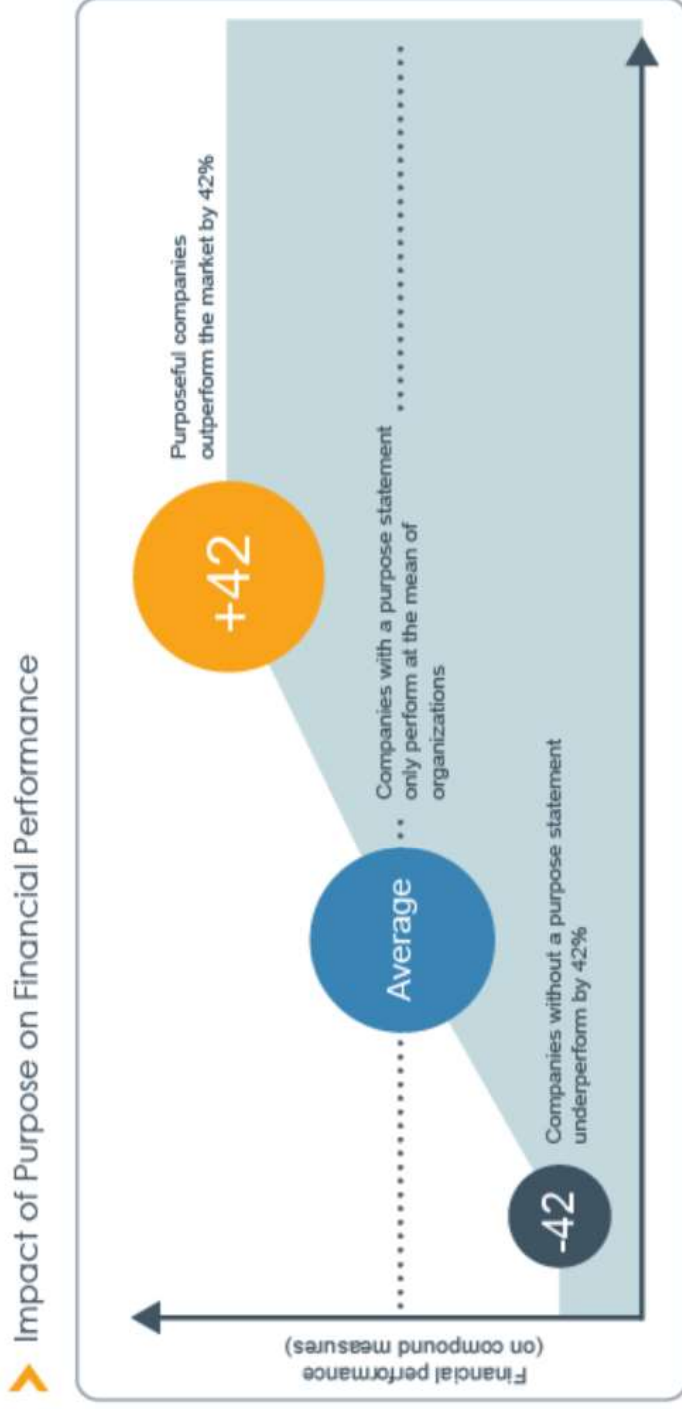
“By 2025, 75 percent of the global workforce is expected to be made up of Millennials”
- Deloitte¹



¹Source: The Deloitte Millennial Survey, Deloitte, Jan 2024



Pressure from customers



“55 % of customers today are looking to engage with companies that act on issues they’re concerned about, so “going green” can attract new customers¹”

Source: Global Leadership Forecast 2018, Ernst & Young, 2018

- Unilever’s purpose driven businesses are witnessing 69% growth compared to non-purpose driven ones.
- Patagonia being transparent about their sourcing and production process, and telling their customers not to buy its products to reduce supply chain emissions, increased their sales by 30%.



¹Source: Nielsen Global Survey of Corporate Social Responsibility, Q1 2014

Benefits of measuring supply chain emissions

Risk avoidance

Mitigating the threat and ensuring business continuity

This includes meeting regulatory and compliance risks, and building resilient sourcing strategies.



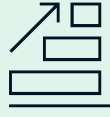
“Climate policy could wipe \$2.3 trillion off non-compliant global companies by 2025¹”

¹Source: Vivid Economics and Energy Transition Advisors, 2020

Cost reduction

Reducing costs through eco - efficiencies

Achieved through resource productivity improvements, reduction of waste and better equipment efficiency.



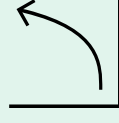
Studies showed that eco-efficiency of the supply chain can **lower the supply chain costs up to 16%**, and **increase revenue growth by 20%²**.

²Source: VVEF with Accenture, Beyond Supply Chains Report, 2015

Revenue growth

Increasing profits and market share

Creating new business models and increasing market share, stock price and profitability as a consequence of improved resource efficiency.



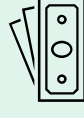
*“80% of studies showed a **positive effect of sustainability on stock price performance³**”*

³Source: University of Oxford-Arabesque Partners

Intangibles

Generating growth opportunities by differentiating your brand and being innovative

Enhancing your brand value by embedding sustainability values into your goods and services and having a company purpose to steer innovation process helps gain competitive edge.



“Some 33% of UK customers declared that they would be prepared to pay 25% more for net-zero products and services⁴”

⁴Source: Simon Kucher & Partners study, 2021

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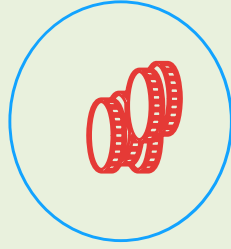
Question: What are the main barriers to measuring and managing supply chain emissions in your company?

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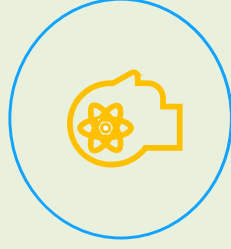


Addressing barriers to net zero action in SMEs

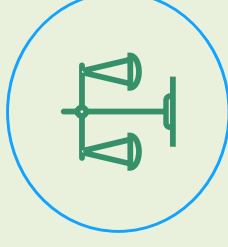
A recent British Business Bank survey highlighted potential barriers to measuring carbon emission and undertaking net zero action in SMEs.



COST



LACK OF EXPERTISE AND UNDERSTANDING



FEASIBILITY

Other key issues companies face are:

- Complexity of supply chains
- Data complex to measure
- Data gaps
- Hard to reduce

SUPPORT AVAILABLE

National Opportunities

<https://smeclimatehub.org/grants-and-other-government-support/>

Local Opportunities

Southwark Council

Provides grants and business support to help improve sustainability of supply chains , as well as reduce overall business waste and carbon emissions (e.g. Southwark Climate Collective Programme)

Which reporting standards and guidance are available?

There are a number of standards and sector specific guidance which will help ensure a robust approach to supply chain reporting:

- GHG protocol has a standard for corporate reporting and a specific publication on measuring and reporting Scope 3 emissions
- There is further guidance on product life-cycle accounting
- Some sectors have seen development of a focused sector guidance (e.g. Beverage Industry GHG guidance)

Evaluation frameworks, such as CPD, focus on evaluating a company's efforts to measure, manage, and disclose greenhouse gas emissions.



Case Studies: SMEs Leading the Change in Scope 3 Emissions Reporting

Belu: Transforming carbon reduction into sustainability leadership

Belu, a mineral water producer, successfully reduced its product's carbon intensity by 22% within two years and produced light weight, fully recyclable glass bottles. Using their profits, Belu invested in replacing bottled water with premium filtered water in reusable UK-made lightweight glass bottles in Hong Kong. By doing so, they've not only tackled the UK's waste issue but also reduced plastic waste in Hong Kong. The initiative's success led Belu to be recognized as 'The Green Company of the Year.'



Organic Growth: From eco-efficiency to Revenue Growth

In an industry under scrutiny for its level of carbon emissions, food company Organic Growth targeted eco-efficiency by engaging transport partners in its net-zero journey and running customer awareness campaigns. As a consequence not only its sustainable performance has improved, but they witnessed increased sales and profits by differentiating themselves as a sustainable supplier.

Climate Action Tech: Transparency as a way to Build Trust

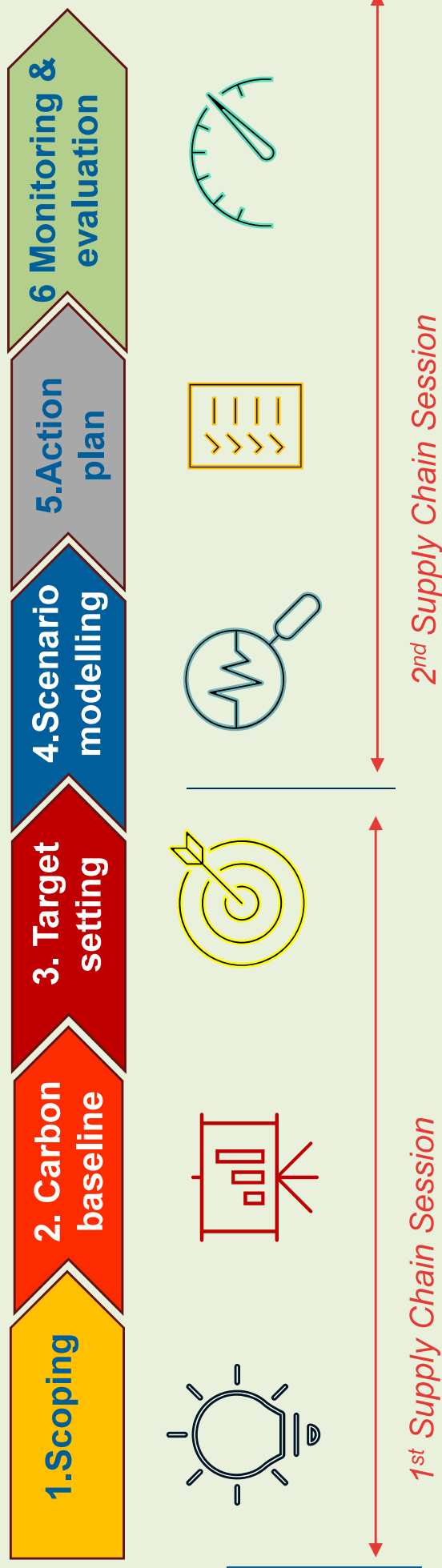
ClimateActionTech, a clean-tech startup, showcased commitment to environmental responsibility through a comprehensive Scope 3 screening covering 15 categories. and quantifying over 75% of total emissions. The company is setting a standard for completeness and transparency in sustainability practices among tech startups.

Ethical Fashions: Supplier collaboration for increased carbon reductions

Ethical Fashions, a UK clothing brand, reduced Scope 3 emissions by 12% within two years collaborating with suppliers at every stage - from raw material production to product distribution. Now the brand aims for an additional 30% reduction by 2025, influencing other small fashion brands to follow suit.



A Route to Net Zero framework



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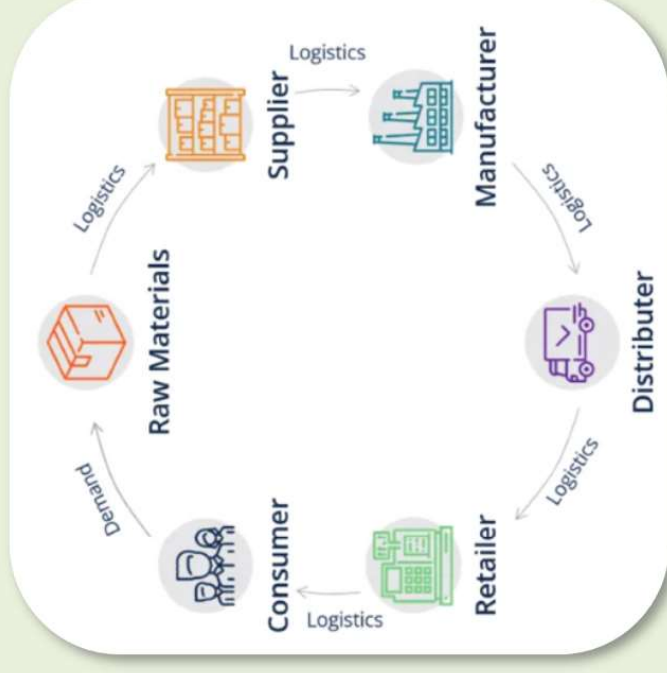
Question: What is your level of expertise when it comes to measuring and reducing your company's Scope 3 emissions?

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How to measure supply chain emissions?

- A supply chain is a series of activities that an organization engages in to create and deliver a product or service to its customers.
- Measuring supply chain emissions encompasses evaluating the greenhouse gas (GHG) emissions across diverse stages of a product's life cycle, from raw material extraction and manufacturing processes, through supplier distribution, retail operations, and delivery to the customer, all the way to the product's disposal phase.



Upstream carbon emissions + downstream carbon emissions = total Scope 3 greenhouse gas emissions
Measured in carbon dioxide equivalents (CO₂e)



Southwark
Climate
Collective

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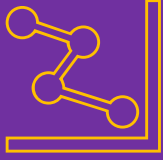
Key steps to determine your supply chain emissions

STEP 1



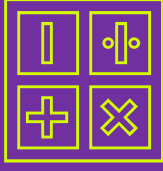
Define emission boundaries

STEP 2



Collect data

STEP 3



Calculate the footprint

STEP 4



Analyse the footprint

STEP 5



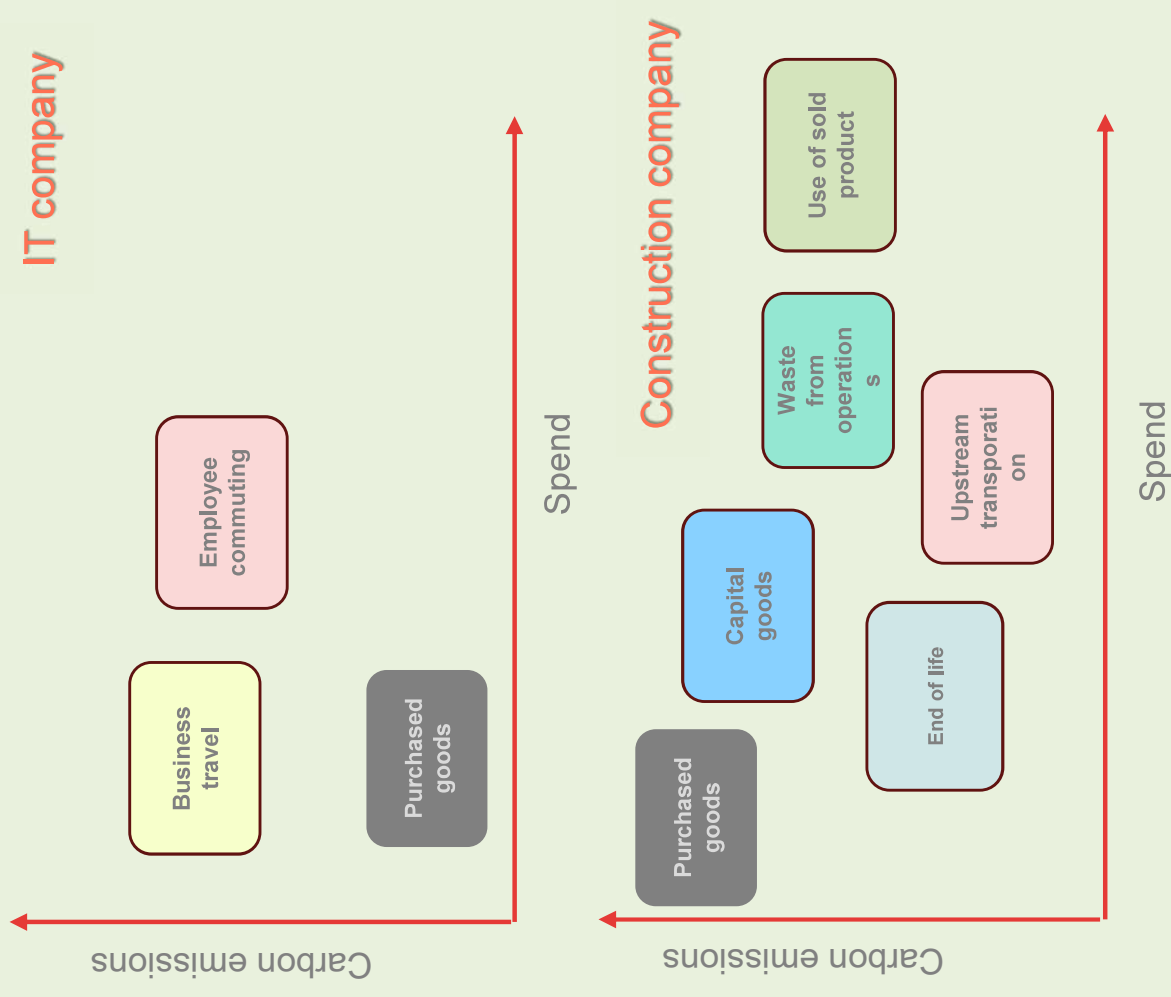
Verification and reporting



Step 1: Define emission boundaries/ Identify which parts of the supply chain you need to include

PRIORITISING EMISSION CATEGORIES

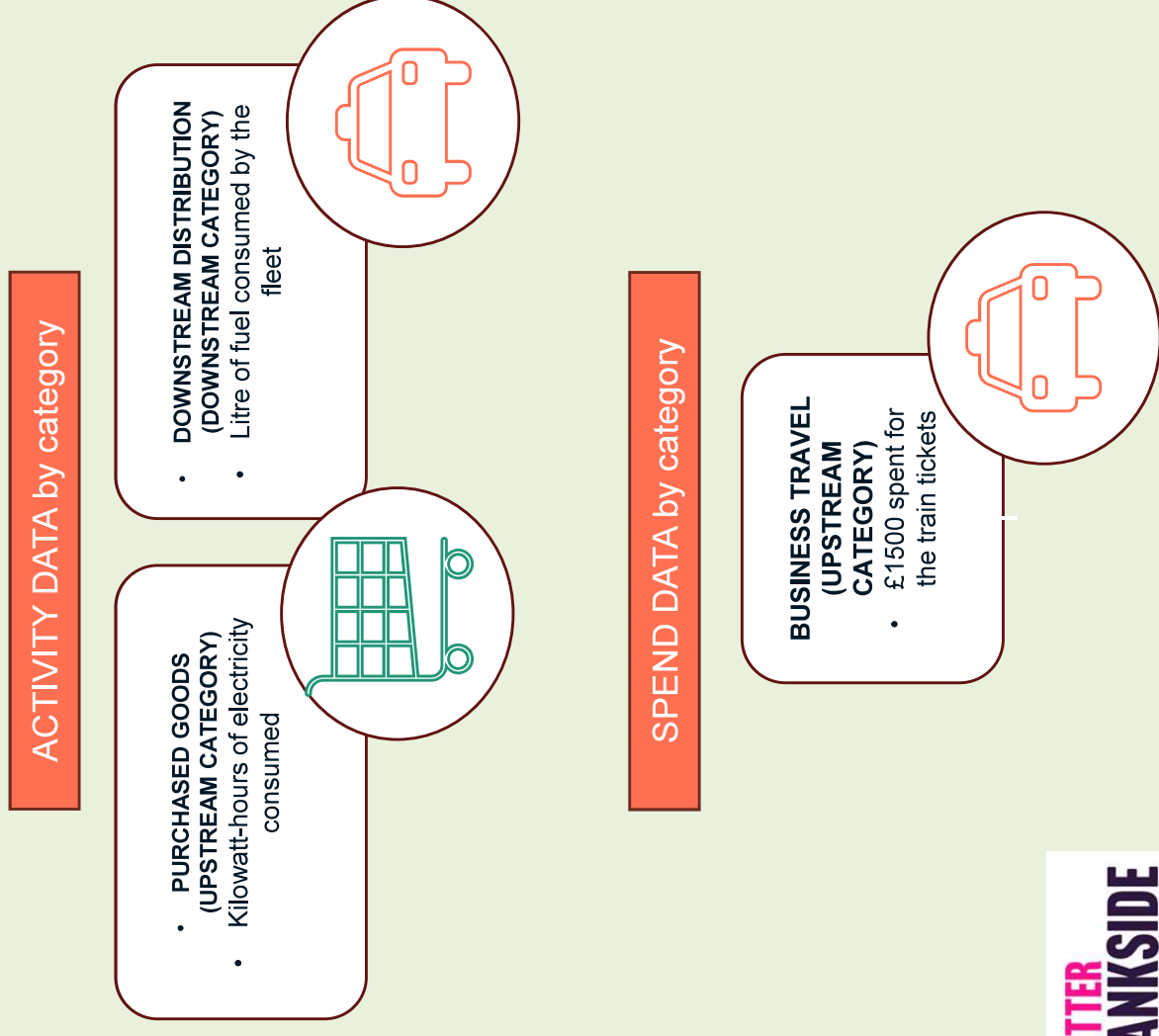
- **Review your company's boundaries** (wholly-owned, joint venture etc.) to identify those you own or have control over (equity share, operational control, financial control)
- **List down** all the upstream and downstream Scope 3 emission categories within your boundary
- **Prioritise the top 5-10 supply chain categories** within that boundary contributing to the majority of your Scope 3 footprint based on spend, operational control, stakeholder concerns, etc.
- Example: prioritising emission categories based on spend, IT company vs Construction company



Step 2: Collect data

- **Collect activity data** for each category included in the boundary for a specific year and break it down according to type of activity
- **Obtain primary data** directly from your key suppliers through surveys
- **Use spend data** when activity data are unavailable **to fill the gaps**

- For example: Online Retailer, activity vs spend based data



Step 3: Calculate your footprint

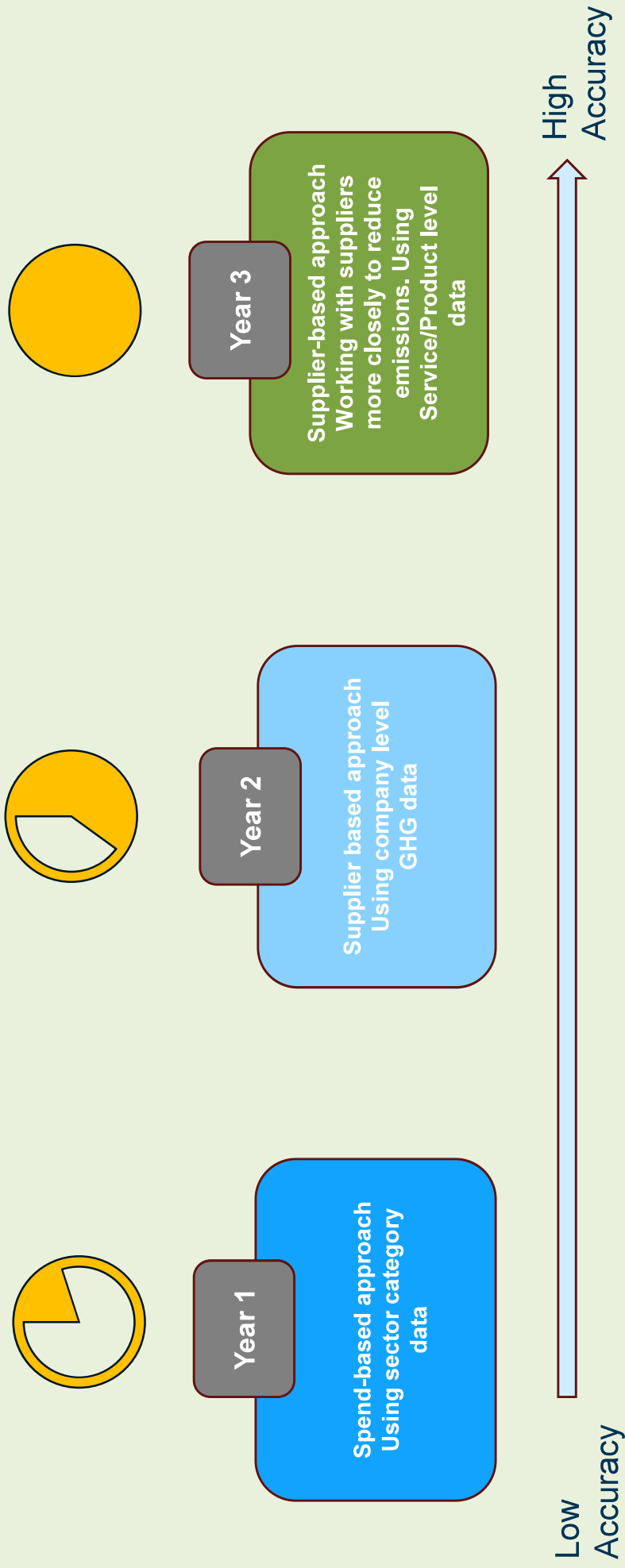
- To calculate GHG emissions related to each activity or spend, the **data collected needs to be converted into carbon emissions** multiplying them by relevant **emission factors** (mass of CO₂ emitted per unit of activity)
- Emission factors are published by various entities, including government agencies (e.g. BEIS) and intergovernmental organizations (IPCC)
- For activity data emission factors are more specific, while for spend – based data factors are uncertain as average for a sector data of the economy (e.g. DEFRA's EEIO database)



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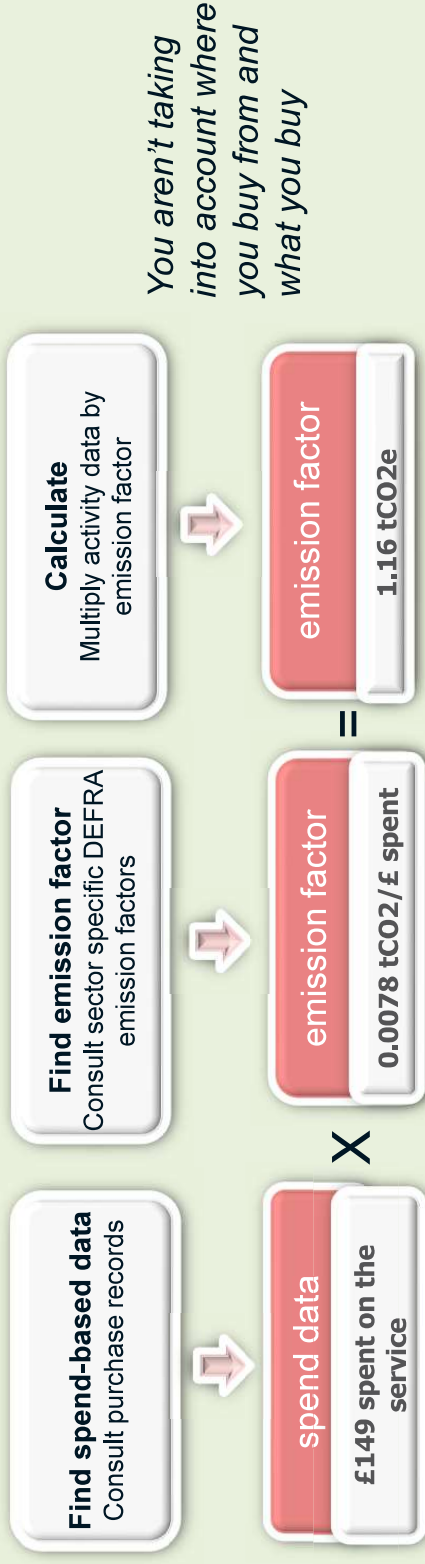
Improve and expand emissions estimate over time



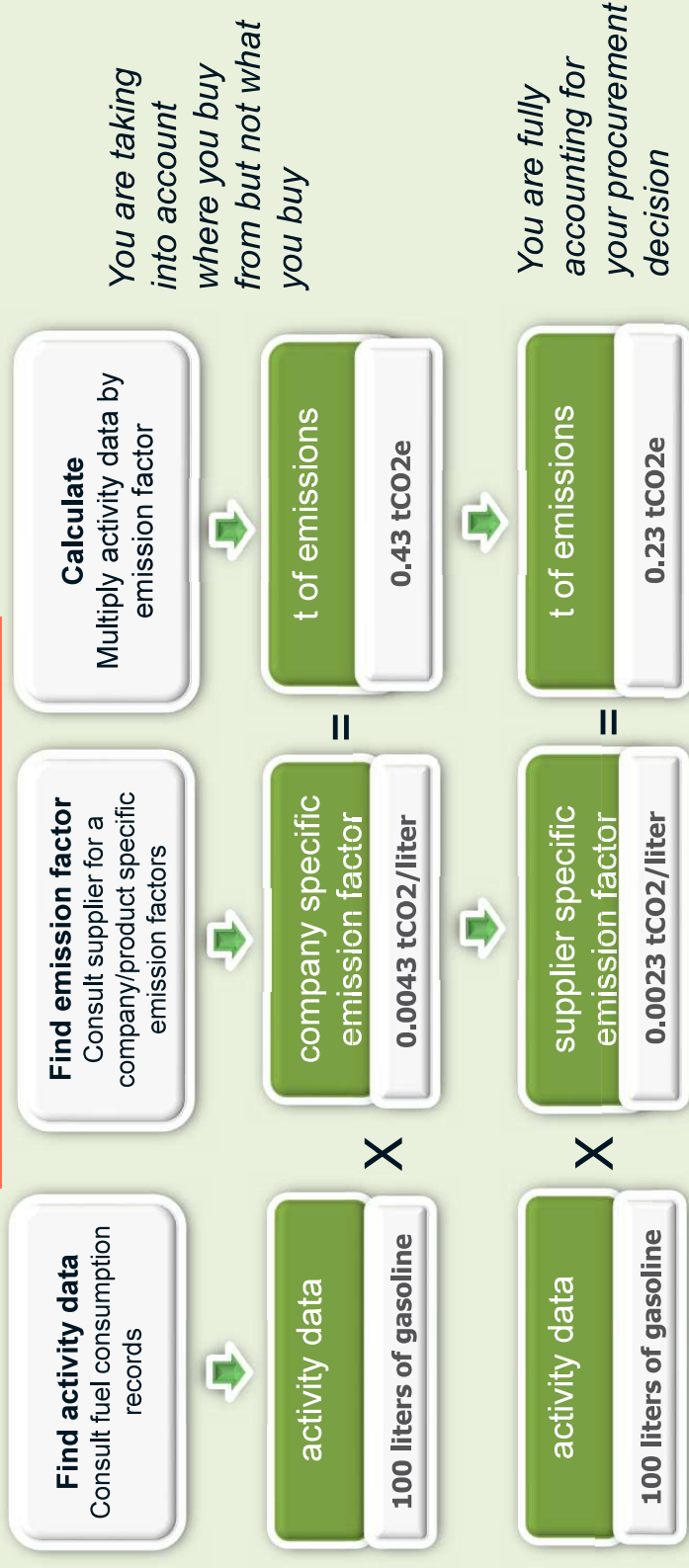
Example: Calculating transportation emissions

How would you calculate the CO2 emissions from third party logistics vehicles (not owned by the company) if you were following sector-wide vs supplier-based approach?

SECTOR-WIDE APPROACH



SUPPLIER-BASED APPROACH



Example SME Scope 3 footprint



Scope 1 & 2 emissions, 2.4 ktCO₂e, Scope 3 emissions 90% of the total



Step 4: Analyse the footprint

- **Make the data comparable by determining carbon intensity** expressed per unit of measurement (e.g. products, monetary units etc.)
- **Identify primary sources of emissions** within Scope 3
- **Identify actions for carbon emission reduction** (behavioural change, adoption of alternative fuels and modes of transport, product eco-design, local sourcing, upgrade to energy-efficient equipment, waste recycling, carbon offsetting, supplier collaboration to reduce their Scope 3 emissions, use of advanced technologies for resource optimisation etc.)
- **Establish a target** (voluntary step for SMEs). SBTi prescribes a target aligned to 1.5°C pathway to be set covering 2/3 of total Scope 3 emissions, if Scope 3 accounts for 40% of more of the total footprint. For SMEs, only long-term targets should be set for Scope 3, due to complexity of supply chain and difficulty of reaching net zero emissions.



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SBTi target setting guidance

SBTi sector-specific guidance resources

Sector	Status	Action
Aviation	Finalized	VIEW MORE
Aluminium	Scoping Phase	VIEW MORE
Apparel and footwear	Finalized	VIEW MORE
Chemicals	Scoping Phase	VIEW MORE
Financial institutions	Finalized	VIEW MORE
Forest, Land and Agriculture (FLAG)	Scoping Phase	VIEW MORE
Information and Communication Technology (ICT)	Finalized	VIEW MORE
Oil and Gas	In Development	VIEW MORE
Power	Finalized	VIEW MORE
Transport	In Development	VIEW MORE

List of companies that have set up SBTi approved targets

Target dashboard

Search:

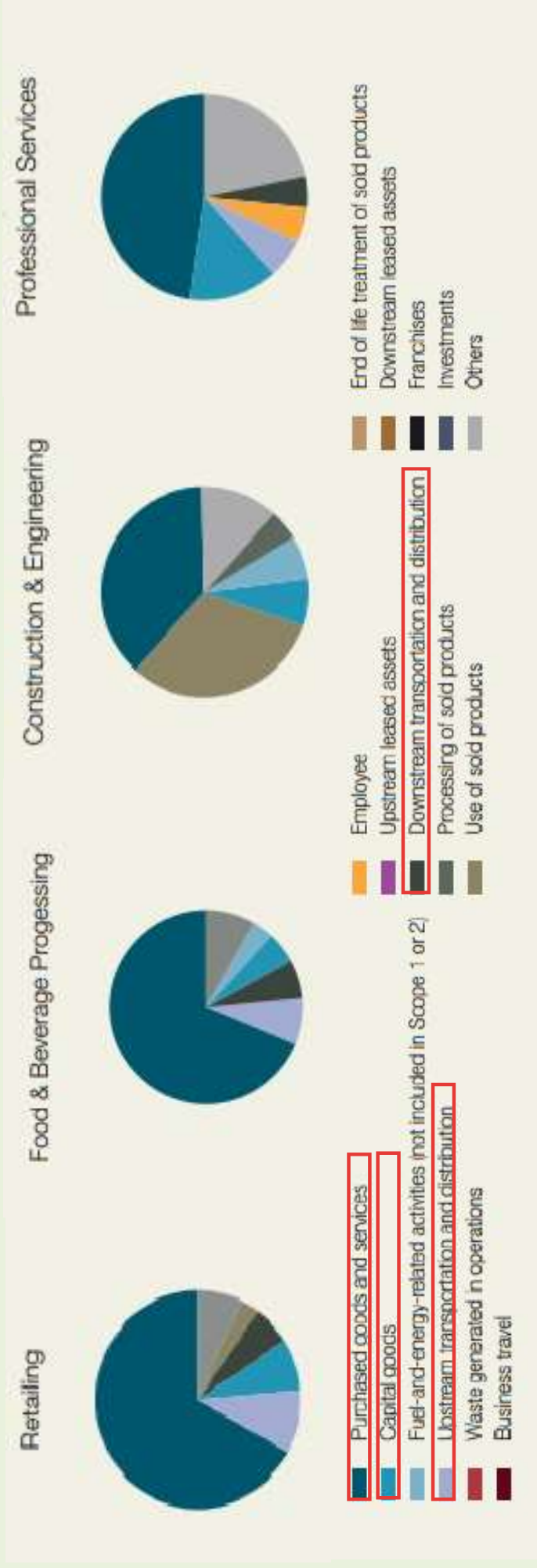
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[Near term](#) [Long term](#) [Net-zero](#) [United Kingdom \(UK\)](#) [Europe](#) [Small or Medium Ent...](#) [Construction and En...](#) [Date](#)

COMPANY/FINANCIAL INSTITUTION	TARGETS			ORGANIZATION TYPE	View more
	NEAR TERM	LONG TERM	NETZERO		
3P Innovation Ltd United Kingdom (UK), Europe	1.5°C	-	-	Small or Medium Enterprise	View more
Aden Contracting Ltd United Kingdom (UK), Europe	1.5°C	-	-	Small or Medium Enterprise	View more
AKT II Limited United Kingdom (UK), Europe	1.5°C	-	-	Small or Medium Enterprise	View more
Andrew Scott Ltd United Kingdom (UK), Europe	1.5°C	1.5°C	2050	Small or Medium Enterprise	View more
Auger Site Investigations Limited United Kingdom (UK), Europe	1.5°C	1.5°C	2050	Small or Medium Enterprise	View more
Barr Gazetas United Kingdom (UK), Europe	1.5°C	1.5°C	2050	Small or Medium Enterprise	View more



Example of sector-specific emissions



Source: Value chain in the value chain report: BEST PRACTICES IN SCOPE 3 GREENHOUSE GAS MANAGEMENT

- For SMEs, the most significant scope 3 emissions often stem from **purchased goods and services**. Other notable sources are in **capital goods, distribution and/or transportation**.

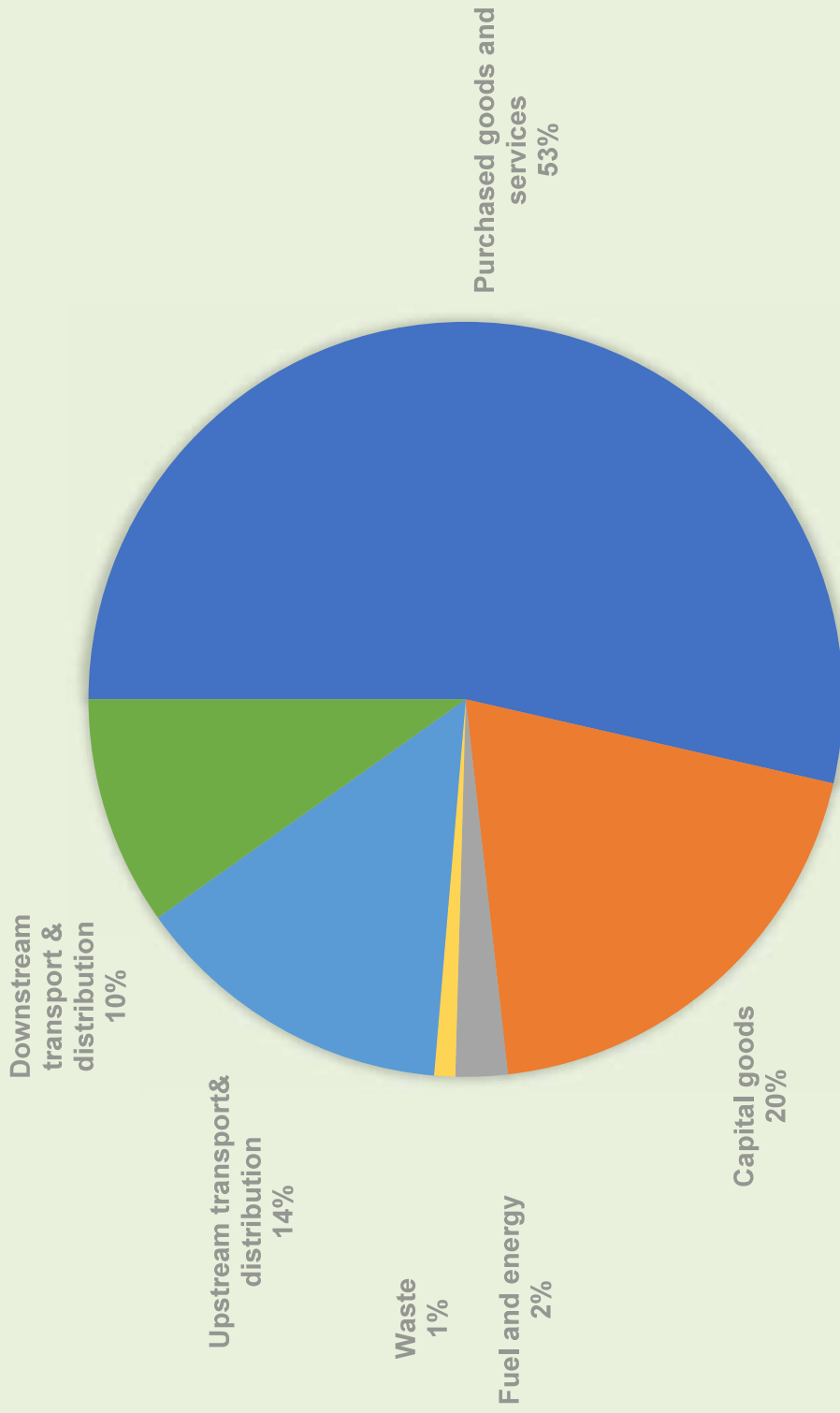


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Example SME Scope 3 carbon footprint (tCO2e)

Question: To which sector would you attribute this carbon footprint?



Step 5: Verification and reporting

Reporting your carbon emissions and having it **independently certified** with third party audits has multiple benefits:

- Used to announce Science - Based Targets
- Can help engage your employees, customers and other stakeholders, and enhance your reputation
- Can help with tenders and becoming part of company's supply chains

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Future of Scope 3 measuring and reporting

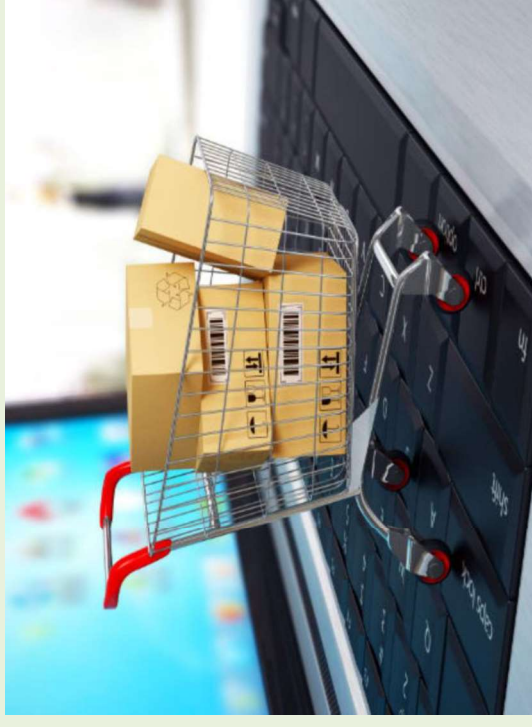
MONITOR	MEASURE	REPORT
<ul style="list-style-type: none">• Mobile & 5G• Internet of Things• Sensors• Robotic process• Automation vs. manual	<ul style="list-style-type: none">• Blockchain• Edge computing• Single data repository• Hybrid cloud• eCommerce / forms APIs/ EDI	<ul style="list-style-type: none">• Data quality & aggregation• Advanced analytics• Dashboard• Permissioned access

Source: Monitor, Measure and Report Supply Chain Scope 3 emissions Report



Exercise 1: Select emissions sources within Scope 3 associated with a retail company activities

- Use the form provided in the chat box to identify activities forming part of Scope 3 emissions
- Provide multiple choice answer
- Overall time: 5 min



And the answers are...

- Emissions from extracting and processing raw materials for the products sold (**Scope 3**)
- Emissions from employees traveling to and from retail locations (**Scope 3**)
- Emissions from disposal of products, including both retail operations waste and product end-of-life waste (**Scope 3**)
- If the retail company relies on district heating or cooling systems, the associated emissions (**scope 2**)
- Emissions from travel associated with the business meetings and conferences (**Scope 3**)
- Emissions from fuel combustion in vehicles operated by the retail company, such as delivery trucks or company cars (**scope 1**)
- Emissions from the activities of franchises or licensees associated with the retail brand (**Scope 3**)
- Emissions from the combustion of fuels (e.g., natural gas, diesel) in company on-site generators used for power generation (**scope 1**)

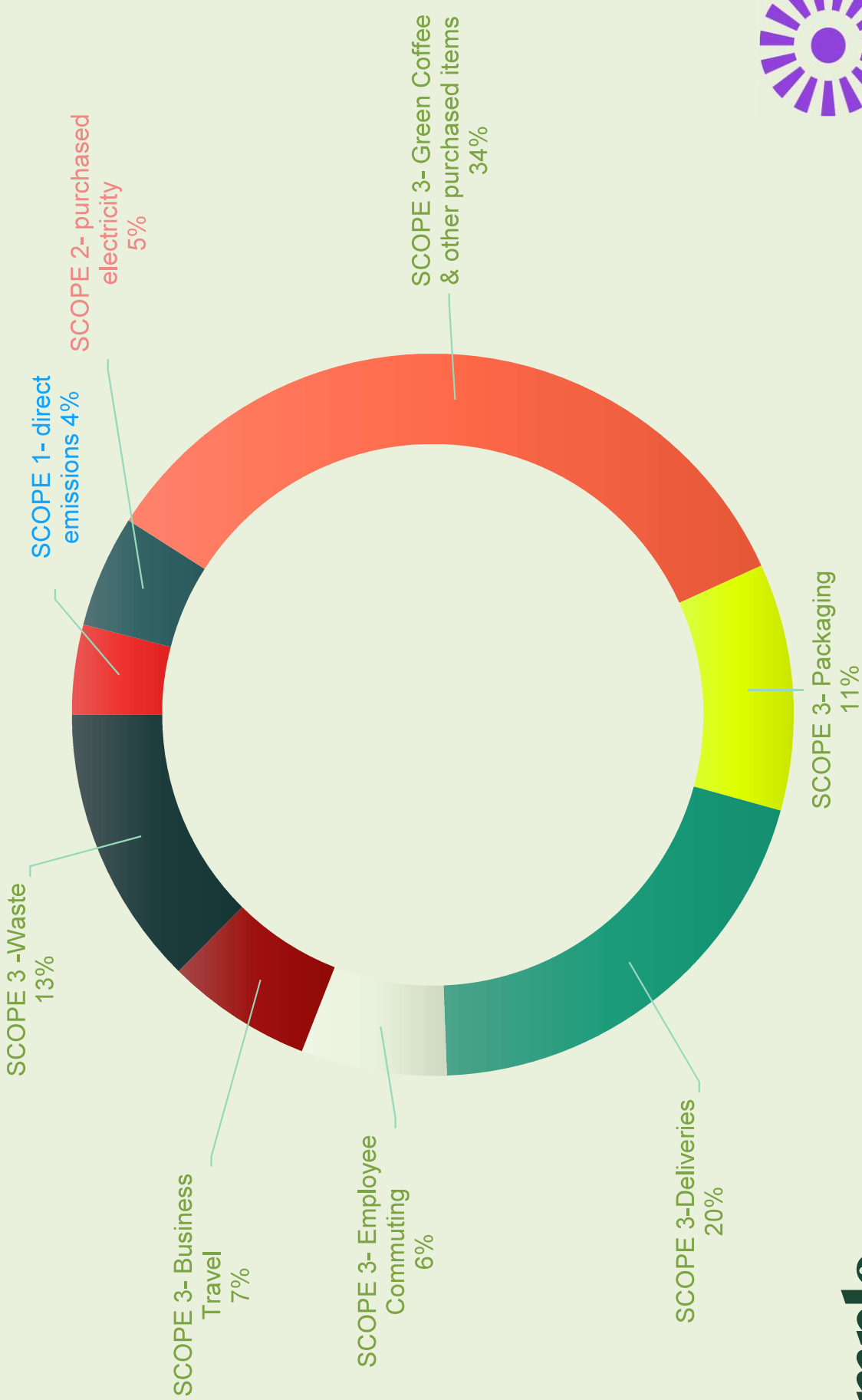


Exercise 2: Assess how much each emission category forming part of coffee roaster's Scope 3 contributes to the company's overall carbon footprint

- Use the form provided in the chat box to assign percentage contribution to carbon footprint for each Scope 3 emission category listed
- Overall time: 5 min



And the answers are....



Useful links for calculating and declaring emissions

Providers of emission factors:

- BEIS carbon intensity factors: <https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting>
- Indirect emission from supply chain, UK government (DEFRA): <https://www.gov.uk/government/statistics/uks-carbon-footprint>

Some useful calculator and accredited methods:

- SME Climate hub (free): <https://smeclimatehub.org/start-measuring/>
- Carbon Trust (free): <https://www.carbontrust.com/our-work-and-impact/guides-reports-and-tools/sme-carbon-footprint-calculator>
- GHG protocol Scope 3 calculator: <https://ghgprotocol.org/corporate-value-chain-scope-3-standard>

Disclosure:

- CDP Supply Chain: <https://www.cdp.net/en/supply-chain>
- Race to Zero: <https://www.theconsumergoodsforum.com/environmental-sustainability/net-zero/carbon-solutions-hub/race-to-zero/>

Target setting:

- The Science Based Targets initiative (SBTi): <https://sciencebasedtargets.org/>



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THANK YOU



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Q&A



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