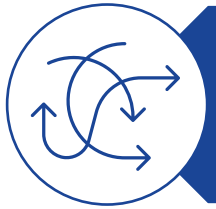
What are Scope 3 carbon emissions and why do they matter?

11 May 2022

Benefits of Today's Session



Understanding a complex landscape

Sustainability credentials

Risk avoidance

Competitive advantage

AGENDA

- Introduction
- What are Scope 3 emissions?
- Why Scope 3 matters and what are the benefits?
- How do you get started with Scope 3?
- Taking action and monitoring progress
- Next steps
- Questions and Answers

PRESENTERS

Sam Williams

Food and Drink Sector Business Manager

Charles Gaisford

Associate Director, Carbon Management

Dan Crowe

Principal Consultant, Scope 3 Emissions

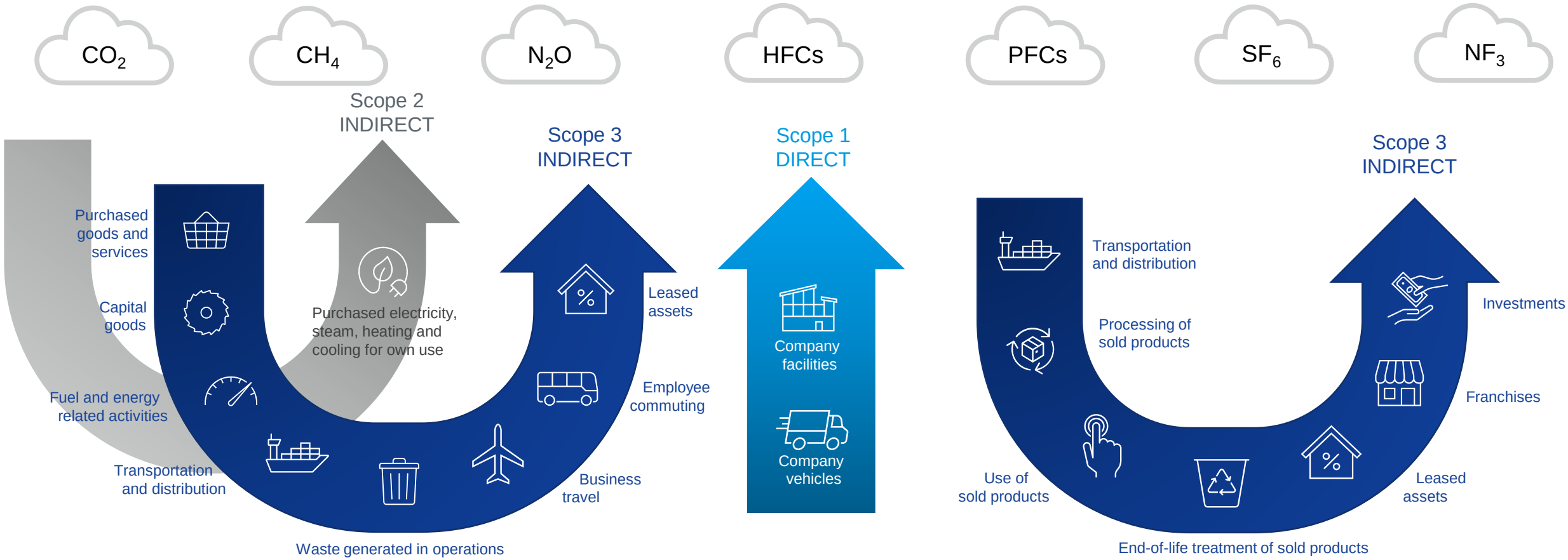
Introduction

CARBON	AGRICULTURE	ENERGY

SUSTAINABILITY	WATER	WASTE & RESOURCE MANAGEMENT

What are Scope 3 emissions?

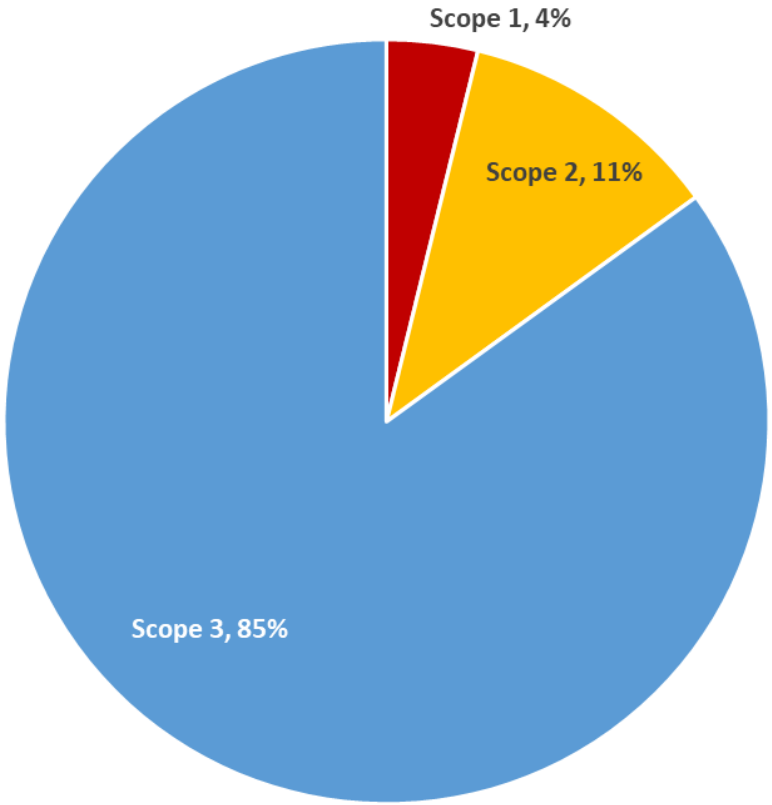
Based on GHG Protocol



Why does Scope 3 matter for the food and drink sector?

- **Size:** Total Scope 3 emissions typically 80%+ of a company's carbon footprint.
- **Food sector specific:** Agriculture & food system ~26% of global GHG emissions* – that is your Scope 3
- **Ability to influence:** Scope 3 will always be someone else's Scope 1 and 2, but you still have influence over it
- **Drivers:** The case to quantify and tackle your Scope 3 emissions continues to grow

Typical corporate emissions breakdown:



Source: CDP

* Our World in Data https://ourworldindata.org/food-ghg-emissions

Why tackle Scope 3?

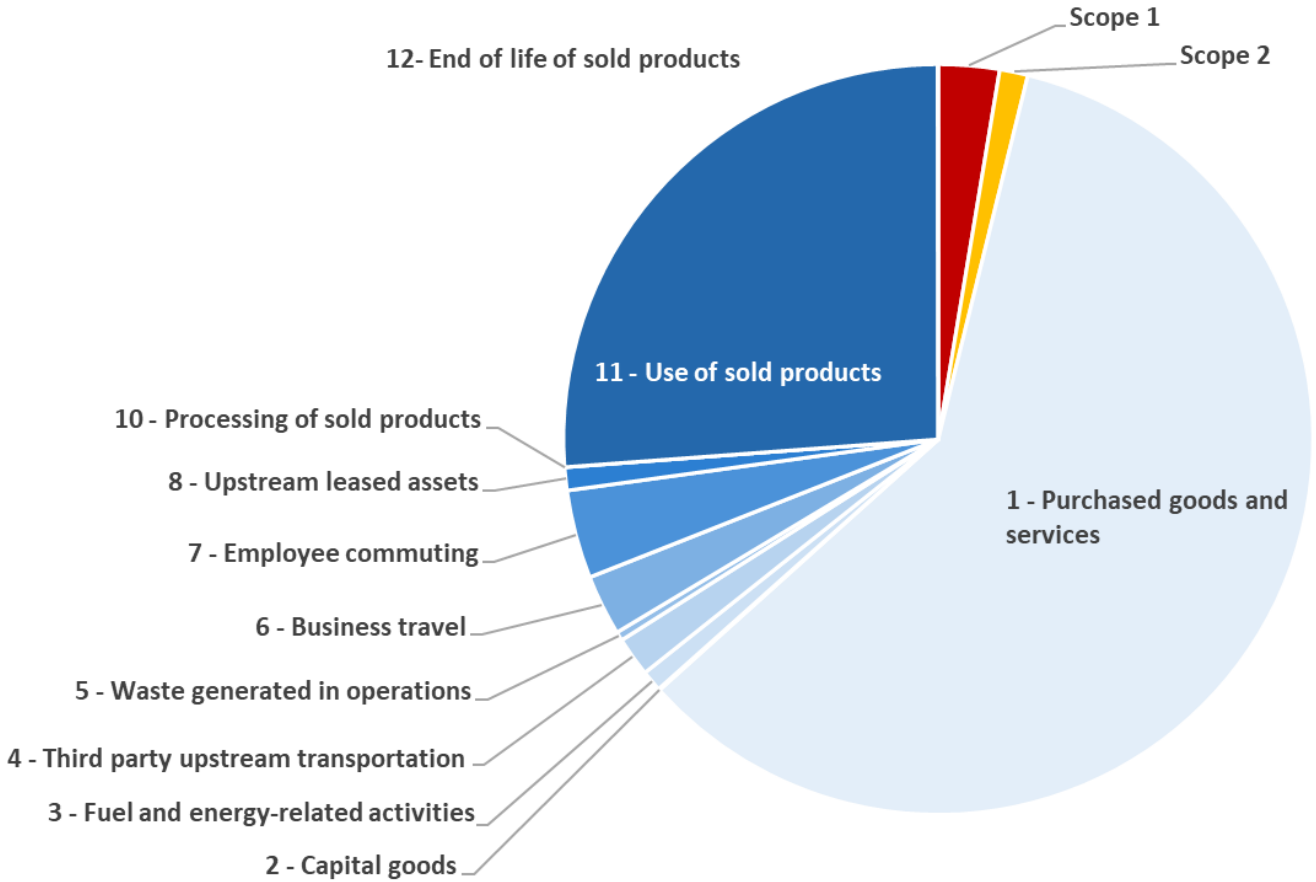
Demonstrate leadership	Reputational benefits, support global Net Zero targets
Risk management	Understand your exposure to carbon intensive stages in supply chain
Innovation	Drive new materials and products & stay competitive
Access to capital	Improve your investment profile & ESG scores
Legislation/regulation changes	Expansion of SECR, Science Based Targets
Supplier and customer engagement	Help suppliers manage costs and support customers to report & cut their own Scope 3

What is challenging about Scope 3 for the food and drink sector?

Data availability	Accurately quantifying emissions from supply chain is complex
Resource and competing priorities	It is a strategic task that may take longer to deliver results than other investments
Complex value chains	Emissions lie throughout the supply chain, over which you may not have control and visibility
Supplier engagement	Stakeholder engagement across external businesses is time consuming to establish

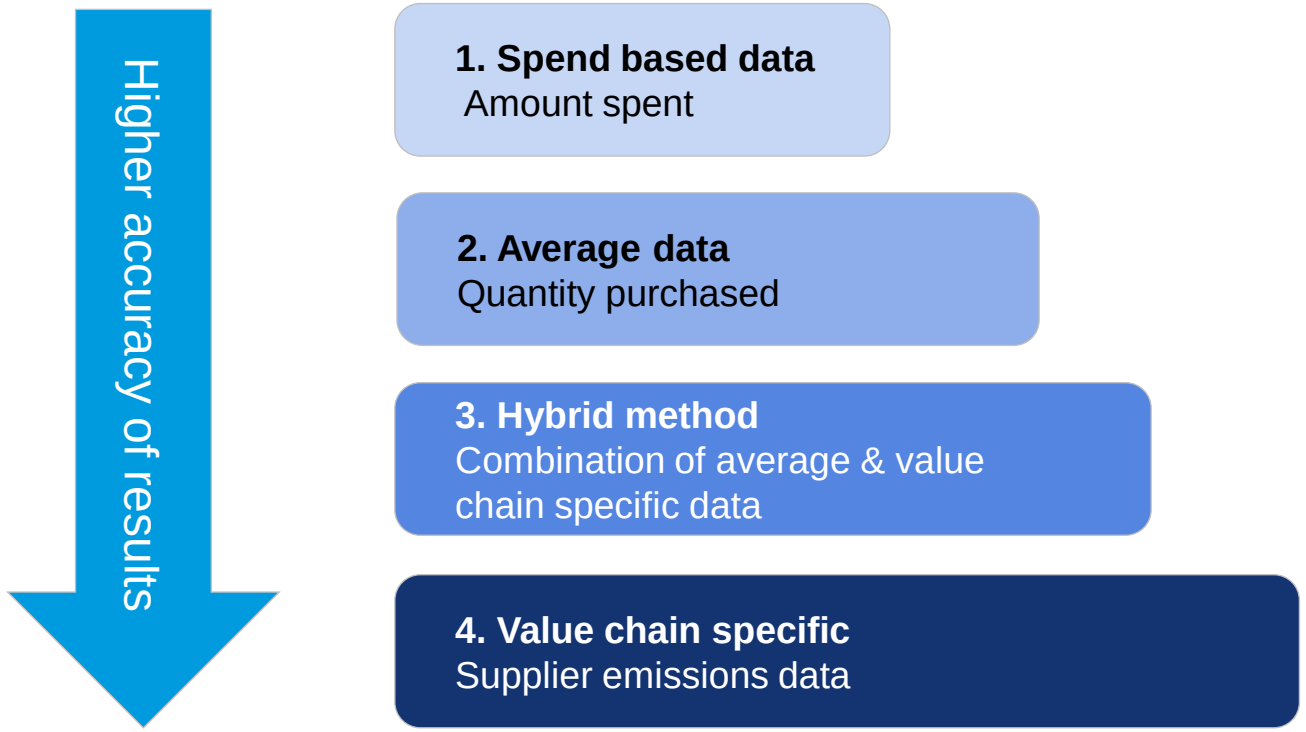
Scope 3 reporting is an ongoing process

- Start with a **Screening Inventory** to confirm which are **applicable** and **quantify them**
- Decide which sources to continue to monitor and mitigate in future
- Consider which emissions sources
  - Are **material t**o your business
  - Are **of interest** to stakeholders
  - Offer emissions and cost **savings potential**



Data is vital but methodology is flexible

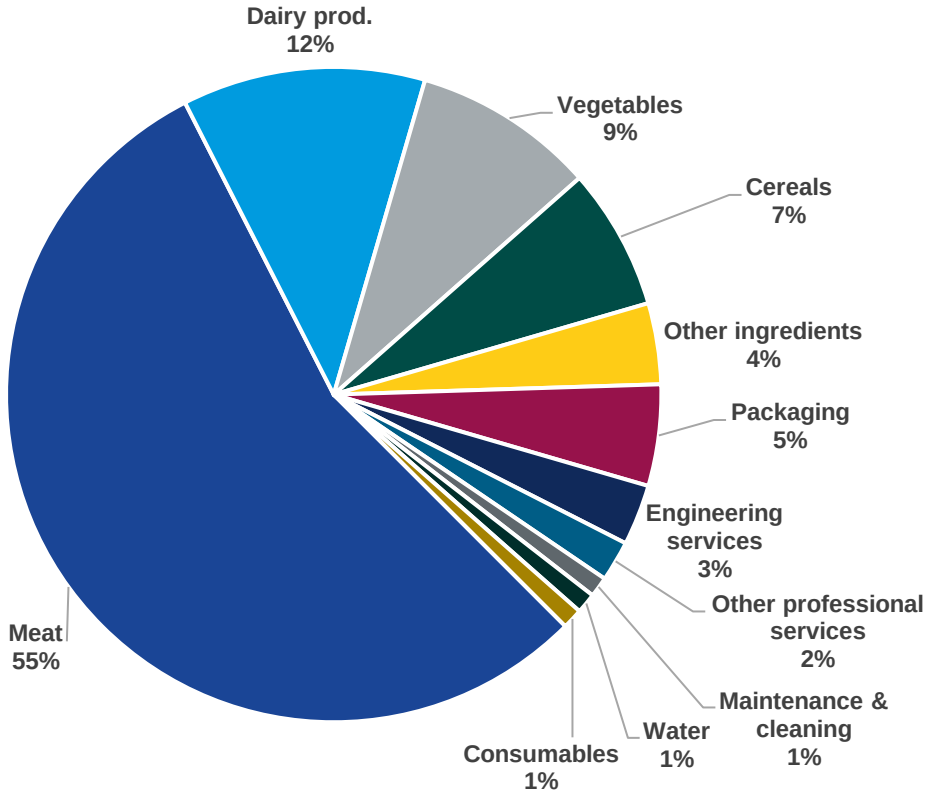
- E.g. For Purchased Goods & Services:



- Utilise Lifecycle Assessments (LCA) where available in your Scope 3 Inventory
- Offer Lifecycle Assessments of your product & your own Scope 1+2 data to customers to support their Scope 3

Purchased goods and services dominates most Scope 3 Inventories

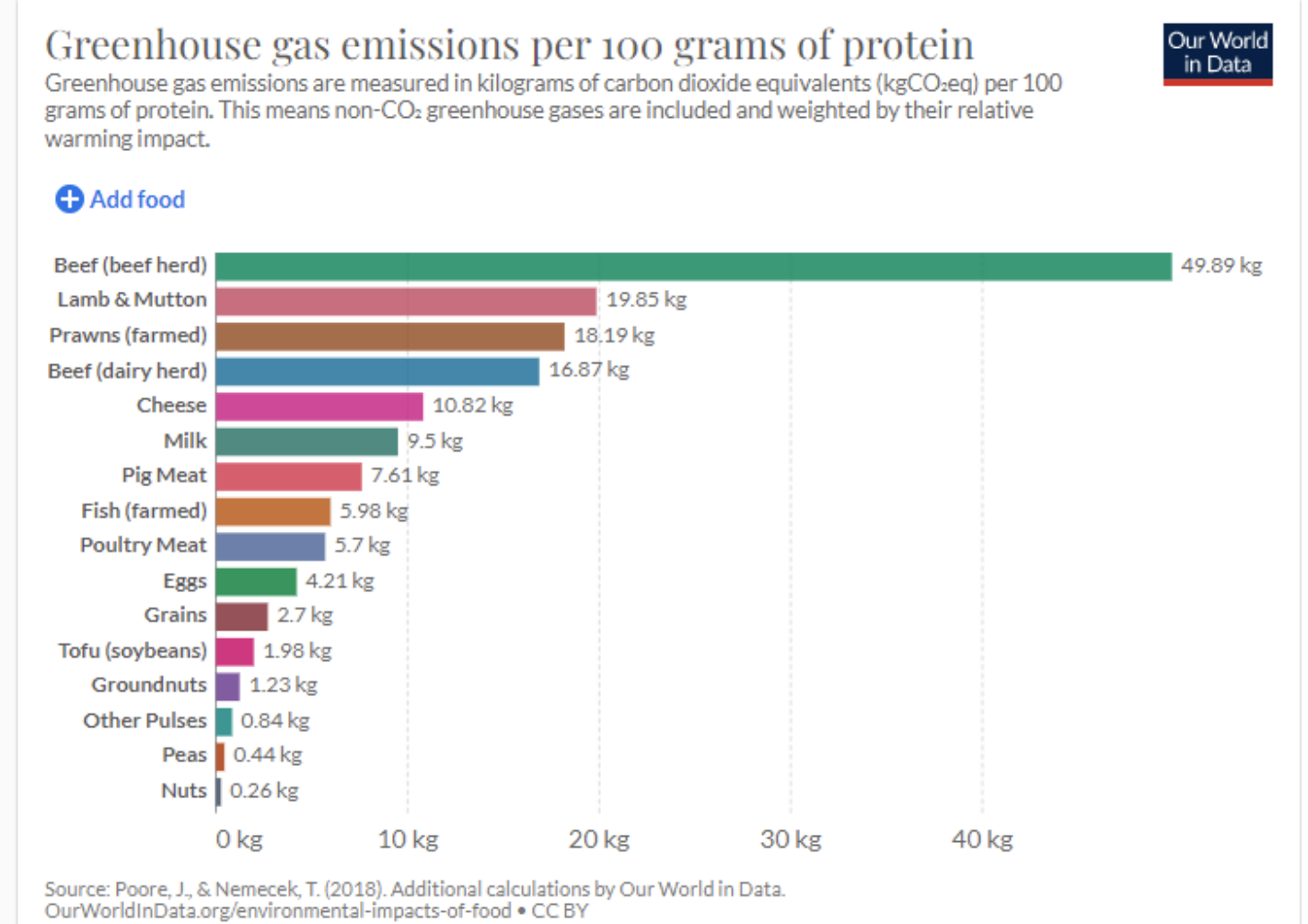
- **Manufacturing inputs are typically the largest** share of purchased goods emissions
- **Indirect spend is often small**
  - But often larger for service-sector business
- **Capital Goods (Cat. 2)** can be substantial during times of plant acquisition and construction
- **Transport, waste and business travel** may be significant but they are reported in separate categories



Purchased Goods & Services emissions breakdown for a typical food manufacturing site *(Source: Ricardo)*

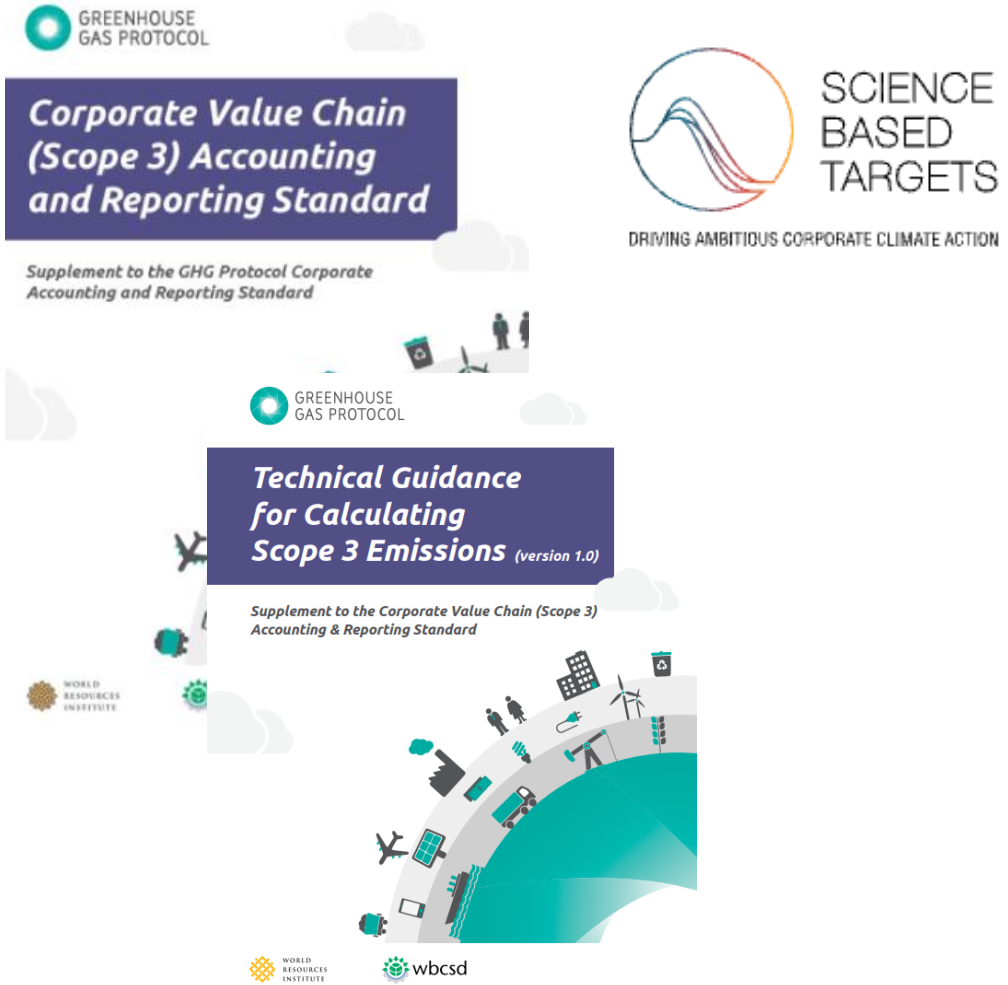
Ingredient carbon intensity is key to the food sector

- Purchased Goods & Services category will include ingredients purchases
- Carbon intensity driven by your ingredient mix
- Red meat and dairy the highest emitters (and land users)
- Expanding offering of poultry and vegan based products a route to Scope 3 reductions



Scope 3 guidelines are available

- Full corporate Scope 3 reporting is still **a relatively new practice**
- Conversion factor databases, software tools and support industry is **rapidly developing**
- **Greenhouse Gas Protocol** the most widely used methodology
  - Framework followed by schemes: CDP, Science Based Targets, GRI, TCFD.
- Scope 3 Inventory essential for **Science Based Targets,** including **Net Zero**



Polls

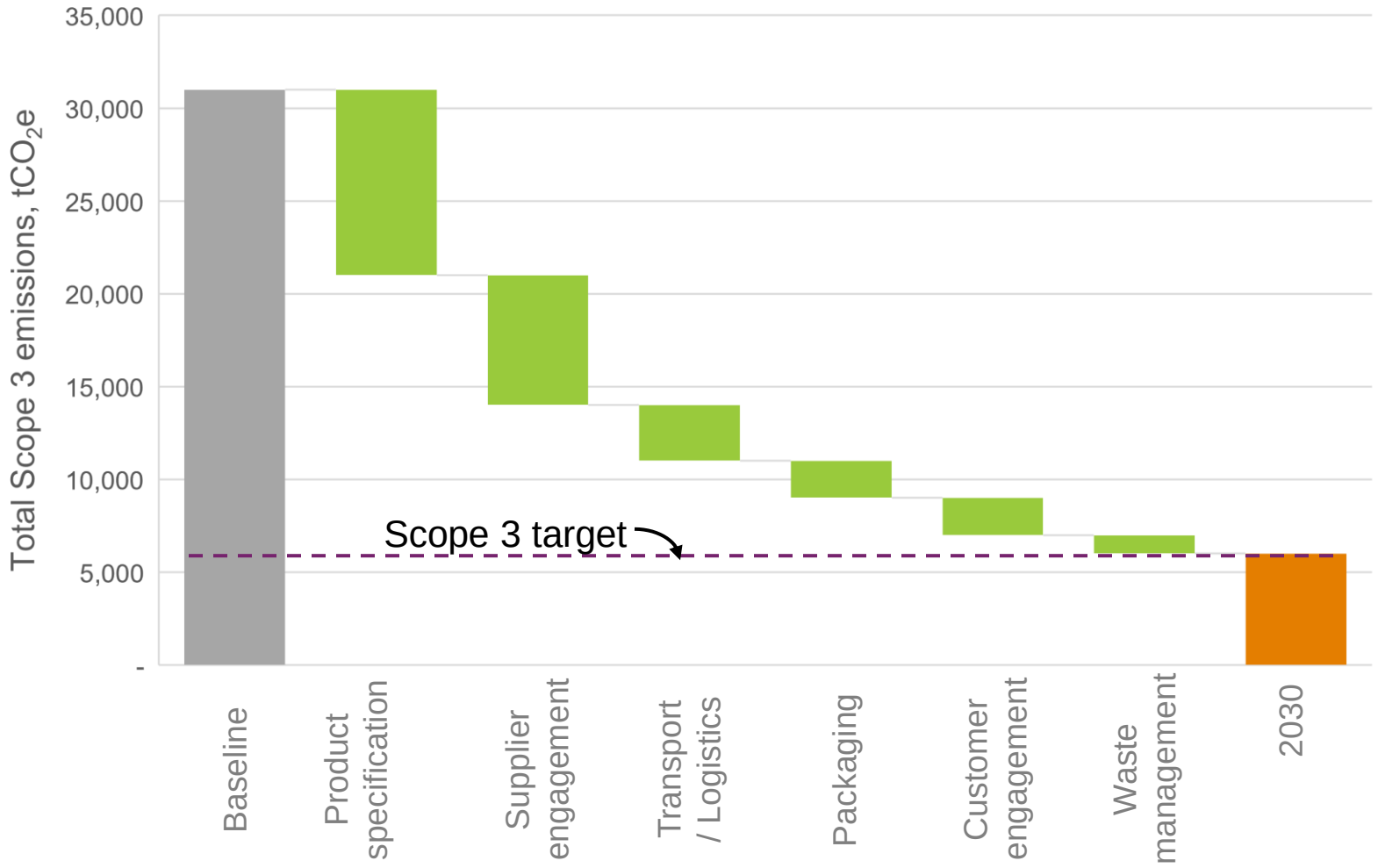
What is your main challenge in Scope 3?

- Understanding what is applicable to my business
- Collecting data
- Setting actionable targets
- Supplier engagement
- I’ve not yet started to address it

What are your drivers for addressing your Scope 3 emissions?

- Customer requirement
- Improve or maintain your ESG profile
- Participate in reporting schemes e.g. CDP
- Cost management in supply chain
- Others

Ways to reduce Scope 3?



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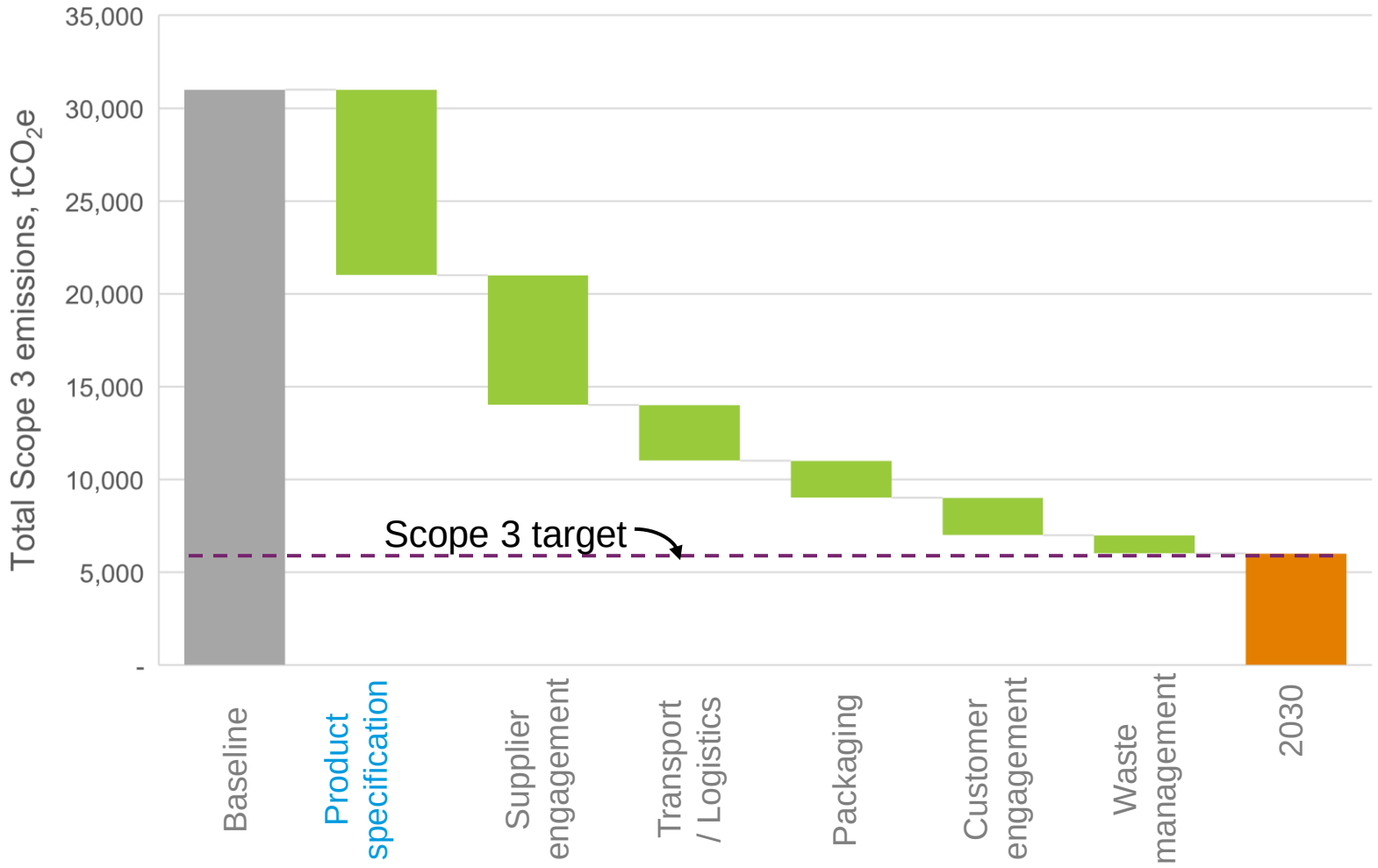
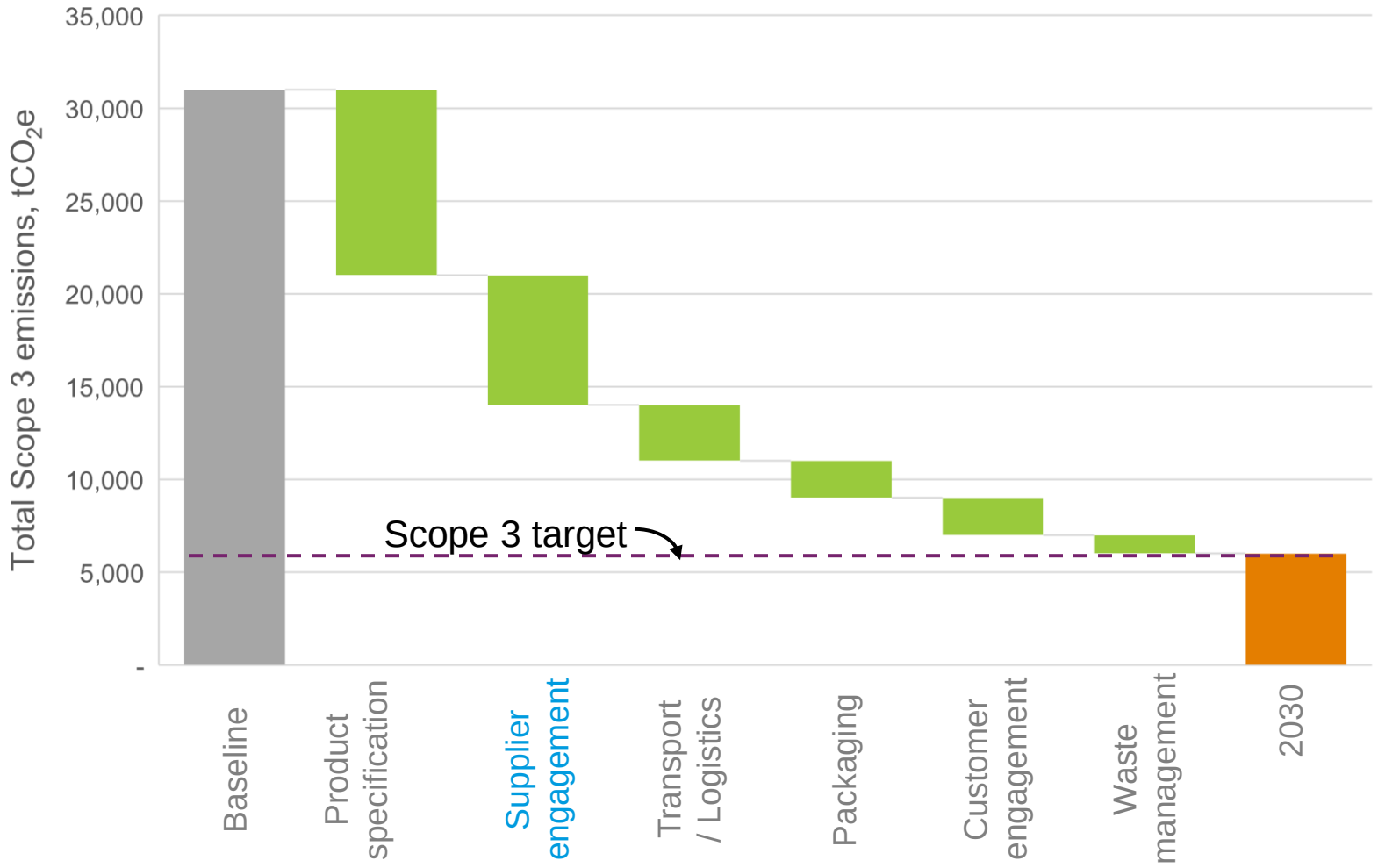


Scope 3 reduction projects / programmes:

- Product development / specification
  - Lower carbon ingredients
  - Less processing requirement
  - Longer life
  - Portion size

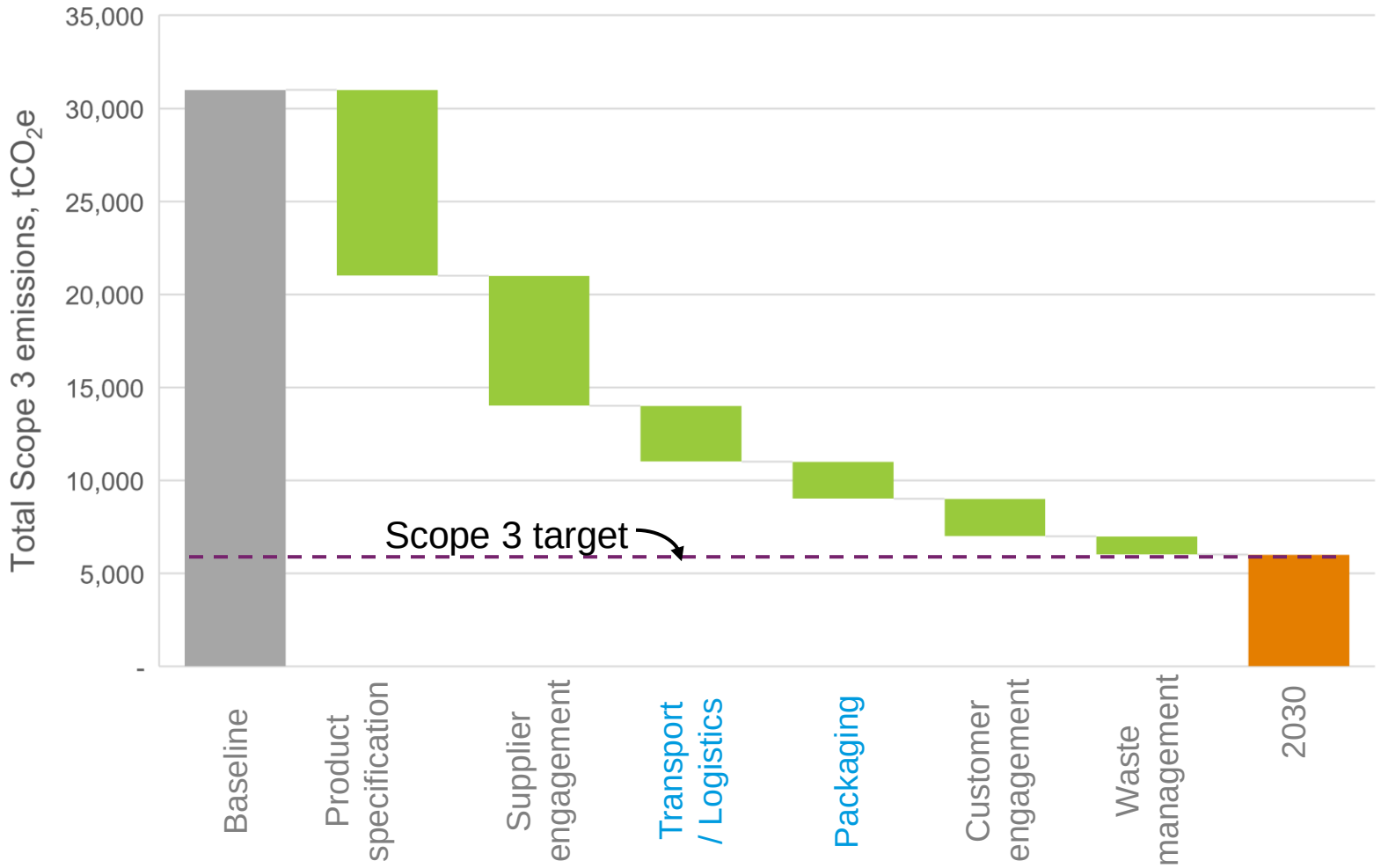
Ways to reduce Scope 3?



Scope 3 reduction projects / programmes:

- Supplier engagement
  - Communicate decarbonisation goals
  - Identify opportunities to collaborate:
    - More efficient processes
    - Zero carbon fuels

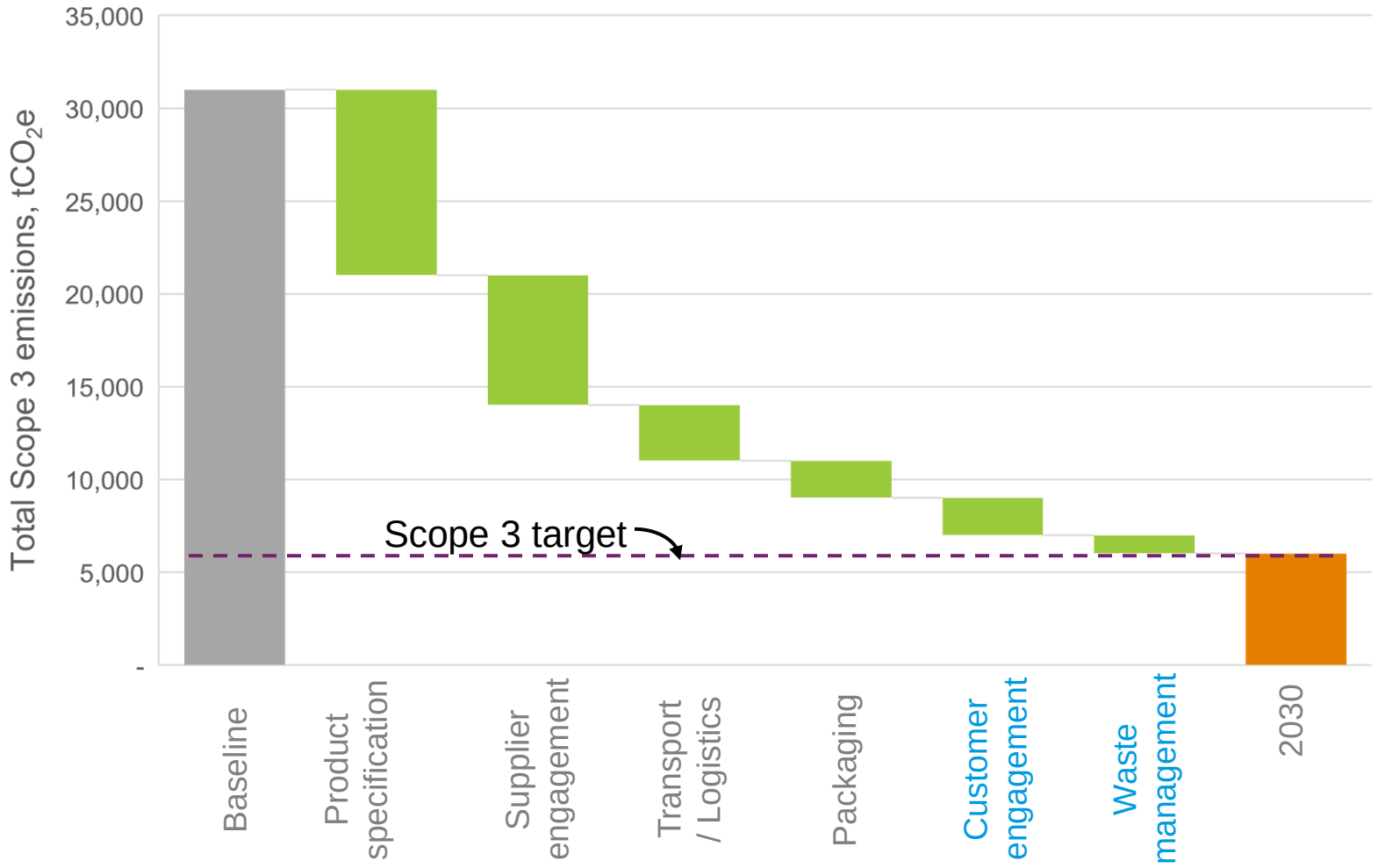
Ways to reduce Scope 3?



Scope 3 reduction projects / programmes:

- Transport & logistics
  - No carbon fuels
  - Optimised delivery routes
  - Back haulage
  - Own business travel
- Packaging
  - Biodegradable materials
  - Lightweight
  - Bulk handling

Ways to reduce Scope 3?



Scope 3 reduction projects / programmes:

- Customer engagement
  - Education
  - Response
- Waste management
  - Longer life
  - Recycling

Case Study: Reducing emissions on farm

Arable farming practices:

- 4 reduction scenarios considered:
  - Altering nitrogen management
  - Expanding uncultivated margins
  - Introducing silvopasture
  - Increasing renewable energy generation
- Circa 60% reduction potential
- *https://www.fwi.co.uk/arable/kelloggs-study-shows-how-arable-farms-can-aim-for-net-zero*

Case Study: Developing Scope 3 Inventory

Alcoholic beverages supplier:

- Environmental reporting and other support
- Carried out Scope 3 survey using expenditure based methodology:
  - >95% of all emissions
  - Purchased goods & services circa 90% of all Scope 3 emissions
  - Considering the products supplied:
    - 20% to product
    - >75% to glass
- Next steps
  - Collate more accurate data
  - LCA assessments
  - Supplier engagement / surveys

Case Study: A Tale of Two Soups

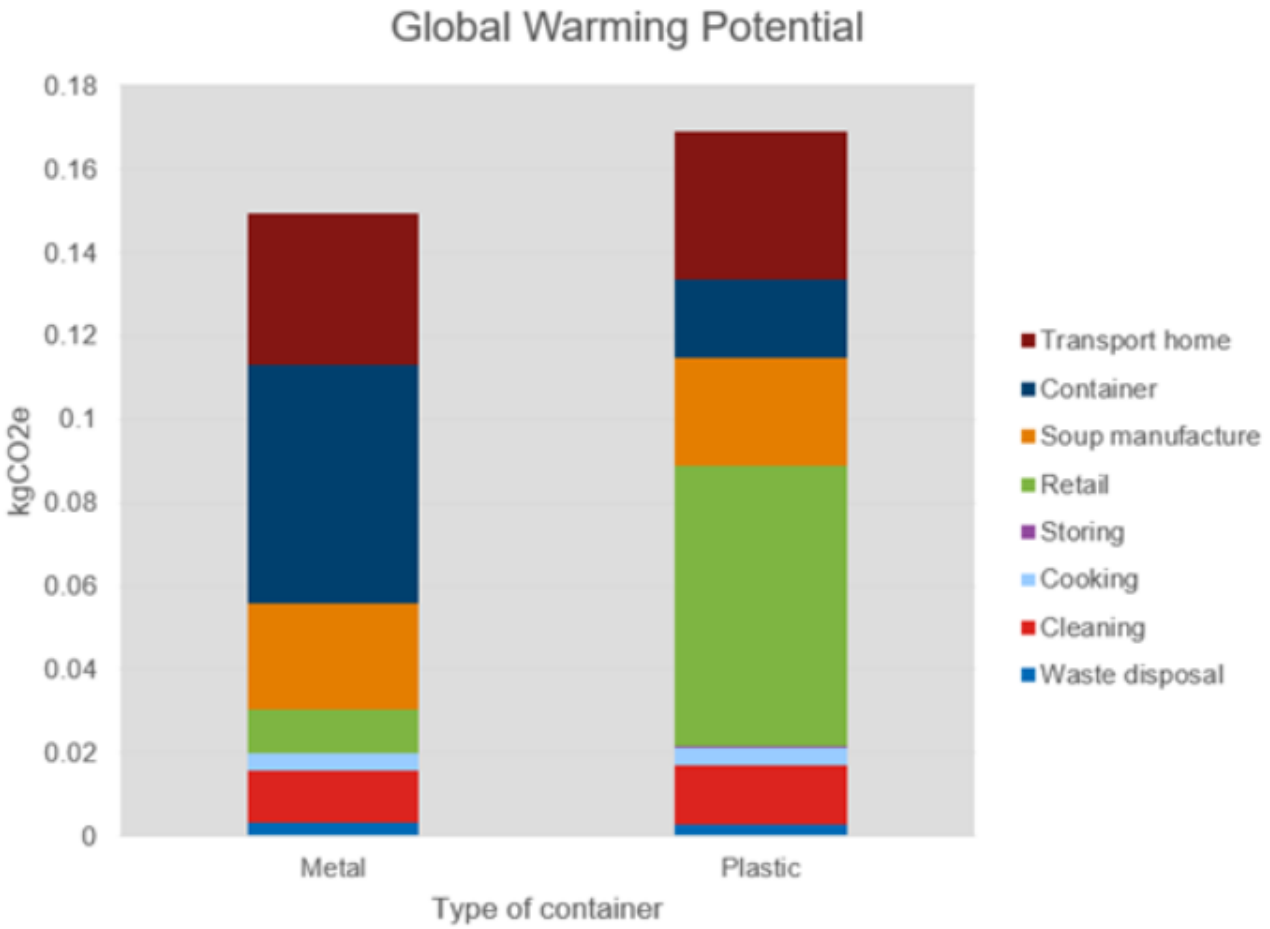
Soup lifecycle assessment (LCA): tinned vs plastic packaging

Environmental impacts survey:

- Producing carrot soup.
- Manufacture of containers.
- Distribution & storage (chilled).
- Consumer transport, storage, heating.
- Disposal of containers.

- *https://ee.ricardo.com/news/a-tale-of-two-soups-%E2%80%93-using-life-cycle-assessment-to-identify-environmental-impact-hotspots*

Case Study: A Tale of Two Soups



Emissions per serving (200g)

Soup lifecycle assessment (LCA): tinned vs plastic packaging

Consider:

- Packaging
- Manufacture
- Refrigeration
- Transport

Savings potential

Based on 1 tonne soup per day (250t pa) and reducing emissions per serving by 0.02kgCO_2e:

Price of carbon: Paying £50 per 1tCO_2e: could save >£3,000pa

Electricity use: Paying £0.15kWh: could save >£16,000pa

Next steps

1
Identify your drivers

- Corporate
- Stakeholders
- Compliance

2
Develop your Scope 3 inventory

- Establish boundaries, determine categories
- Collect data, quantify emissions

3
Evaluate emissions

- Size and significance: **Identify hotspots**
- Consider ability to influence
- Determine priority categories

4
Develop decarbonisation strategy

- Prioritise list of emissions sources
- Set targets & timings
- Develop action plan

How Ricardo can support you

Carbon reporting and strategy

Compliance activities

Implementing energy and carbon projects

management processes, technical improvement, process improvement, decarbonising heat, renewable energy

Product lifecycle assessment

Sustainable packaging

Social Value

Circular economy procurement & reuse

Waste management

Transport decarbonisation

Questions?

Sam Williams
Food and Drink Sector
Business Manager

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Associate Director,
Carbon Management

Dan Crowe
Principal Consultant,
Scope 3 Emissions

Email: enquiry-ee@ricardo.com

Web: https://ee.ricardo.com/fdf