



Co-funded by the
European Union

Manual on implementing innovations aimed at the decarbonisation of the food value chain

About the Manual



This manual provides **information, practical guidelines**, and a **useful** collection of **source materials** on how to go about **measuring, targeting**, and **implementing** decarbonisation measures, with an emphasis on greenhouse gas emission reductions within the value chain of SME food manufacturers from "cradle to gate".

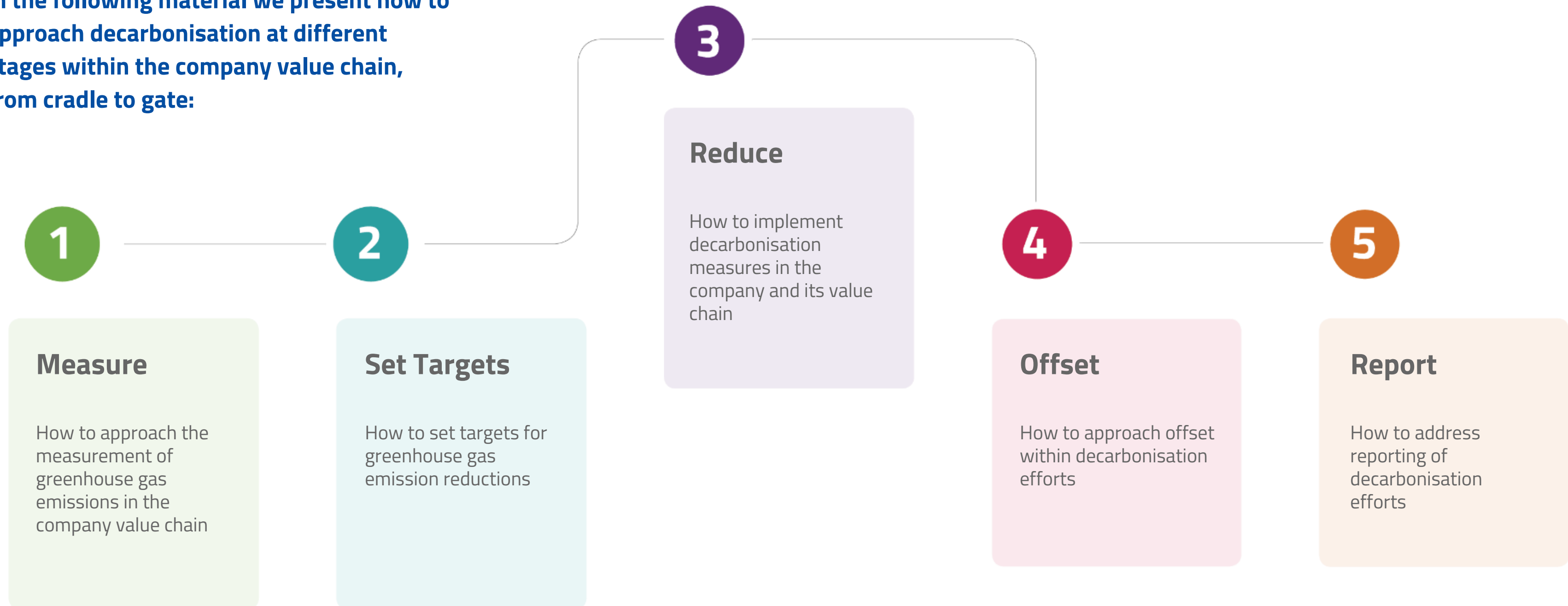
The Introduction covers the topics of regulatory landscape and its implications for SME and draws a timeline of mandatory greenhouse gas emissions reporting for businesses in the EU. Here you will also find **information** about the **importance of the decarbonisation of food chains** and the **benefits** from implementing sustainable development practices.

Overall content 64 pages.



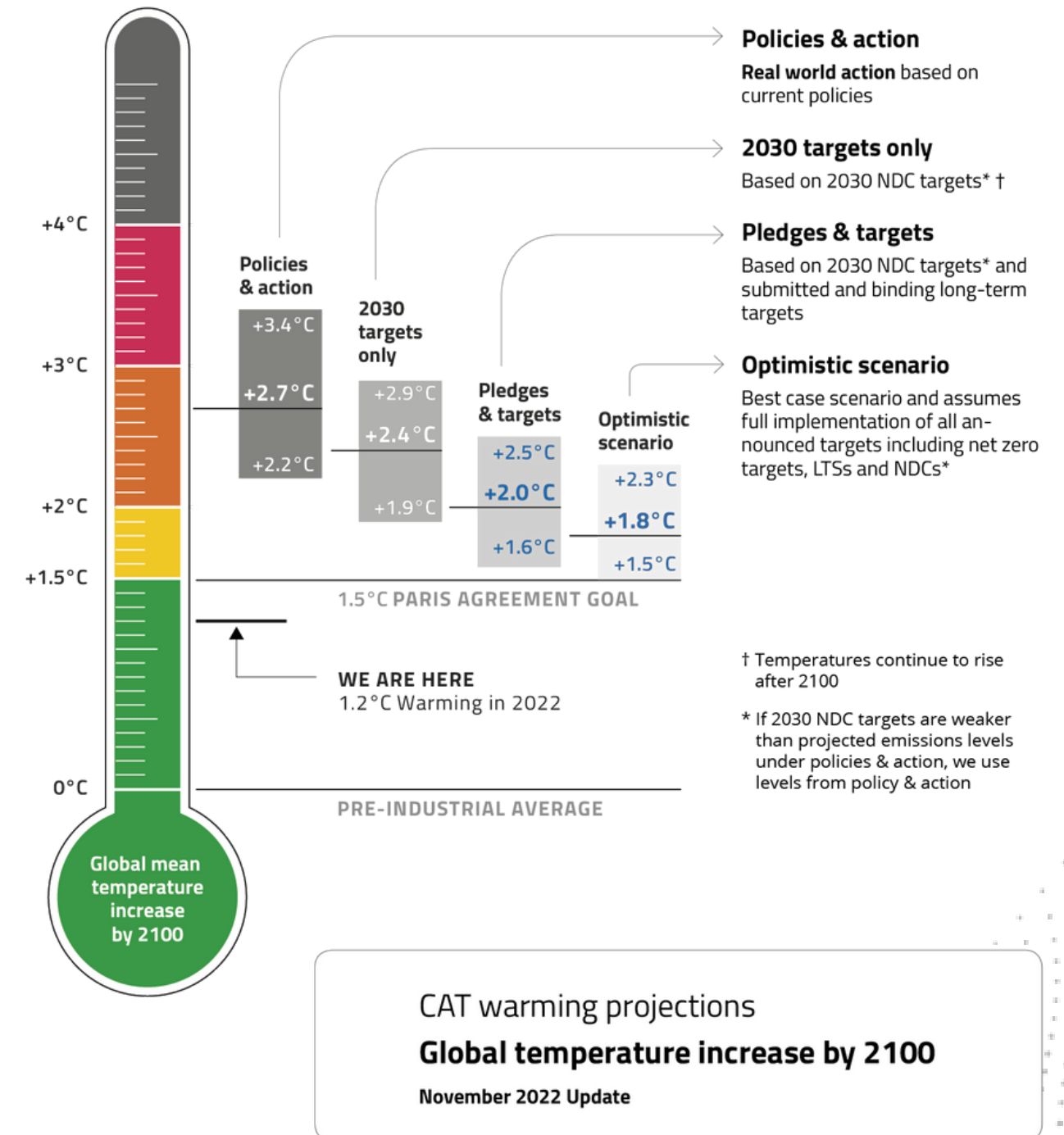
Step by step approach and structure

In the following material we present how to approach decarbonisation at different stages within the company value chain, from cradle to gate:



Excerpt (Introduction)

The Paris Agreement, signed in 2015 by 194 countries and the European Union, set out a global action plan to limit global warming to below 2°C and aim to keep it at 1.5°C. This laid the groundwork for the adoption of the European Green Deal policy, the overarching goal of which is to achieve climate neutrality for Europe by 2050. Despite the deferred reporting obligation for the SME sector, participants of value chains will be and already are affected by the changes. From 2024 onwards, those companies that are obliged to report their carbon footprint are required to report not only their own direct emissions (Scope 1 and 2) but also their indirect emissions (Scope 3). The new dimension of non-financial reporting, oriented toward the entire value chain, is by design to cascade to subcontractors, suppliers and partners of companies that are subjects to the reporting obligation.

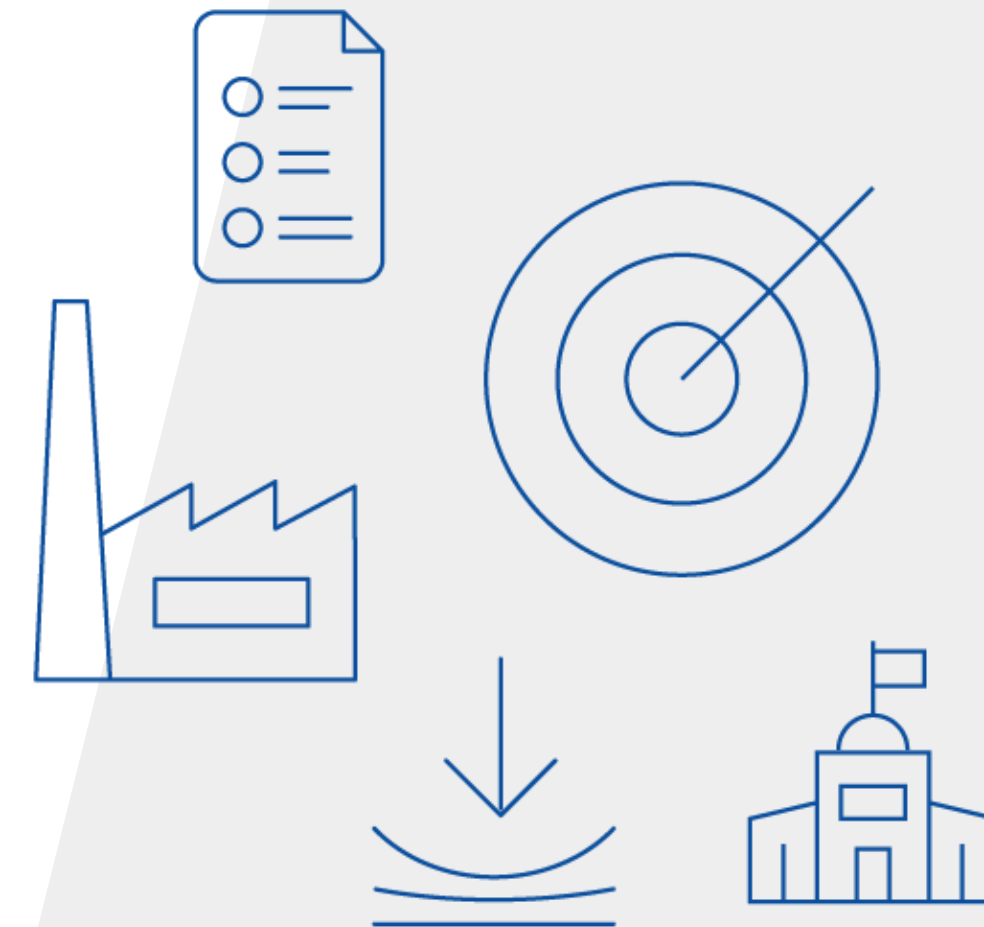


Excerpt (Measuring, Setting Targets)

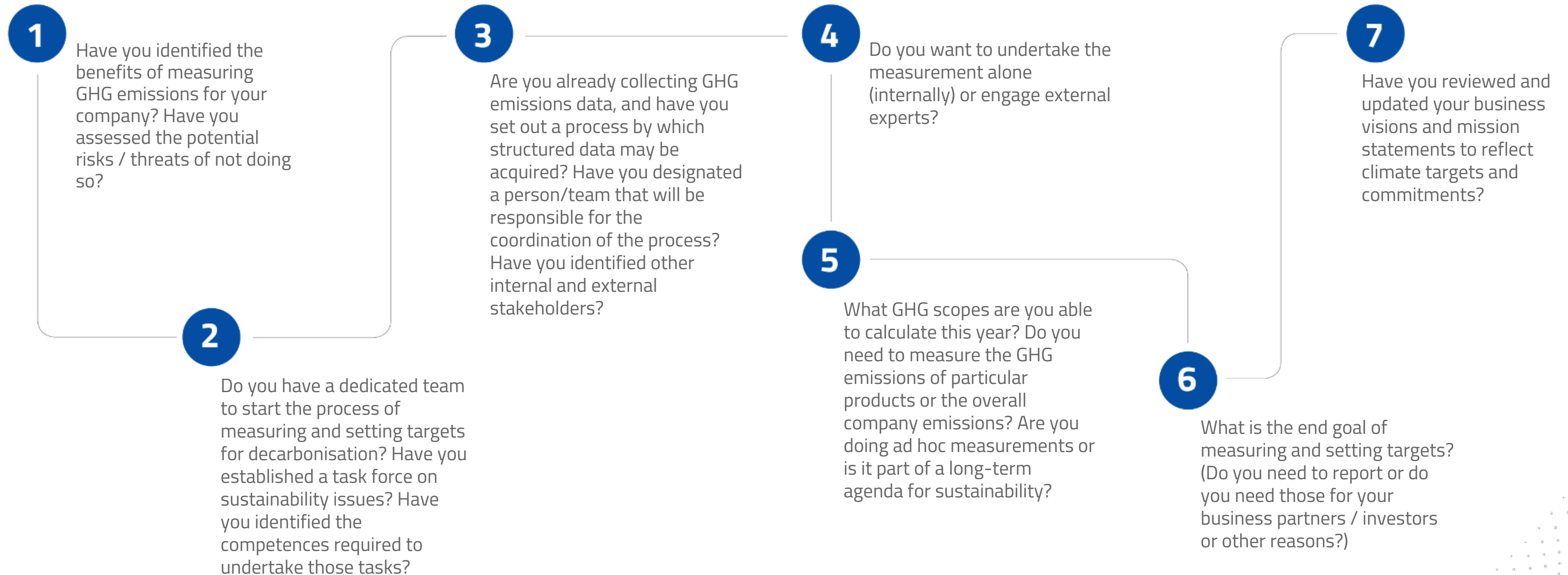
The **Measure** section provides you with information about the measurement process, starting with introductory information on greenhouse gas emissions nomenclature and indicators using the GHG Protocol framework, including scopes (Scope 1, Scope 2, and Scope 3) and the measurement process, right down to the tools that support that stage

Set Targets describes the SBTi framework and its process, taking into account the specifics of the agrifood industry.

Within the section **Reduce** you will find both industry-specific and industry-agnostic areas in which to look for opportunities to undertake decarbonisation actions. For recommendations on changes in **procurement practices**; for emission reduction opportunities regarding Ingredients; **Packaging** issues; **Manufacturing**. For suggestions regarding **Governance of implementation process**.



Excerpt (Measuring, Setting Targets - Strategic Decisions)



Excerpt (Reduce - Tactical Steps)



Main action

- Understand the greenhouse gas emissions of your ingredients
- Procure lower carbon emission ingredients
- Incorporate carbon targets into product reformulations and new product development

How to proceed

- Identify ingredients with high emissions in your supply chain
- Learn about possible sustainability certificates for individual ingredients
- Seek carbon data from your suppliers
- Investigate production methods and open a discussion about agricultural practices that can reduce GHG emissions (and generate carbon credits)
- Encourage suppliers to consider emerging opportunities – farmers as participants of the carbon credits market
- Incorporate green procurement practices regarding ingredient suppliers
- Open discussions with your New Product Development department to understand opportunities and challenges
- Consider introducing carbon targets into NPD workflow

Required competences

- Sustainability Team
- External Consultant
- Sustainability Team
- Procurement
- Suppliers
- Sustainability Team
- New Product Development
- External food experts

Excerpt (Cases from the industry)



Waste heat recovery system

During the exploration of energy savings in their new chicken-processing factory in Jutland, Denmark, the company Danpo installed a heat-recovery system for hot water production. A network was set up with the aim of utilising the surplus heat from the central cooling system for water heating, and a cost-benefit analysis was carried out based on a survey of heat-exchanger prices.



Tackling refrigerant emissions

Unilever is retrofitting or replacing cooling systems with more climate-friendly refrigerants. In many countries where the company operates, corporate policy on refrigerants is significantly more stringent than local regulations.

Unilever is phasing out high-impact refrigerants from its operations, starting with the most harmful hydrochlorofluorocarbons (HCFCs). When replacing these, the company aims to use the greenest version available for the purpose needed.

By the end of 2021, Unilever replaced HCFCs at 29 sites – reducing overall electricity consumption and saving money too.



Powering sites and offices with energy from farmers

Arla and its farmer owners are closing the loop on the renewable electricity produced on farms in a move that reduces the carbon footprint of Arla's milk, secures farmers a better price for their power and gives the dairy cooperative direct access to more green electricity certificates.

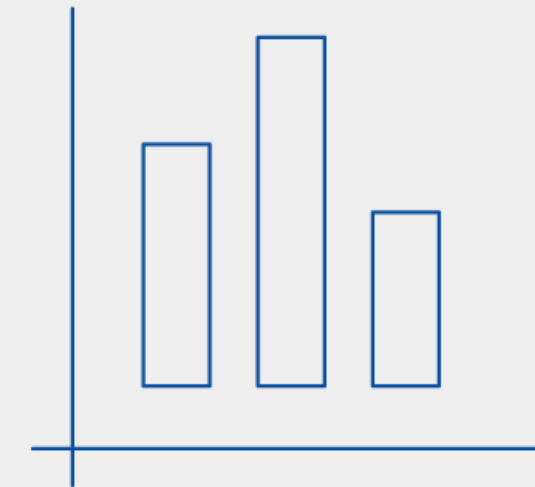
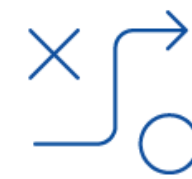
Technically, the loop is created via Guarantees of Origin (GO) that are issued for the renewable electricity produced on the farms. By selling their Guarantees of Origin directly to Arla, the other parties are left out of the transaction, and the farmers are rewarded with the full market value that Arla would pay for GOs on the open market.

Excerpt (Offset)

Offset **explains** the differences between offsetting projects, contains information on how to approach carbon offsetting, and sets out the best practices in terms of selecting high-quality projects to support.

The last section, titled Report, introduces the new European standard for non-financial reporting ESRS and provides additional information about voluntary non-financial reporting schemes. Here, you will also find information on how to approach the reporting process.

It contains information on tactical steps and strategic decisions to help you structure and plan your next steps in this complex endeavour.





Co-funded by the
European Union

Contact us at:

ewa.karolewska@eitfood.eu

Business Creation team @ EIT Food CLC North-East