

# GUIDE TO Measuring Carbon Footprint & Setting Reduction Targets

Carbon disclosure is affecting participants through the entire investment value chain, from asset owners, asset managers to corporate borrowers, all with their own part to play in promoting carbon and climate disclosure. The intensifying regulatory pressures around carbon and climate disclosures is impacting all market participants directly or indirectly. This guide provides a practical summary of how companies can measure their carbon footprint and how to set emissions reduction targets.

## Steps for Measuring Carbon Footprint



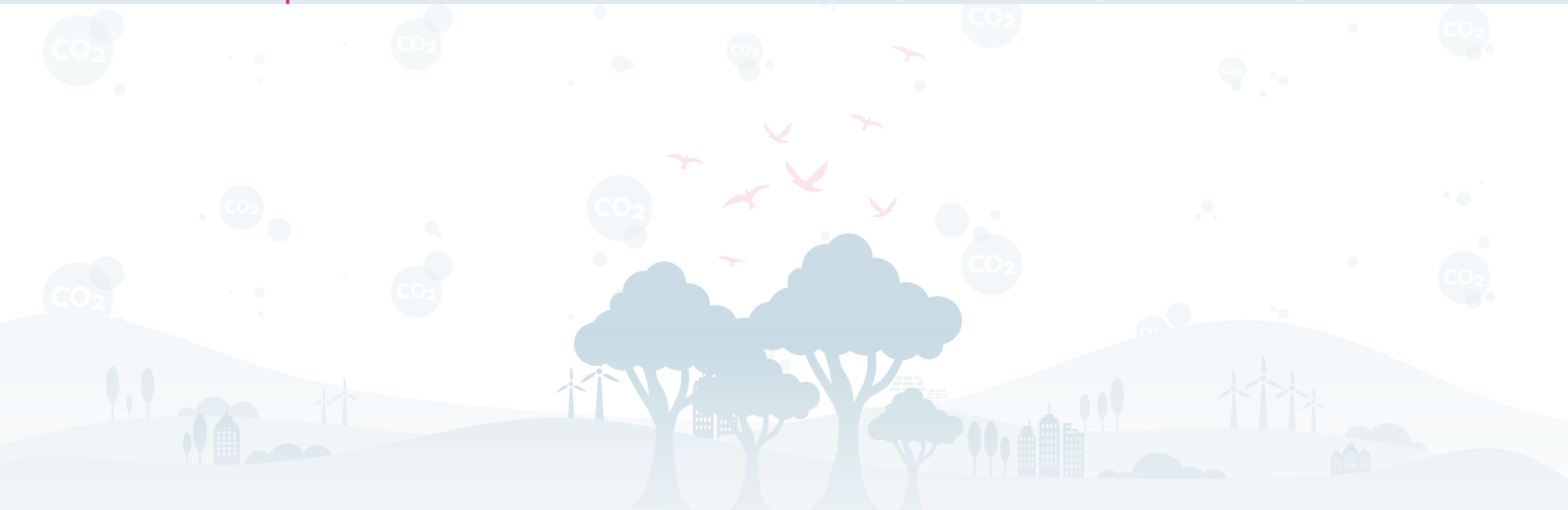
For businesses to better prepare to address climate risks and seize opportunities presented by the energy transition, the first step is to measure their carbon footprint. Through the measurement of GHG emissions a company identifies key points of emissions within its operations (scope 1 & 2) and value chain (scope 3), and this data can be utilized to make strategic decisions in the short term and long term to reduce GHG emissions where it matters most.

This exercise can be done either ***In-house*** (manually), through a ***Software provider***, or through an ***External advisor*** or a combination of these. The level of complexity of your business should be factored into your assessment of which method to choose.

## Selecting A Method To Calculate Emissions

Generally, regardless of method, there will always be some level of internal ownership over emissions measurement, but the degree of involvement and level of intensity varies and may evolve over time. The table presents a relative comparison of each method **though business context is imperative to assess appropriately.**

		Cost	Internal Resource Intensity	Data Accuracy & Auditability
<b>In-House</b>	This approach is the do-it-yourself option and involves manual calculation. There are several paths available if you choose to calculate emissions in-house, including the use of online emissions calculators, publicly available spreadsheets, and/or the creation of in-house tools (e.g., Excel spreadsheets).			
<b>Software</b>	This approach entails the use of software for emissions calculation. There are a range of software providers in the market and tend to generally either be a pureplay/ purpose-built emissions calculation platform or have an emissions calculation function embedded within a wider sustainability platform.			
<b>External Advisors</b>	This approach entails hiring external advisors to measure emissions. There is a range of types of advisors, including audit firms, management consultants, ESG consultants, and specific climate/emissions measurement advisors. Providers may also utilize software solutions.			



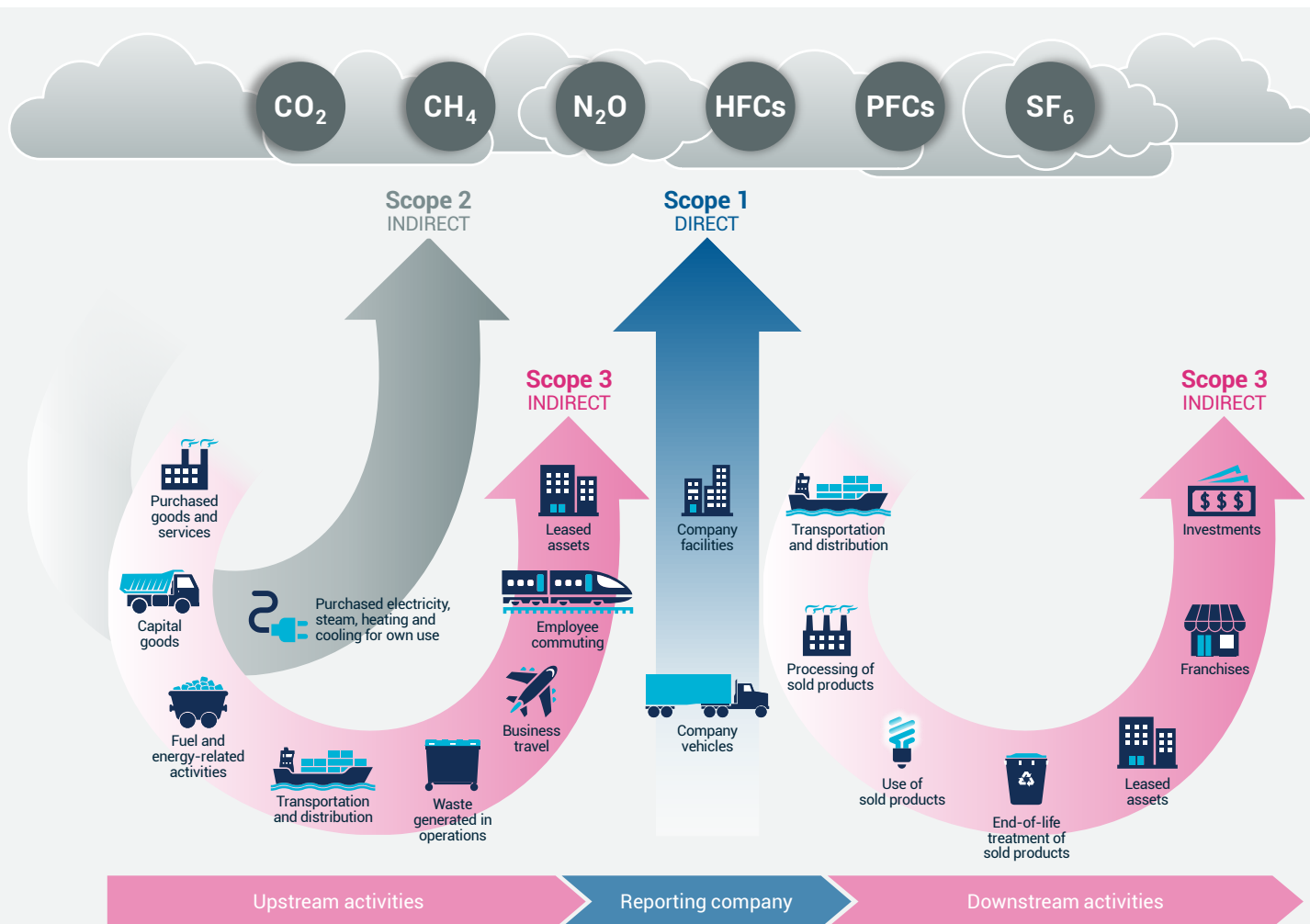
# Greenhouse Gas Protocol

Many standards and methodologies exist for carbon accounting. The most widely used and recognised standard is the Greenhouse Gas Protocol (GHGP).

For structure and clarity to understand one's carbon footprint, The GHGP groups emissions under three scopes. Understanding these categories is essential for accurate measuring of a company's carbon footprint.

- Scope 1:** Direct emissions from owned or controlled sources;
- Scope 2:** Indirect emissions from the generation of purchased electricity, steam, heating, and cooling;
- Scope 3:** All other indirect emissions that occur throughout a company's value chain, which are split into 15 different categories. These include business travel, upstream and downstream transportation and distribution, capital goods, and processing of sold products.

A corporate carbon footprint does not only include carbon dioxide (CO<sub>2</sub>) but the sum of all greenhouse gas emissions that are released as a result of a company's operations.



Corporates should expand coverage to cover all relevant emissions (scope 1, 2 & 3) for all entities in the defined organisational boundary. Corporates should look to improve data quality through moving from estimates to actual primary data over time.

Quantification of a company's carbon footprint is one of the first obstacles to creating a successful climate strategy.

## How To Set Emissions Reduction Targets

Once companies have measured their carbon footprint, they should identify strategies to reduce GHG emissions. This could range from switching to renewable energy, introducing energy efficient measures and on-site generation, engaging with suppliers, or altering operating models.

Once done, look to set emissions reduction targets to signal to stakeholders the level of ambition and direction of travel. Targets can cover certain sites or geographies, focus on a single emissions source, or relate to energy efficiency improvement or increase of renewable energy consumption.

When setting targets, it is important to make sure they are realistic, but also have a tangible impact on your company's carbon footprint. For this, it's good to follow the **SMART** framework:



Targets should be **clear** and **well-defined**, and they **must always** be based on accurate and transparent emissions reporting. For reporting purposes, targets need to be tied to a base year and have a clearly defined deadline.

## What Is A Science-based Target?

Targets are considered science-based if they align with what the latest climate science says is necessary to meet the goals of the Paris Agreement: to limit global warming to well below 2°C above pre-industrial levels and pursue efforts to limit warming to 1.5°C. To reach Net Zero emissions by no later than 2050, we need to see emissions reductions on a massive scale in the near-term aligned to 1.5°C, and a 90%\* reduction in the long-term.

Leading this area globally is the Science Based Targets initiative (SBTi), a partnership of organisations that supports companies to set targets using different methodologies, and then validates those targets.

Science-based targets (SBT) have become the globally accepted standard for companies setting carbon reduction targets in both the near- and long-term.

**Targets help build your brand reputation, drive ambitious climate action and offer greater engagement.**

\* Sectoral Decarbonisation Approach (SDA) pathways may vary.

## Five Key Components To Setting a Science-Based Target:

### 1. Boundary

Your SBT should include at least company-wide Scope 1 and Scope 2 GHG emissions

### 3. Timeline

Your SBT goal period should be between 5-15 years from your baseline. Keep in mind, currently SBTi considers your "start" period to be the year you submit your SBT to them for review, and since submissions can take up to a year to be formally approved, a five-year target would only have four years to report and achieve the target

### 5. Level of Ambition

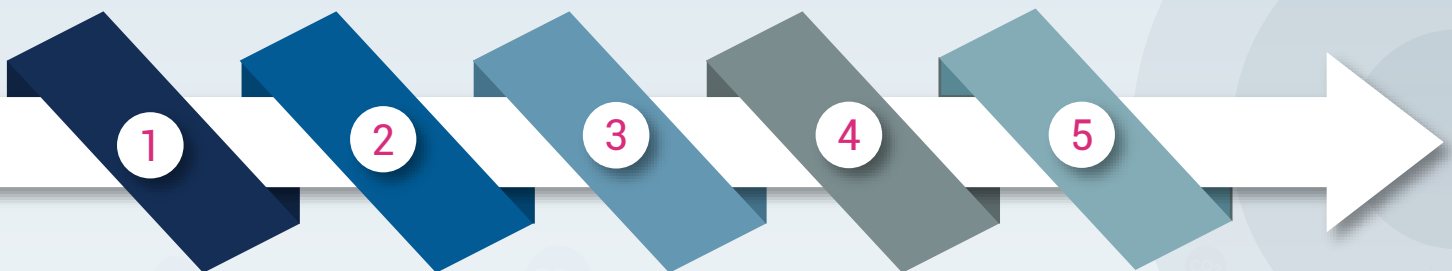
At a minimum, your target must be consistent with the economic pathway to 2°C mean global warming by 2050 (but ideally 1.5°C)

### 2. Scope 3 Screening

If Scope 3 emissions cover a significant portion of your organization's emissions (i.e., greater than 40% of total aggregate Scope 1-2-3), your company should also set an ambitious, measurable Scope 3 target

### 4. Reporting

Your company must report annually on its SBT progress



## Absolute vs Intensity Targets

**Absolute Targets:** are required by most reporting standards. An absolute target is a target that aims to reduce the total amount of emissions from your company.

**An example of a well-set absolute target is:**

- Reduce your scope 1 and 2 emissions by 50%
- Reduce scope 3 emissions by 30% by 2030 compared to the base year of 2019

**Intensity Targets:** are set relative to productivity or economic output, such as annual revenue, or number of products sold. Intensity targets stimulate businesses to improve efficiency and reduce greenhouse gas emissions on a relative basis.

**Example of a well-set intensity target are:**

- To reduce emissions per £m revenue by 30% by 2030 from a 2019 base year;

However, only reducing along intensity targets can allow for increases in the company's total emissions due to growth in business operations. Therefore, intensity targets are not allowed in most reporting standards, or by the SBTi, unless they lead to absolute emission reductions.

## Net-Zero Targets

Under UK & EU law, the ultimate goal of setting targets and reducing emissions is reaching net-zero emissions by 2050. For this, the SBTi has launched a new Net-Zero Standard. It aims to help companies set both short- and long-term targets that align with science and the sector-specific requirements to reach net-zero by 2050.

### Key Components Of The Corporate Net-Zero Standard:

#### Near-Term Targets (Short- & Medium-Term)



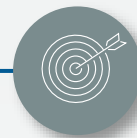
Rapid, deep cuts to direct and indirect value-chain emissions must be the overarching priority for companies. Companies must set near-term science-based targets to roughly halve emission before 2030. This is the most effective, scientifically-sound way of limiting global temperature rise to 1.5°C.

#### Long-Term Targets



Companies must set long-term science-based targets. Companies must cut all possible - usually more than 90% - of emissions before 2050.

#### Neutralise Residual Emissions



After a company has achieved its long-term target and cut emissions by more than 90%, it must use permanent carbon removal and storage to counterbalance the final 10% or more of residual emissions that cannot be eliminated. A company is only considered to have reached net-zero when it has achieved its long-term science-based target and neutralised any residual emissions.

# How to Set Science-Based Emissions Targets at Your Organization

To summarise, if your company's considering setting science-based sustainability targets, we recommend following these steps:

-  **1** Measure Your Emissions Baseline
-  **2** Evaluate the Feasibility of your SBT among Key Internal Stakeholders
-  **3** Make a Formal Science-Based Target Commitment
-  **4** Target Announcement Communications
-  **5** Complete your Decarbonization Work and Track Progress



## Definitions Glossary

### GHG Emissions

**Climate Change:** The overarching term used to describe the long-term shift in global climates associated with an increase in average global temperatures. These changes can include increased rainfall, increased desertification, more extreme temperature variations or higher frequency extreme weather events.

**Green House Gas (GHG):** Is a gas that absorbs and emits radiant energy at thermal infrared wavelengths, causing the greenhouse effect. The primary greenhouse gases in Earth's atmosphere are water vapor (H<sub>2</sub>O), carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and ozone (O<sub>3</sub>).

**tCO<sub>2</sub>e:** Refers to tonnes of carbon dioxide (CO<sub>2</sub>) equivalent. There are a number of greenhouse gases which warm the earth with different intensity levels. Rather than providing metrics for each gas they are converted into tCO<sub>2</sub>e for reporting.

**Net Zero:** Is an ideal state where the amount of greenhouse gases (GHGs) released into the earth's atmosphere is balanced by the amount of GHGs removed. Decarbonization efforts are needed to reach net zero.

**Scope 1 Emissions:** Are the direct emissions associated with the business operations e.g. a utility company's emissions from combusting fuel.

**Scope 2 Emissions:** Are the indirect emissions associated with the business' heating/power requirements e.g. a software company's emissions from buying electricity.

**Scope 3 Emissions:** Emissions from: purchased goods and services; business travel; employee commuting; waste disposal; use of sold products; transportation and distribution (up and downstream); investments; leased assets; and franchises.

### GHG Emissions Intensity Metrics

**Financed Carbon Emissions (FCE):** Represent the total financed greenhouse gas (GHG) emissions associated with the fund. The larger the number, the more it is contributing to the effects of climate change. The FCE is directly related to the size of the fund and therefore it is difficult to use to compare across funds.

**Carbon Footprint:** Refers to financed carbon emissions divided by the fund's market value, expressed in tCO<sub>2</sub>e/£m invested. The larger the number, the more it is contributing to the effects of climate change. Carbon footprint can be used to compare across different funds.

**Carbon Intensity:** Refers to volume of carbon emissions per million pounds of sales (carbon efficiency of a corporate), expressed in tCO<sub>2</sub>e / £M sales.

**Weighted Average Carbon Intensity:** Is the fund's exposure to carbon-intensive issuers, expressed in tCO<sub>2</sub>e/£m sales. The larger the number, the more carbon intensive the investments currently are. WACI allows comparison across different funds.

### TCFD Scenario Analysis

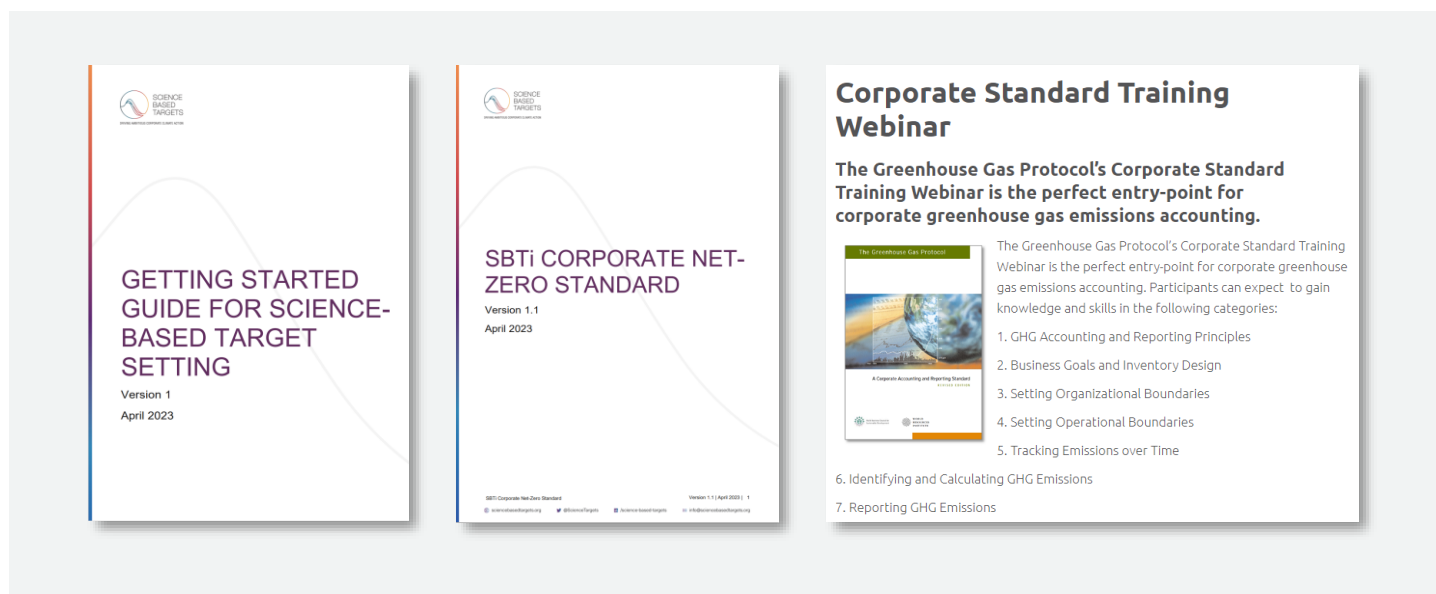
**Scenario Analysis:** The financial impact of climate change on a fund's assets is assessed based on a range of scenarios that have been assessed using a climate scenario model.

**Climate Value At Risk (CVAR):** Is designed to provide a forward-looking and return-based valuation assessment to measure climate related risks and opportunities in an investment portfolio. Climate VaR is typically calculated using a combination of historical data, modelling techniques, and scenario analysis.

**Implied Temperature Rise (ITR):** This estimates the global temperature increase contribution from a fund's current greenhouse gas emissions trajectory. It is a simplified tool to assess alignment of business strategies with climate goals like the Paris Agreement target.



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## Sources

1. <https://ghgprotocol.org/>
2. <https://sciencebasedtargets.org/>
3. <https://www.fsb-tcf.org/>
4. <https://www.ifrs.org/sustainability/tcf/>

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