

## 6.1

# EMISSIONS ACCOUNTING

## Introduction to emissions accounting

### Important notice

This unit is part of a package of learning materials designed to support understanding of foundational concepts relating to climate-related financial disclosures. These learning materials do not constitute application or regulatory guidance for the preparation of climate-related financial disclosures and are not intended to represent legal or professional advice. We encourage you to seek your own professional advice to find out how the *Corporations Act 2001* (Corporations Act) and other relevant laws may apply to you and your circumstances, as it is your responsibility to determine your obligations and comply with them.



### Key topics

- › Greenhouse gas emissions accounting and reporting principles
- › Inventory boundary, organisational and operational boundaries

## Relevance for climate-related disclosures

Understanding fundamental concepts on Scope 1, 2 and 3 greenhouse gas emissions may support you in identifying and understanding your emissions as part of your climate-related financial disclosures.

In this unit, you will learn foundational concepts related to greenhouse gas emissions, emissions accounting and reporting principles, and greenhouse gas inventory boundaries.

## Overview

Greenhouse gas emissions are categorised as Scope 1, Scope 2 or Scope 3 emissions.

Scope 1 greenhouse gas emissions are emissions from sources that are controlled or owned by the entity (covered in Unit 2 of this Module). Scope 2 greenhouse gas emissions are indirect greenhouse gas emissions that come from the generation of an entity's purchased or acquired electricity, steam, heating or cooling (covered in Unit 3 of this Module). Scope 3 greenhouse gas emissions are indirect greenhouse gas emissions (not included in Scope 2 greenhouse gas emissions) that occur in the value chain of an entity, including both upstream and downstream emissions (covered in Unit 4 of this Module).

To begin understanding your entity's greenhouse gas emissions, you may find it useful to familiarise yourself with the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004) (GHG Protocol Corporate Standard). Depending on the specific circumstances of your entity, you may also consider an alternative method for calculating emissions, such as the methods under the National Greenhouse and Energy Reporting (NGER) Scheme.

The GHG Protocol Corporate Standard is based on five key principles: (1) relevance, (2) completeness, (3) consistency, (4) transparency, and (5) accuracy.

The process for measuring your entity's greenhouse gas emissions begins with setting the inventory boundary (sometimes referred to as the emissions reporting boundary). The inventory boundary aims to give a true and fair representation of your entity's greenhouse gas emissions by following the five key



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principles. Determining the inventory boundary involves: (1) setting the organisational boundary; and (2) setting the operational boundary.

Once you have set your inventory boundary, you can begin measuring your entity's Scope 1, 2 and 3 emissions. This is covered in Module 6 Unit 2 (Scope 1), Unit 3 (Scope 2) and Unit 4 (Scope 3).

## Emissions accounting and reporting principles

Emissions accounting, also referred to as GHG accounting, is the process of measuring and reporting your entity's greenhouse gas emissions. (You will find an introduction to the seven reportable greenhouse gases in Module 2). Quantifying emissions serves as a basis for understanding your entity's emissions profile and can be used to help you understand potential climate-related risks and opportunities.

The GHG Protocol Corporate Standard<sup>1</sup> is the most widely adopted international standard for emissions accounting and sets out the principles, methodology and reporting framework that entities can apply to help ensure consistency, transparency, and comparability in emissions reporting.

Underlying accurate and consistent accounting and reporting, the GHG Protocol Corporate Standard sets out five key principles:

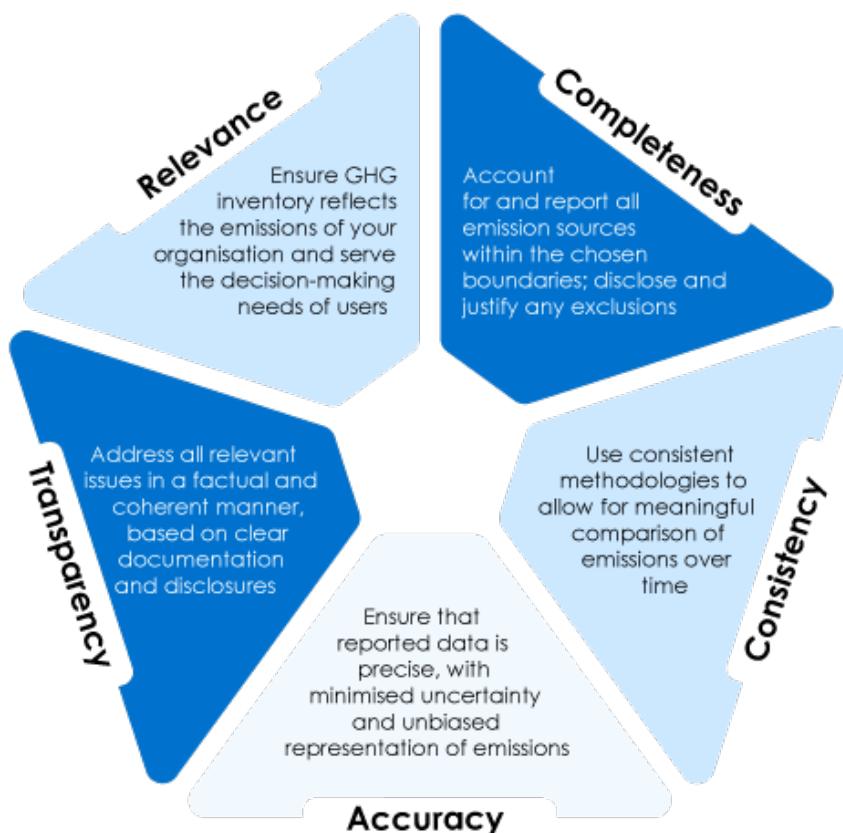


Figure 1: GHG Protocol Corporate Standard accounting and reporting principles

## Inventory boundary

Before you begin measuring your entity's greenhouse gas emissions, you need to set a clear inventory boundary (sometimes also referred to as the emissions reporting boundary). Your inventory boundary determines what greenhouse gas emissions will be included in your calculations (that is, your emissions



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inventory). Determining the inventory boundary involves setting the organisational boundary and setting the operational boundary.

## Organisational boundary

The first step is to define the organisational boundary by identifying parts of your entity (or group of entities) that will be included in calculating and reporting emissions. Organisational boundary setting involves more than just considering legal ownership of underlying entities; it also requires the consideration of how your entity controls or shares financial interests in operations.

Organisational boundaries are defined in the GHG Protocol Corporate Standard as the 'boundaries that determine the operations owned or controlled by the reporting company, depending on the consolidation approach taken (equity or control approach)'<sup>2</sup>.

There are two main approaches to defining the organisational boundary:

1. Equity share: Your entity accounts for emissions proportional to its equity share, or economic interest, in an entity (for example, if your entity owns 30% of Entity X, your entity reports 30% of Entity X's emissions).
2. Control: Your entity accounts for 100% of the emissions from the operations it controls on the basis of operational control (i.e. the ability to direct day-to-day activities) or financial control (i.e. the ability to direct financing and operating policies). Your entity accounts for 0% of the emissions from operations it does not control.

## Operational boundary

Once the organisational boundary has been determined, the entity can define its operational boundary.

Operational boundaries are defined in the GHG Protocol Corporate Standard as the 'boundaries that determine the direct and indirect emissions associated with operations owned or controlled by the reporting company. This assessment allows a company to establish which operations and sources cause direct and indirect emissions, and to decide which indirect emissions to include that are a consequence of its operations'.<sup>3</sup>

Defining an operational boundary involves identifying direct emissions (Scope 1) and indirect emissions (Scopes 2 and 3) and choosing the scope of accounting and reporting for indirect emissions. The categorisation of emissions as direct or indirect depends on your entity's organisational boundary. Figure 2 below provides an overview of the GHG Protocol Corporate Standard Scopes and emissions across the value chain. Table 1 provides example sources and definitions of Scope 1, 2 and 3 emissions.



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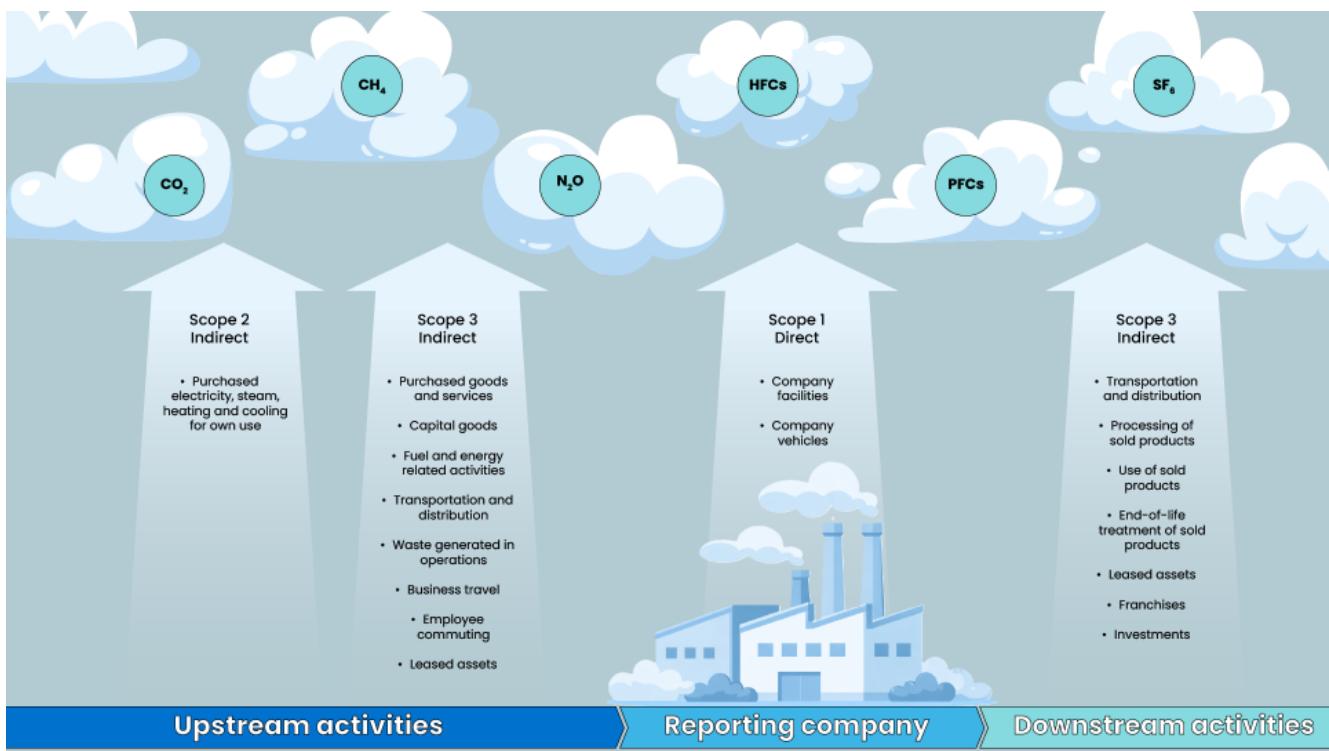


Figure 2: Overview of GHG Protocol Corporate Standard Scopes and emissions across the value chain<sup>4</sup>

See Module 2 Unit 2 for details on the gases shown in Figure 2.

Table 1: Emissions scope summary

Scope	Definition	Example
<b>Scope 1</b>	Direct greenhouse gas emissions that are from sources controlled or owned by the entity	<ul style="list-style-type: none"> <li>› Fuel combustion on site, such as from diesel generators, furnaces or on-site power plants</li> <li>› Emissions from company-owned vehicles, or other mobile sources</li> <li>› Fugitive emissions from unintentional release of emissions such as methane from landfill</li> </ul>
<b>Scope 2</b>	Indirect greenhouse gas emissions that come from the generation of an entity's purchased or acquired electricity, steam, heating or cooling	<ul style="list-style-type: none"> <li>› Purchased electricity used in buildings or to operate machinery</li> <li>› Purchased steam or chilled water</li> </ul>
<b>Scope 3</b>	Indirect greenhouse gas emissions (not included in Scope 2 greenhouse gas emissions) that occur in the value chain of an entity, including both upstream and downstream emissions	<ul style="list-style-type: none"> <li>› Business travel of employees</li> <li>› Emissions by clients or consumers from using or disposing of purchased goods and services</li> <li>› Emissions from franchise operations and by facilities financed by an entity</li> </ul>

An entity's greenhouse gas emissions are categorised as either Scope 1, Scope 2 or Scope 3. This means that within an entity's own inventory boundary, double counting is avoided across scopes, as Scope 1, Scope 2 and Scope 3 are defined to be mutually exclusive for the reporting entity. However, Scope 3 greenhouse gas emissions are indirect emissions that occur in the value chain of an entity. This means



there may be some double counting across different reporting entities, as indirect Scope 3 greenhouse gas emissions for one entity are the direct Scope 1 greenhouse gas emissions of another entity in the value chain.

Once you have defined your entity's inventory boundary, you can use a five-step process to calculate your greenhouse gas emissions:

- Step 1 - identify sources of greenhouse gas emissions
- Step 2 - choose an appropriate calculation approach
- Step 3 - collect activity data and choose an appropriate emission factor
- Step 4 - use calculation tools to estimate emissions
- Step 5 - aggregate all the data within your inventory boundary

In the next unit, we begin with Scope 1, learning how to identify Scope 1 sources and understanding a basic calculation of an entity's Scope 1 greenhouse gas emissions using the approach outlined in the GHG Protocol Corporate Standard. See Module 6 Units 2, 3 and 4 for details on Scope 1, Scope 2 and 3 greenhouse gas emissions.

## Key takeaways

- › Before measuring emissions, entities must set an inventory boundary that clearly defines what parts of the organisation and which emission sources will be included.
- › The GHG Protocol Corporate Standard is the most widely adopted international standard for emissions accounting and is based on five principles: relevance, completeness, consistency, transparency and accuracy.
- › An entity's organisational boundary is set using either the equity share approach or a control-based approach, determining how emissions from different operations are attributed. The operational boundary identifies which emissions are direct (Scope 1) and which are indirect (Scopes 2 and 3), providing a structured view of emissions across the value chain.

## Sources

<sup>1</sup> GHG Protocol, [\*The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard \(2004\)\*](#)

<sup>2</sup> GHG Protocol, [\*The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard \(2004\)\*](#), page 100 (detailed in Chapter 3)

<sup>3</sup> GHG Protocol, [\*The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard \(2004\)\*](#), page 100 (detailed in Chapter 4)

<sup>4</sup> GHG Protocol, [\*Corporate Value Chain \(Scope 3\) Accounting and Reporting Standard \(2011\)\*](#)



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