

GHG EMISSION INVENTORIES

Greenhouse Gas GHG Footprinting

Introduction

A key component of any sustainability strategy is the development of a Greenhouse Gas (GHG) Emissions Inventory.

Sempre Avanti Consulting believe that it is critical for a company to have a robust starting point for the journey to sustainability.

We suggest this starts with the development of the organisations emissions boundaries and the robust collection of data required to develop the first GHG emissions inventory that will become the base year for all future measurements.

Overview

The assessment of GHG footprints is becoming a widely used method for establishing the environmental impacts of your business operations, supply chains and other day to day operations.

One key issue is the difference between carbon footprints and greenhouse gas footprints.

A carbon footprint relates to the amount of CO₂ emissions generated by a person, business or country.

A greenhouse gas (GHG) footprint takes a wider view of emissions and includes not only CO₂ emission but also methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride and is measured as a CO₂ equivalent CO₂^e.

What is a GHG Emissions Inventory?

The process of measuring either your carbon footprint or your GHG footprint begins with the gathering of key information which builds up to be a record of inputs that become your emissions inventory.

The leading road-map for this process is the Greenhouse Gas Protocol¹ – Corporate Accounting and Reporting Standard produced by the WRI and the WBCSD.

¹ <http://ghgprotocol.org/>

The key points you need to be aware of are:

- The GHG reporting and accounting standard provides a step-by-step guide to be used in quantifying and reporting GHG emissions
- The standard is voluntary
- Emissions inventories can assist you in identification of reduction opportunities
- Assist with your reporting of your footprint when participating in voluntary and mandatory GHG programmes

You may also want to consider the UK Publicly Available Specification PAS2050.

The **PAS 2050**² is sponsored by Defra UK and the Carbon Trust, Publicly Available Specification (PAS) 2050 has been developed in response to broad community and industry desire for a consistent method for assessing the life cycle GHG emissions of goods and services.

PAS 2050 builds on existing methods established through BS EN ISO 14040 and BS EN ISO 14044 by specifying requirements for the assessment of the life cycle GHG emissions of products.

For organizations that supply goods and services, PAS 2050:

- Allows internal assessment of the existing life cycle GHG emissions of goods and services
- Facilitates the evaluation of alternative product configurations, sourcing and manufacturing methods, raw material choices and supplier selection on the basis of the life cycle GHG emissions associated with goods and services
- Provides a benchmark for ongoing programmes aimed at reducing GHG emissions
- Allows for a comparison of goods or services using a common, recognized and standardized approach to life cycle GHG emissions assessment
- Supports reporting on corporate responsibility

² <http://www.bsigroup.com/en/Standards-and-Publications/Industry-Sectors/Energy/PAS-2050/>

Key elements of your emissions foot print

The GHG protocol states that companies generally want their GHG inventory to be capable of service multiple goals. Some of the business goals server by GHG inventories can include:

- Managing GHG risks and identifying reduction opportunities
- Public reporting and participation in voluntary GHG programmes
- Recognition for early voluntary action

and from a New Zealand perspective:

- Preparing an assessment of ETS implications on your business
- Becoming audit ready for carbon neutral certification

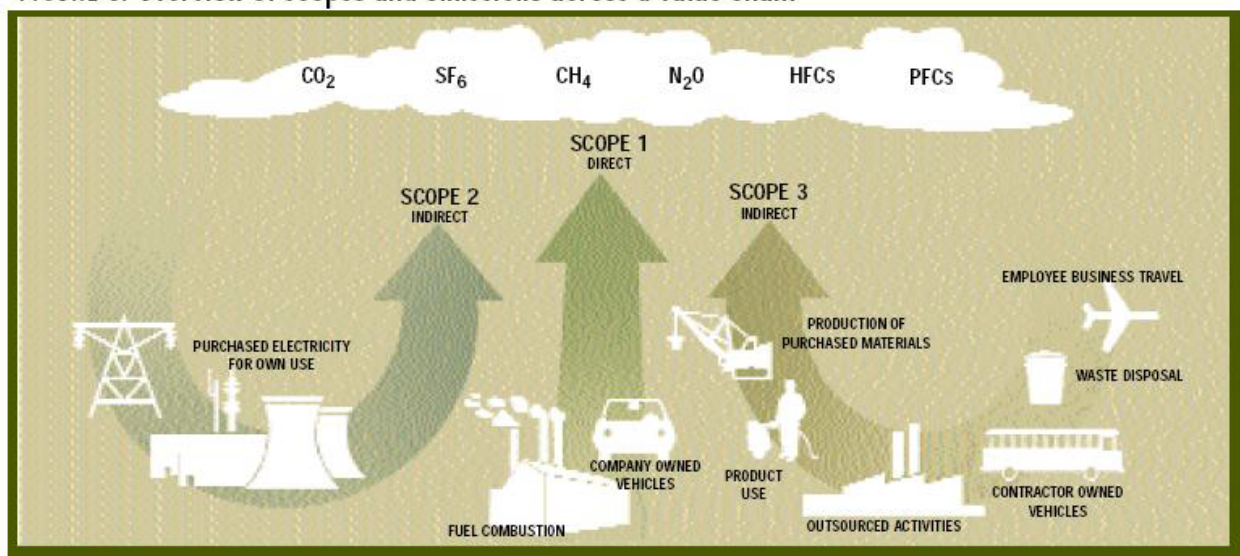
One of the major components at the start of the measurement phase is in the setting of “operational boundaries”. This process defines the scope of the direct and indirect emissions that fall within a company’s established organisational boundary³.

Put more simply this means “what you measure and what you exclude”.

If you are basing your inventory on the GHG protocol then the standard for reporting talks about Scope 1 direct emissions, Scope 2 indirect emissions and Scope 3 indirect emissions. (See below)

Scope 1, 2 and 3 emissions

FIGURE 3. Overview of scopes and emissions across a value chain

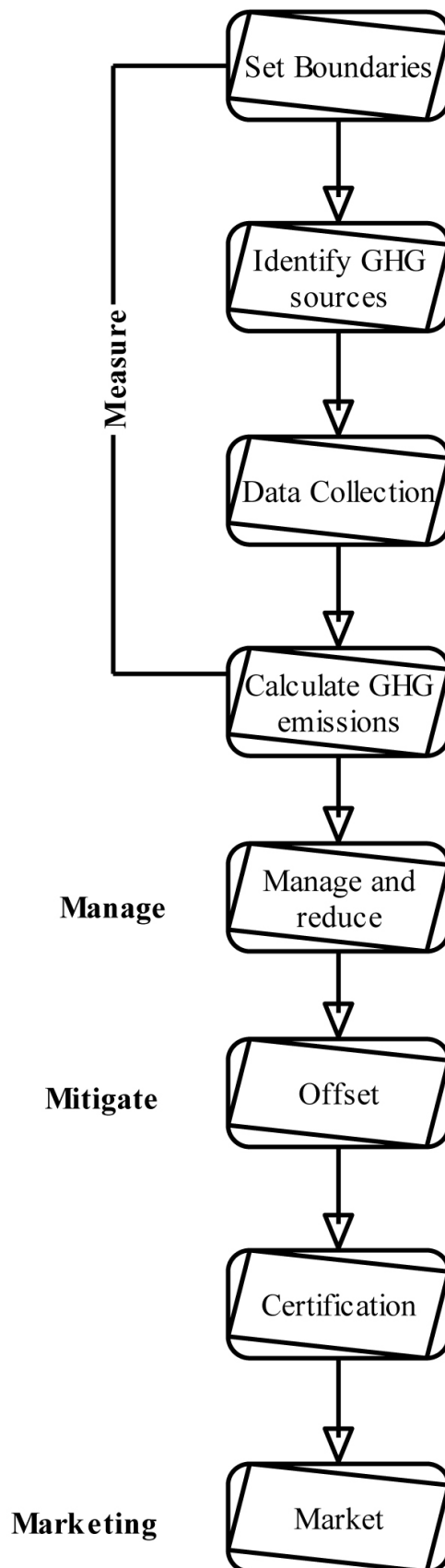


³ Pg26 Chapter 4 GHG Protocol – Accounting and Reporting Standard

Another component you need to consider is the M4 approach:

Measure – Manage – Mitigate – Market

The following graphic overviews the steps in the M4 approach



How Can We Help?

Sempre Avanti Consulting can help you to start the process of defining and setting organisational boundaries and with the production of GHG Emission Inventory Reports.

We do this in partnership with our clients through a structured process of data collection and collation, data analysis reviews, systems and process reviews, future measurement planning, mitigation planning, mitigation management and marketing strategies.

We have dedicated and experienced consultants who are able to assist your organisation with this task.

We have access to internationally recognised on-line calculation tools that make the job of data collation and report production an easy task.

For more information on this topic and to receive your 30 minute free assessment please contact:

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