Organizational Greenhouse Gas Reporting Programs in Southeast Asia: Thailand and Philippine Initiatives

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What is a GHG Reporting Program?

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What is a **GHG** reporting program?

A formal scheme that gives entities a framework with which to measure and report (and sometimes verify) their GHG emissions

- Can be voluntary or mandatory
- May include a registry, e.g., an interactive website through which entities may report their emissions

Components

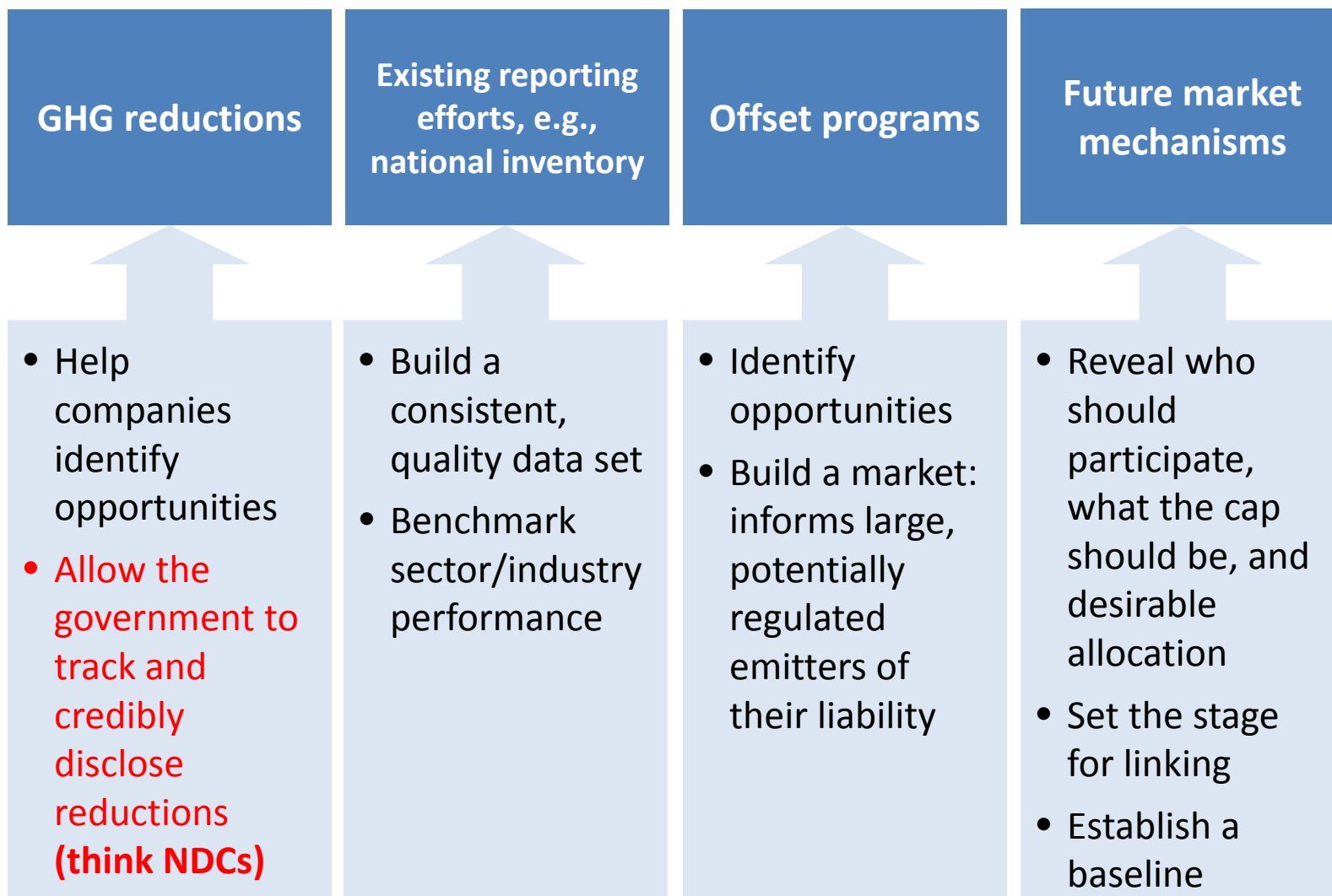| Measurement (M)	Reporting (R)	Verification (V)
What and how emissions are quantified	Where emissions are recorded/ registered	How and by whom emissions are reviewed and certified

GHG reporting programs support carbon activities

GHG reductions	Existing reporting efforts, e.g., national inventory	Offset programs	Future market mechanisms

- Help companies identify opportunities
- **Allow the government to track and credibly disclose reductions (think NDCs)**

- Build a consistent, quality data set
- Benchmark sector/industry performance

- Identify opportunities
- Build a market: informs large, potentially regulated emitters of their liability

- Reveal who should participate, what the cap should be, and desirable allocation
- Set the stage for linking
- Establish a baseline

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After Voluntary Reporting?

Voluntary Reporting

↓

Mandatory Reporting

↓

Carbon Regulation
Cap and trade or tax

↓

Linked market? + **Linked market?** + **Linked market?**

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Benefits to national governments

Governments are attempting to reduce their countries' GHG emissions.

Organizational GHG inventories can be inputs into government planning, and an *accountable* way to measure, track, and publicize their success.

Benefits to companies and the public

Companies
• Builds **their capacity** to participate in carbon markets or prepare for regulations • Facilitates their **climate-change-related planning** • Helps **cut their costs and improve efficiency** through reducing emissions • Fulfills **corporate social responsibility** (CSR) commitments

Public
• Can make **informed choices** and **hold emitters accountable**

Are There GHG Reporting Programs in Southeast Asia?

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Mandatory GHG Reporting Programs

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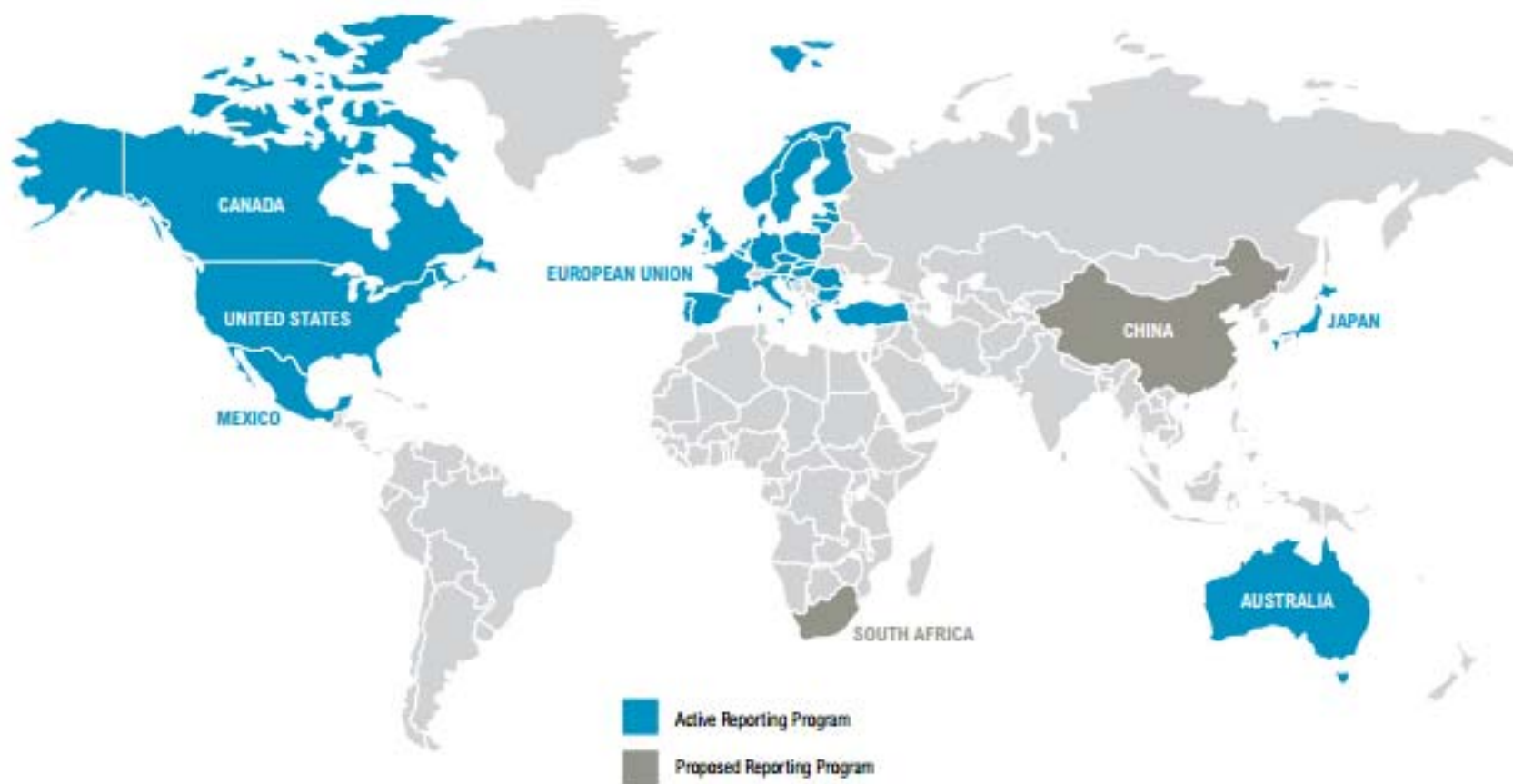
Comparing Two Programs in SE Asia

1. "MYCarbon" In Malaysia
2. "Carbon Footprint for Organizations" in Thailand

A Third is Underway

Philippine GHG Reporting Protocol and Inventory Management Plan for Businesses/Industries

- A project of the Low Emission Capacity Building (LECB) Program
- Implemented by the Philippine Climate Change Commission and United Nations Development Program (UNDP)
- With funding support from the EU, Australian, and German governments

And a Fourth is at Stage One

Vietnam:

- To effectively implement Vietnam's National GHG Inventory System, the country's Ministry of Industry and Trade (MOIT) aspires to have a scheme like CFO in Thailand

- Voluntary at first, mandatory once established

- No online registry at first – this would come later

- Initial focus would be key emission sources, e.g., heavy industries

- From inception, the program would support policy development and national GHG inventories

- Eventually, the program would support an emissions trading scheme

# *Carbon Footprint for Organizations: Thailand's GHG Reporting Program*

Timeline

2013	TGO launches Carbon Footprint for Organizations (CFO) for industries in Thailand
2014	TGO partners with USAID LEAD to update the CFO program and increase participation
2016	TGO launches the updated CFO program and online emissions registry

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Carbon Footprint

What is it?

An estimate of an organization's impact on the environment in terms of the net amount of GHGs it has emitted. Also known as a GHG inventory or report.
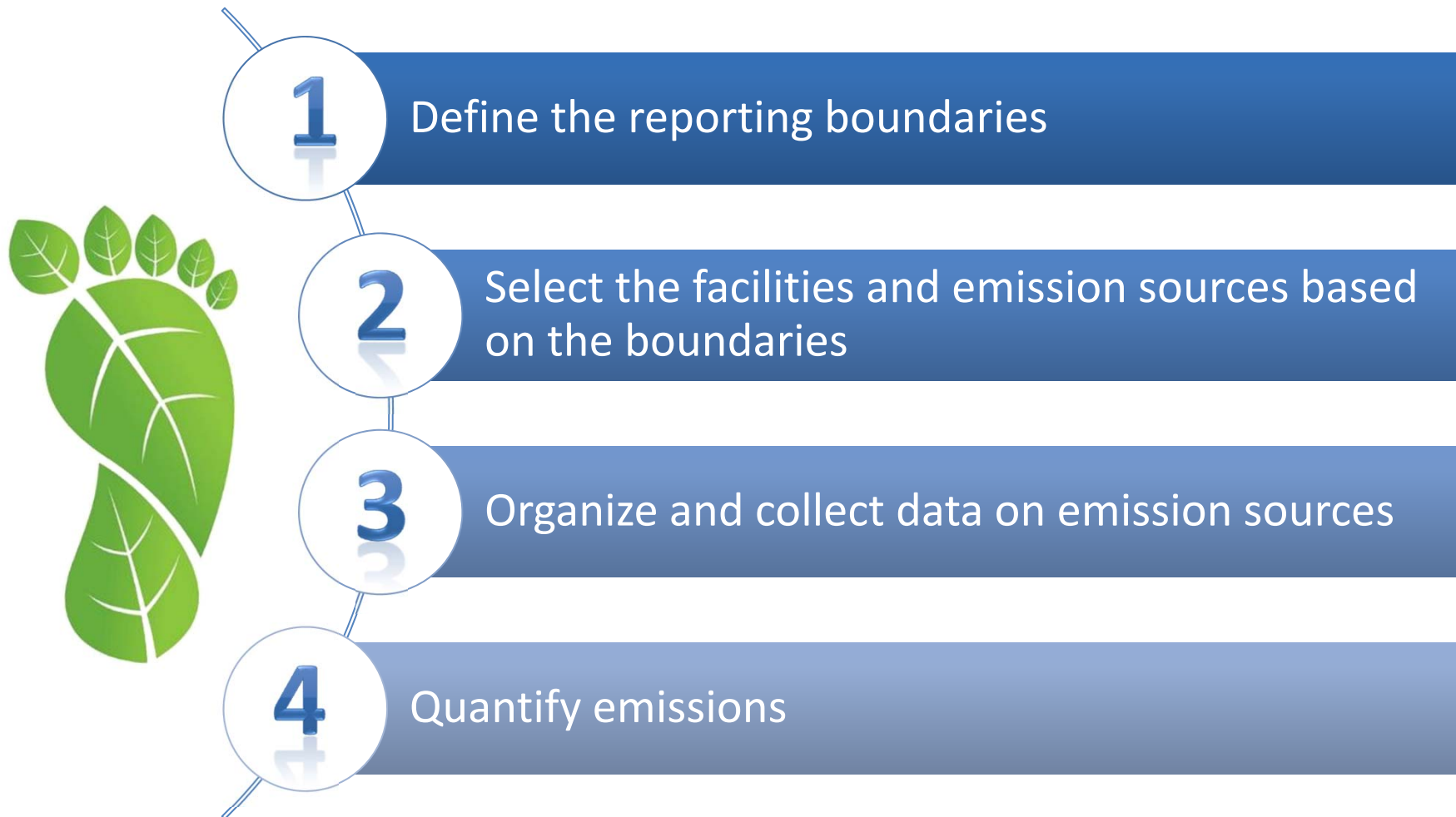

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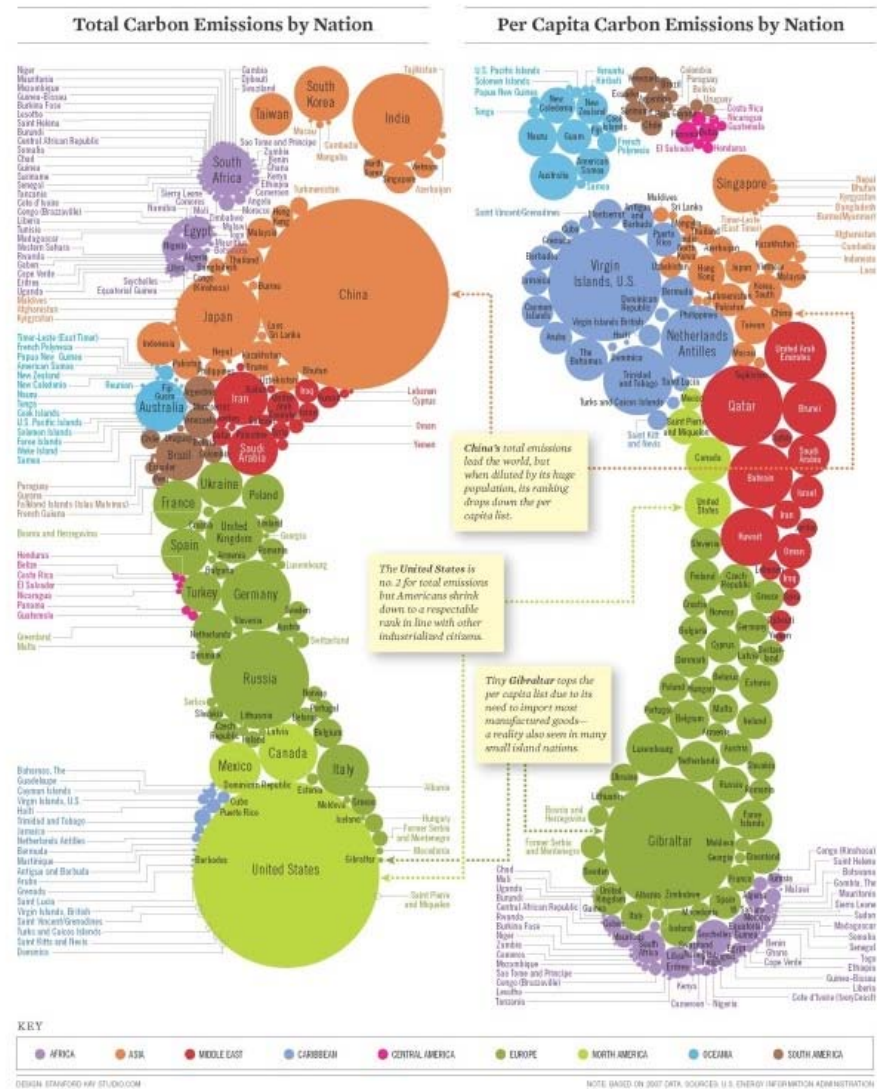
How is it estimated?

- Measured directly, or calculated
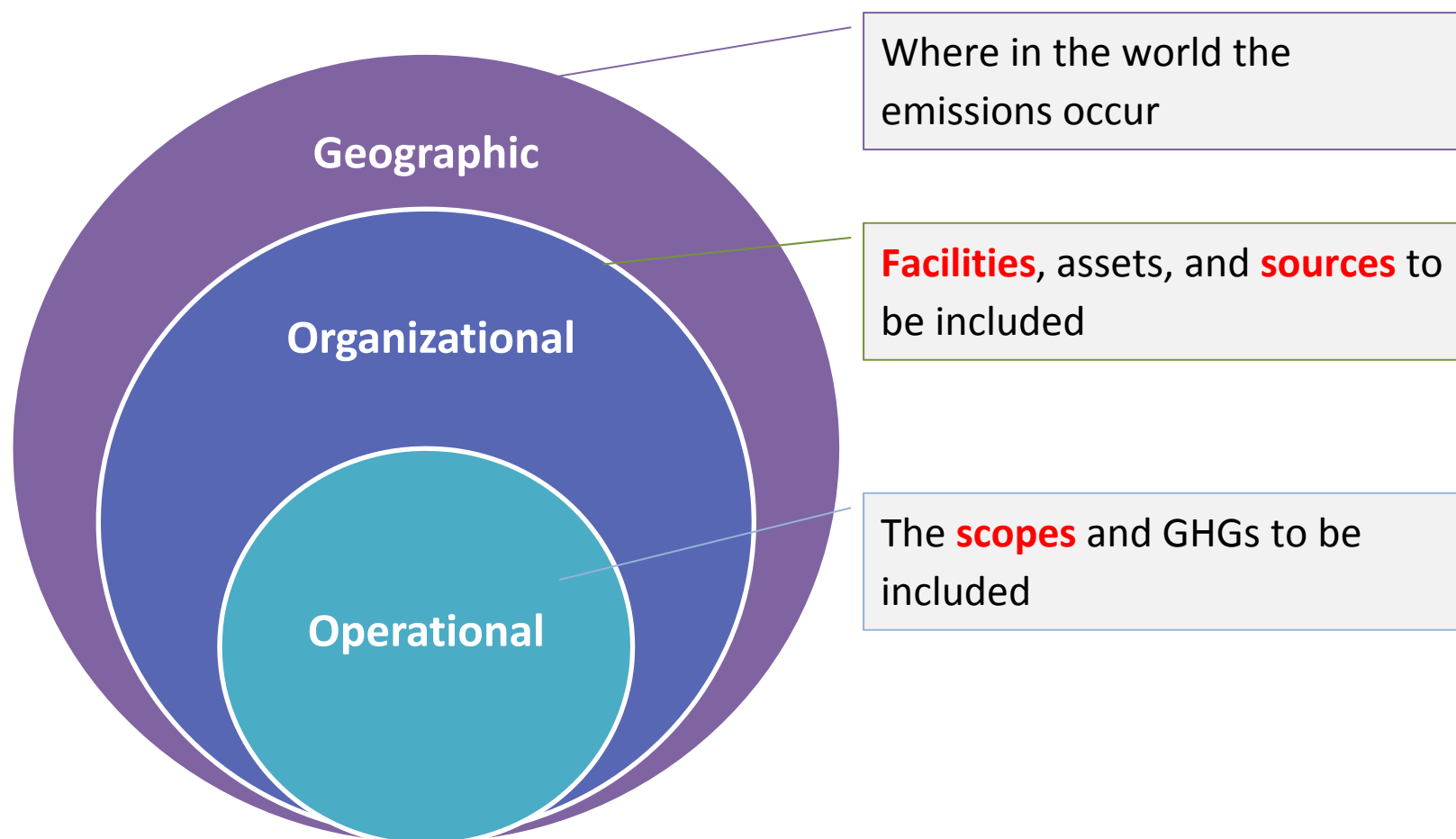- Includes the emissions of CO_2 and other GHGs from the organization's activities

These are summed and expressed as a single number (per source or per entity) in terms of **CO_2 equivalent**.
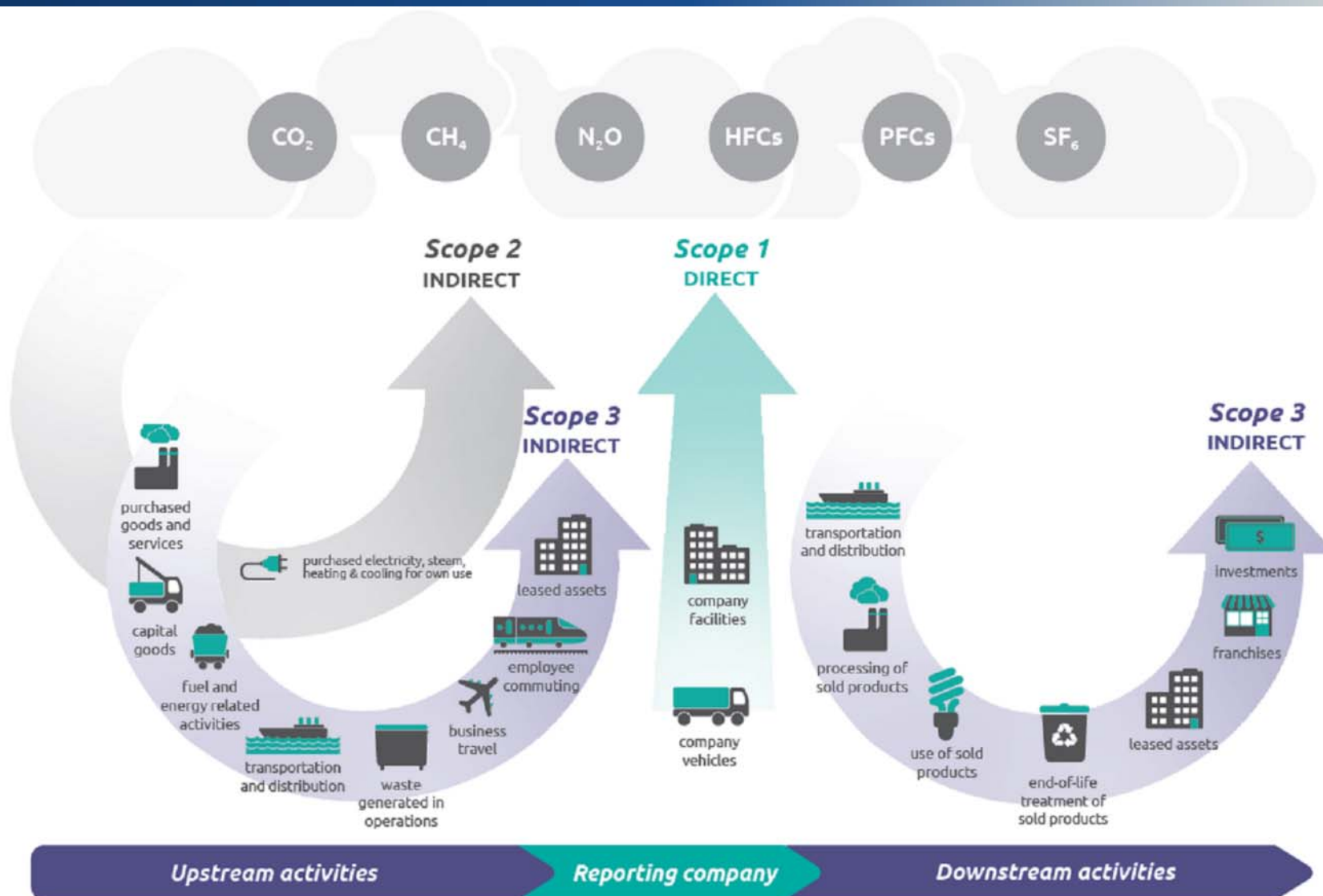
CFO's measurement procedures

1 Define the reporting boundaries

2 Select the facilities and emission sources based on the boundaries

3 Organize and collect data on emission sources

4 Quantify emissions

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Step 1: Define reporting boundaries

Reporting boundaries determine which emissions to include.

Geographic	Where in the world the emissions occur
Organizational	**Facilities**, assets, and **sources** to be included
Operational	The **scopes** and GHGs to be included

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Scopes 1, 2, and 3

Source: WRI / WBCSD GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard

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Step 2: Selecting facilities and emission sources

What is a facility?

A single installation or set of installations that can be defined within a single geographic boundary, organizational unit, or production process

Select facilities and emission sources

Before entering data into the online reporting platform, the reporting entity must decide:

The facilities to be included in the inventory

The sources at those facilities that emit GHGs

Selecting facilities

Choose facilities based on the organization's boundaries.

Selecting sources

1 Select the facilities within the reporting boundary

2 Determine the emission sources at each of those facilities (based on the operational boundaries)
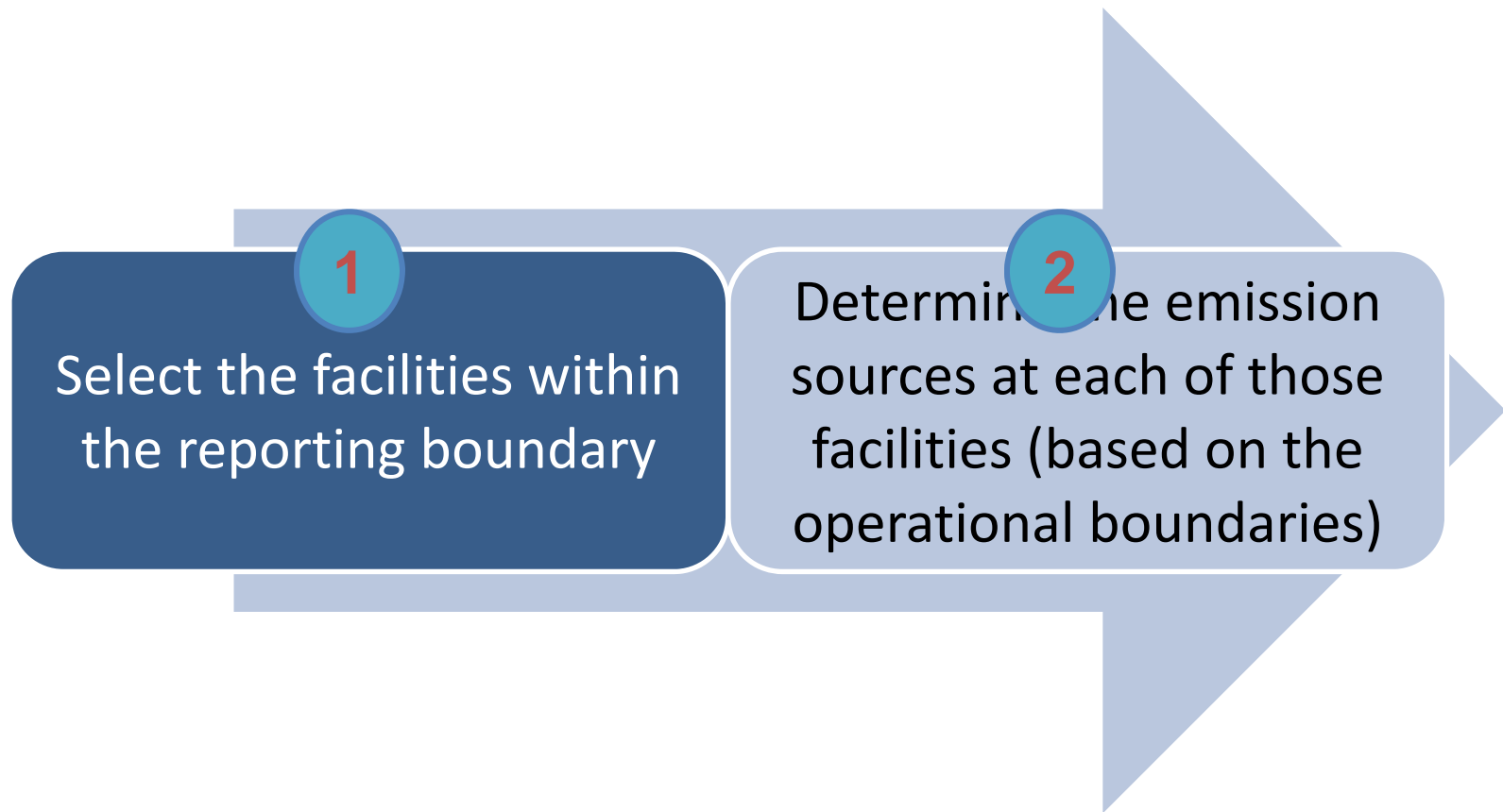
Step 3: Organize and collect Scope 1 GHG data

Scope 1: All direct GHG emissions, with the exception of direct CO_2 from *biogenic* sources.

Organize and collect Scope 2 emissions data

Scope 2: Indirect GHG emissions associated with the consumption of purchased or acquired electricity, heating, cooling, or steam.
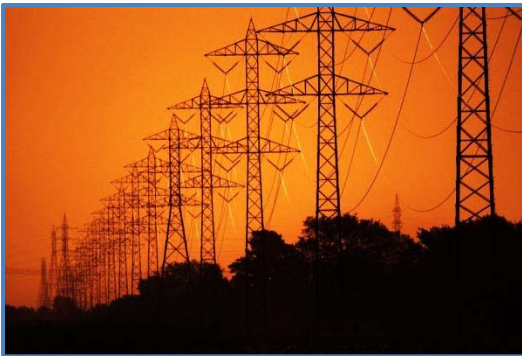
Scope 3: All indirect emissions not covered in scope 2.

Step 4: Quantifying the emissions

Two approaches:

1. **<u>Directly measuring</u>** GHG emissions for large sources by continuous emissions monitoring systems (CEMS)

2. **<u>Estimating</u>** GHG emissions using calculation methodologies and activity data, such as fuel use

What is required to <u>estimate</u> emissions?

Activity Data: the quantity of fuel or material that, when used, causes GHGs

Emission Factor (EF): the quantity of a given GHG emitted per unit of activity

x EF = GHGs

Global Warming Potential (GWP): a factor for converting non-CO_2 emissions into CO_2e

x EF x GWP = CO_2e

Reporting the carbon footprint: 5 steps

1. Enter entity details
2. Create facilities
3. Enter data (either pre-calculated or using online calculator)
4. Provide supporting documentation
5. Submit inventory

User roles

Administrator	Reporting Entity	Verifier
• Creates entities' accounts • Assigns initial users • Reviews and approves emission reports	• Enters GHG data • Submits its report to the verifier	• Reviews the entity's report • Submits verification report to the administrator

How information is organized in the online platform
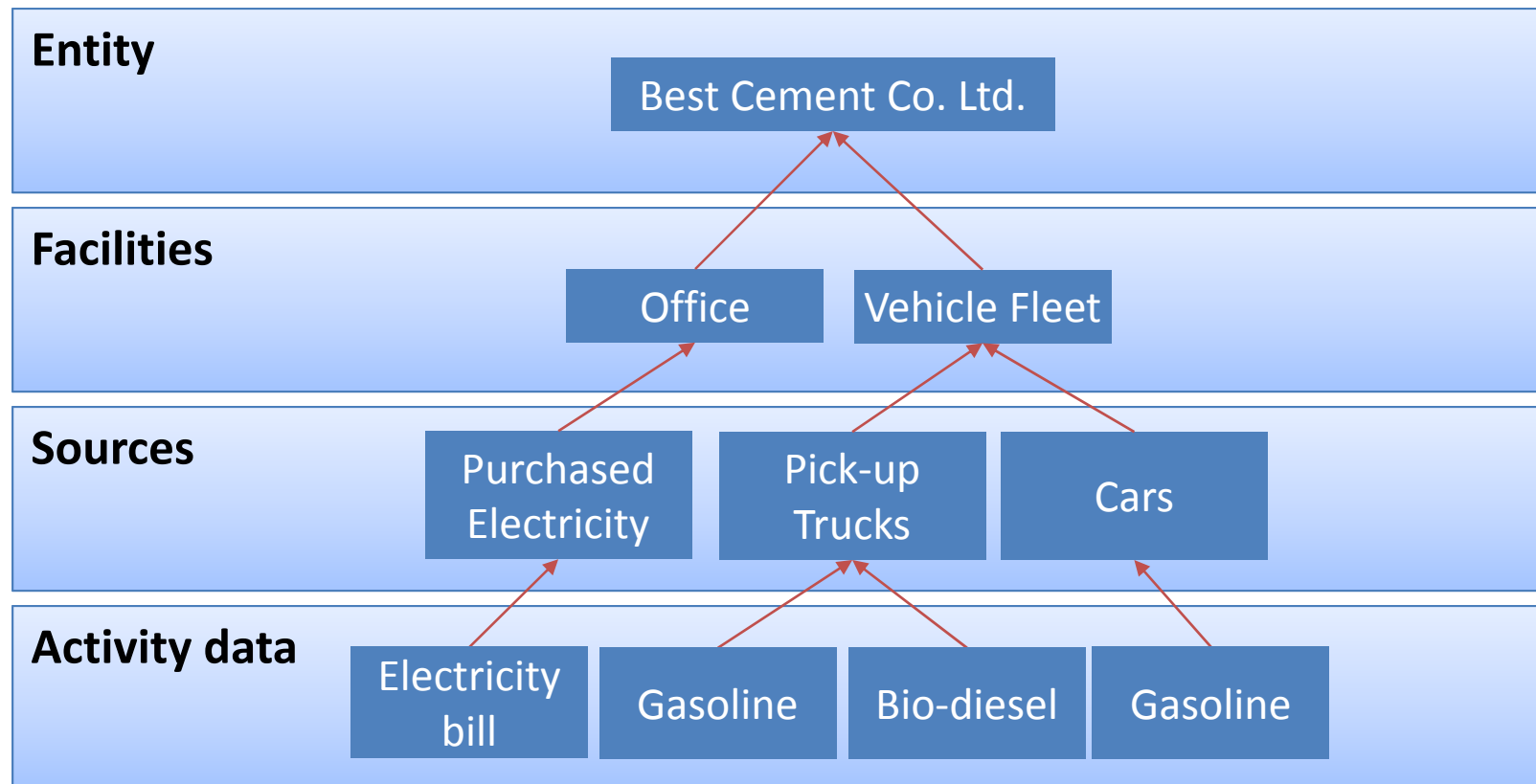
Two ways to input data

1 Pre-calculate your total emissions for a GHG source using the methodologies listed in GRP 3.4-3.16

2 Enter activity data for a GHG source into the **online calculator** and let it do the rest!

Preserving data confidentiality

Organizations can:

- Privately report emissions, with access given only to the verification body and program administrator, or

- Publicly disclose the emissions report

TGO recommends that organizations publish their GHG data, even though it is presently voluntary.

Reporting period

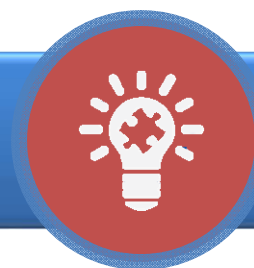TGO's CFO program allows the member organization to report its GHG emissions by:

- **Calendar year**: January 1 to December 31; or,
- **Fiscal year**: E.g., October 1 this year to September 30 next year.
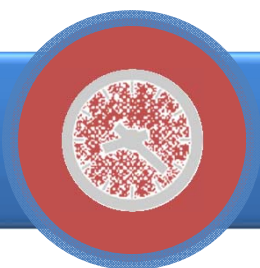
Track performance over time

Measure progress against GHG targets

Manage risks and opportunities

Verification

An independent, 3rd-party review of the GHG inventory report that ensures conformity with:

Reporting requirements > GHG accounting principles > Minimum quality standard
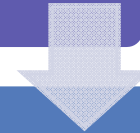
Benefits of verification

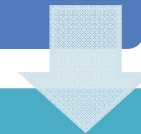## Data credibility, accuracy, and consistency

Organizations may:

Identify errors early and before there are penalties

Identify reduction opportunities from an accurate baseline

Improve their data management systems

Be confident in the data they choose to make public

Verifying the carbon footprint: 6 steps

1. Reporting organization selects a verification body (VB)

2. Organization and VB agree on the scope of the verification

3. VB develops verification plan and conducts core activities

4. VB conveys errors to the organization, which takes corrective action

5. VB submits verification report to administrator

6. Administrator issues verification statement to the organization

Step 1: Select a VB

Consult the directory of VBs registered with TGO

Contact one or more VBs

Submit Conflict of Interest Assessment form

Issue a contract to the VB

Step 2: Decide what is to be verified

This should align with what is reported

- Geographical, organizational, and operational boundaries

- Physical infrastructure, activities, and technologies

- Time period

- Level of assurance

Reasonable vs. limited assurance

	Reasonable	Limited
Sampling	VB samples primary supporting evidence and recalculates a portion of the emissions	VB relies on secondary sources of evidence
Site visits	VB visits a minimum number of facilities, determined by type and their emissions	VB may visit as few as one facility
Materiality threshold	5%. Materiality evaluated based on results of tests on sampled data and recalculation of emissions estimates	5%. Verifier considers whether information reviewed suggests there could be a material misstatement

Summary of verification requirements

Verification component	GHG reporting program requirement
Level of assurance	Reasonable or limited
Scope of verification	Scope 1, Scope 2, and biogenic CO_2 emissions
Materiality threshold	5%, which applies to a reporter's combined Scope 1, Scope 2, and biogenic CO_2 emissions at the <u>entity</u> level
Verification cycle	Annual
Facility visits	Required for reasonable and limited assurance. Number depends on the level of assurance and the nature and complexity of the operations

Step 3: VB informs reporter of errors

The VB must inform the reporting organization of **material** and **non-material errors**.

Step 4: Corrective action

- The organization must correct as many **misstatements** as possible.

- If the organization revises its report after the completion of the verification process, the revisions must be **verified**.

Step 5: VB issues verification report

1. VB prepares a verification report once all its activities have been completed and the reporting organization has addressed all material discrepancies.

2. The organization authorizes the verification report.

3. The VB submits the verification report to the program administrator, TGO.

    Note: The verification report is confidential.

Step 6: Verification statement

- TGO reviews the emissions report (and may request additional information).

- If TGO agrees it is correct, and the verification report indicates that no material misstatements have occurred, TGO will issue a verification statement to the reporting organization.

Demonstration of online reporting platform