



CLIMATE LEADERS

SETTING THE STANDARD IN GREENHOUSE GAS MANAGEMENT

GHG Management for Small Businesses: Measuring and Reducing Your Carbon Footprint

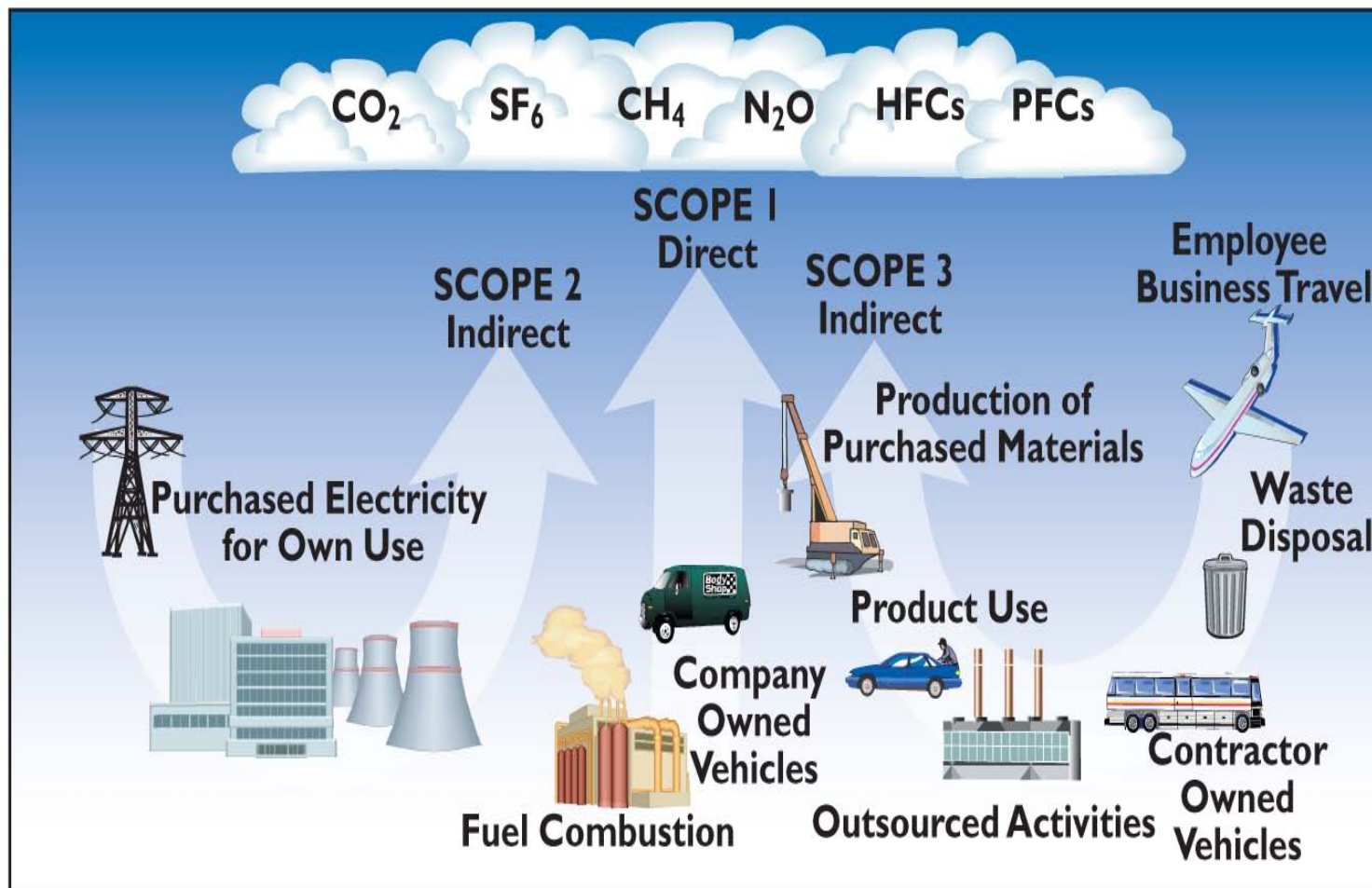
GSA Pilot Program Training

Part 1: December 1, 2010

Overview

- Greenhouse Gas (GHG) Emissions
- Benefits of reducing GHG emissions
- Trends in GHG management
- Overview of how to develop a GHG inventory
 - Access Climate Leaders online tools and resources for small businesses
- Setting your GHG reduction goal
- GSA Pilot Requirements

What are GHG emissions? And what is a GHG inventory?



Benefits of Reducing GHG emissions

- Save Costs: lower energy bills, increase fuel efficiencies
- Risk management
- Demonstrate leadership
 - Internally for employees
 - Externally in local communities and among industry peers
- Anticipate customer demands

- Developing a comprehensive GHG inventory of direct emissions and indirect emissions is becoming a more common practice among large and small companies.
- More companies are taking steps to measure and reduce emissions in their value chains such as business travel, employee commuting and product transport.
- Suppliers, especially small and medium enterprises, in all sectors are beginning to measure and reduce their emissions in response to customer requests.

Basics of Developing a GHG inventory

A GHG inventory lists all emissions sources and associated emissions quantified using the standardized methods:

Required Sources

Corporate-wide (all U.S. operations)

6 major GHGs: CO₂, CH₄, N₂O, HFC, PFC, SF₆

Direct emissions (Scope 1)

Indirect emissions from electricity, heat, and steam (Scope 2)

Optional Sources (Scope 3)

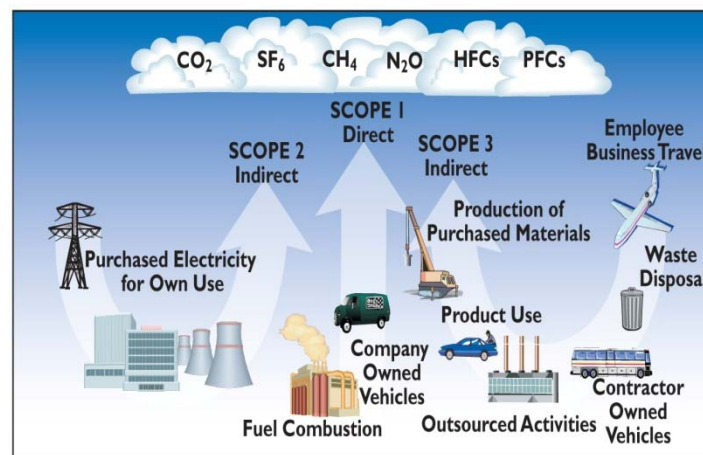
International operations

Offset projects

Employee travel and commuting

Business Transport

Product transport



Which facilities should you include?

- Equity Share Approach- by ownership

OR

- Control Approach- by control
 - Financial control versus operational control

Approach matters most for treatment of partially owned or operated facilities (joint ventures, subsidiaries) and for lease agreements.

How to handle leased offices or facilities?

Which sources of emissions should you include?

- Stationary Combustion of fossil fuel
- Process emissions (if applicable)
- Mobile Sources
- Refrigeration/AC
- Purchased electricity or steam
- Other Sources: backup generators, fuel for heating, corporate aircraft, anaerobic wastewater treatment
- Optional Sources (e.g., business travel)

What is a base year? What should it be?

- Base year is: the calendar year where you are collecting data for your GHG inventory*
 - For this pilot, your base year will reflect data from the 2010 calendar year
- A base year is important if you are setting a goal and measuring your progress against how you are reducing emissions over time. Your base year is your reference point.
- When do you adjust your base year?
 - Acquisitions/divestitures: Adjust your base year data when these occur
 - Organic growth/decline: Do not adjust your base year data

Access EPA's Tools and Resources for Developing a GHG Inventory



Climate Leaders

Contact Us Search: All EPA This Area

You are here: [EPA Home](#) » [Climate Change](#) » [Climate Leaders](#) » [Small Businesses](#) » How to Calculate your Carbon Footprint

Climate Change Home

Climate Leaders Home

Basic Information

Partners

Join Us

Small Businesses

Reporting

Goal Setting

Technical Guidance

Communications Resources

Case Studies

Events and Webinars

Frequent Questions

How to Calculate your Carbon Footprint

Developing a Company-Wide GHG Inventory for a Small Business



What is your carbon footprint?

For most small businesses the majority of their GHG emissions will come from their purchased electricity and vehicles. For others, especially small manufacturers, additional emissions will result from use of refrigerants, waste gases, or onsite combustion. A business's carbon footprint has three components for purposes of developing a company-wide GHG inventory:

1. Direct emissions (known as Scope 1): from onsite combustion and mobile sources
2. Indirect emissions (Scope 2): from purchased electricity and steam
3. Optional emissions (Scope 3): product transport, employee business travel and employee commuting.

Climate Leaders offers three tools to help you develop your corporate wide inventory and establish a plan to ensure GHG data consistency as you track progress towards reaching an emissions reduction goal.



Step 1: Select an operational or financial approach and define your organizational boundaries. The [Small Business and Low Emitter Guide to Greenhouse Gas Management \(PDF\)](#) (22 pp, 1.7M, [About PDF](#)) explains how to approach measuring your GHG emissions, instructions for using the GHG Calculator and how to complete the Inventory Management Plan.

- [Glossary of Terms \(PDF\)](#) (6 pp, 76K, [About PDF](#)): further explanation of terms you will need to know when developing your company's GHG inventory.



Step 2: Calculate your GHG emissions using the [Simplified GHG Emissions Calculator \(MS Excel\)](#) (802K) Climate Leaders offers [specific guidance](#) for measuring emissions from onsite combustion, purchased electricity, refrigeration and air conditioning.



Step 3: Document how you developed your GHG inventory to ensure consistency as you collect data each year to track progress toward reaching an emissions reduction goal using the [Inventory Management Plan \(IMP\) for Low Emitters \(MS Word\)](#) (11 pp, 292K)

What Do I Do Next?

- Need help developing your GHG Inventory? [Ask a question.](#)

Step 1: Developing your GHG Inventory

Consult EPA's *Guide to GHG Management for Small Businesses & Low Emitters* to get started:

www.epa.gov/climateleaders/documents/resources/lowemitter_guidance.pdf

The image shows the cover of a guide titled "CLIMATE LEADERS" by the United States Environmental Protection Agency. The cover features a blue header with the EPA logo and the text "United States Environmental Protection Agency". Below the header is a vertical navigation bar with four steps: 1. Get Started, 2. Calculate Greenhouse Gas Emissions, 3. Create an Inventory Management Plan, and 4. Set a Goal & Track Progress. The main title "CLIMATE LEADERS" is in large blue letters, followed by the subtitle "PRACTICAL STEPS TO REDUCE YOUR ORGANIZATION'S GREENHOUSE GAS EMISSIONS". A photograph of a green landscape with rolling hills and a blue sky with white clouds is shown below the subtitle. At the bottom, the text reads "Guide to Greenhouse Gas Management for Small Business & Low Emitters".

EPA United States Environmental Protection Agency

CLIMATE LEADERS

PRACTICAL STEPS TO REDUCE YOUR ORGANIZATION'S GREENHOUSE GAS EMISSIONS

1 Get Started

2 Calculate Greenhouse Gas Emissions

3 Create an Inventory Management Plan

4 Set a Goal & Track Progress

Guide to Greenhouse Gas Management for Small Business & Low Emitters

Step 1: Additional guidance for developing your GHG inventory

Guidance available for assessing the emissions from:

- Purchased Electricity
- Mobile Combustion (vehicles)
- Offsets and green power purchases
- Employee Commuting, Business Travel, Product Transport
- ...and more.

CLIMATE LEADERS
GREENHOUSE GAS INVENTORY PROTOCOL CORE MODULE GUIDANCE

Indirect Emissions from
**Purchases/Sales of Electricity
and Steam**



Step 1: Online support

www.epa.gov/climateleaders/smallbiz/askaquestion.html

Climate Leaders

[Contact Us](#)

Search:

All EPA

This Area

Go

You are here: [EPA Home](#) » [Climate Change](#) » [Climate Leaders](#) » [Small Businesses](#) » Ask A Technical Question

Ask A Technical Question

Please Note:

This form is only for questions on developing GHG inventories for small businesses. For all other questions related to Leaders, please [Contact Us](#) via email or phone or visit www.epa.gov/climateleaders.

* Indicates a required field.

*Are you a Small Business Network Member? Yes No

*Contact Name:

*Company:

*City:

*State: ▼

*Phone:

*E-mail:

*Question / Comment (Max 1500 characters):

Step 2: Calculate Emissions

(more detailed walkthrough on Dec 15)

How to calculate emissions:

Businesses can use the EPA Climate Leaders Simplified GHG Emissions Calculator.

- Excel-based
- Free download
- Automatically calculates overall carbon footprint from all GHG emissions sources



This calculator is designed as a simplified calculation tool to help organizations in estimating their greenhouse gas (GHG) emissions for reporting to the EPA's Climate Leaders program. All methodologies and default values provided are based on the most current Climate Leaders Greenhouse Gas Inventory Protocol guidance. The calculator will determine the direct and indirect emissions from all sources at a company when activity data is entered into the various sections of the workbook.

Tool Instructions:

- (A) Click on the grey boxes below to go to the appropriate Tool Sheet.
- (B) Enter data in Tool Sheet in ORANGE cells only. Final GHG emissions will be provided in CO₂ equivalent emissions in BLUE or GREEN cells. If data is not known or applicable, leave default value (blank, zero or other) in cell.
- (C) Enter data in appropriate units, if needed convert units prior to entering into tool.
- (D) Guidance for each calculation method is provided in the references at bottom of each sheet.

Tool Sheets:

Direct 1.0	Direct Emissions from Stationary Combustion Sources - Traditional Sources
Direct 2.0	Direct Emissions from Mobile Sources
Direct 3.0	Direct Emissions from Refrigeration and Air Conditioning Equipment
Direct 4.0	Direct Emissions from Fire Suppression Equipment
Direct 5.0	Direct Emissions from Stationary Combustion Sources - Gas Waste Streams
Indirect 1.0	Indirect Emissions from Purchase of Electricity
Indirect 2.0	Indirect Emissions from Purchase of Steam
Optional 1.0	Optional Emissions from Business Travel
Optional 2.0	Optional Emissions from Employee Commuting
Optional 3.0	Optional Emissions from Product Transport
Conversion Factors	Useful Conversion Factors

Access the Calculator at www.epa.gov/climateleaders/smallbiz/footprint.html

Step 3: Develop an Inventory Management Plan

Document your company's process standard operating procedures.

An Inventory Management Plan:

- Institutionalizes inventory process
- Lowers costs by centralizing processes
- Increases accuracy and transparency
- Documentation of capital savings
- Captures continuous improvement

Access the IMP at

www.epa.gov/climateleaders/smallbiz/footprint.html



Climate Leaders Simplified Inventory Management Plan

Simplified Inventory Management Plan Form:

Under the Climate Leaders program Partners are required to complete an Inventory Management Plan (IMP) which details their greenhouse gas (GHG) emissions inventory process. The IMP is an internal process for the Partner to institutionalize the completion of a high quality inventory. As part of the Climate Leaders reporting requirements, Partners describe for EPA their company-specific approach for each IMP component listed below. EPA expects that an IMP be in place within a year of the Partner joining the program. The IMP must be updated periodically to reflect the most up-to-date information and should be maintained at the company headquarters.

This simplified IMP form is provided as an accompanying document to the Climate Leaders Simplified GHG Emissions Calculation (SGEC). The form covers all of the IMP requirements under the Climate Leaders program, however it is presented in a simplified format and some items have been pre-populated with default responses consistent with the use of the Climate Leaders SGEC.

Completion instructions for this IMP form are provided at the end of this document.

Version Information:

Item	Description	
A.	Version Number of IMP:	
B.	Date IMP Completed:	

Partner Information:

Item	Description	
1.	Company Name:	
2.	Corporate Address:	
3.	Inventory Contact:	
4.	Inventory Contact Information:	

Boundary Conditions:

Item	Description	Selection (Check one)	Boundary Selection Approach

Setting Your GHG Reduction Goal

Setting your GHG reduction goal

Set a GHG reduction goal within one year of joining:

- **Goal must be to reduce total emissions by a minimum of 2% achieved in 2 years or less.**
- **Companies that set carbon neutral (net zero) goals must sustain carbon neutrality for a minimum of 2 years after setting a base year.**
- The goal on the website www.epa.gov/climateleaders/smallbiz/smallbizmembers.html will read: “Company X pledges to reduce total U.S. GHG emissions by 2% from 2010 to 2012.”

Submit goals to climateleaders@epa.gov and EPA will then populate the website.

GSA Pilot Requirements

- Year 1
 - Submit a base company-wide (corporate-wide) GHG inventory, inventory management plan, and GHG emissions reduction goal by September 30, 2011.
 - (Recommended that pilot participants develop their inventories by Spring 2010 because the sooner you develop your inventory, the more time you have to set and reach your goal).
 - Base year inventory data must be from calendar year 2010 (Jan-Dec 2010 data).
 - Reduction goals must be an absolute (total) GHG reduction goal of 2% in 2 years or better.
 - Companies that set carbon neutral (net zero) goals must sustain carbon neutrality for a minimum of 2 years after setting a base year. Further guidance if setting a carbon neutral goal (see EPA's guidance on using RECs and Offsets at <http://www.epa.gov/climateleaders/resources/optional-module.html>).
- Year 2
 - Submit GHG inventory for calendar year 2011 by September 30, 2012.
 - Track progress to reducing GHG reduction goal.
- Year 3
 - Submit 3rd party assured GHG inventory for calendar year 2012 by September 30, 2013
- Recognition for accomplishments Fall/Winter 2013.