GHG Inventory
Quick Start User's Guide

Background and Purpose

The purpose of this guide is to help municipalities, tribes, and territories plan and complete their first greenhouse gas (GHG) inventory for inclusion in their Priority Climate Action Plans (PCAPs) under EPA's Climate Pollution Reduction Grants (CPRG) Program. GHG inventories are useful for identifying specific climate mitigation measures to prioritize in the PCAP. This guide outlines six steps to conduct a GHG inventory and contains links to potential data sources and helpful emissions accounting tools.

Depending on available resources and accessibility of data, conducting an inventory takes around 2 to 4 months[1]. Data collection is usually the most time intensive step of the inventory; however, the PCAP allows for streamlined inventories, so certain steps (e.g., Collect Data) can occur more quickly[2]. The sample timeline in Figure 1 can help you determine how to allocate time for each step of the inventory. Note that these steps are not necessarily linear and can occur concurrently. For example, identification of data needs and initial data collection could occur before reaching out to stakeholders.

Figure 1. Sample Timeline for Conducting a GHG Inventory

GHG Inventory Step	Month 1	Month 2	Month 3	Month 4
Define Priorities & Scope	▨			
Engage Stakeholders	▨			
Collect Data	▨	▨	▨	
Calculate Emissions			▨	▨
Communicate Results				▨
Evaluate & Set Up for Success				▨

The following sections provide key objectives for each of these steps and a list of resources to support your inventory development (see Table 1).

[1] Adapted from Conducting A Municipal Greenhouse Gas Emission Inventory: A Practical Guide.
[2] PCAPs must include a GHG inventory, quantified GHG reduction measures, a low-income and disadvantaged communities benefits analysis, and a review of the authority to implement. Please see the Climate Pollution Reduction Grants website for additional information.

Define Priorities & Scope

Duration: 1 month

Key Objectives

- Determine a baseline year (i.e., the calendar year for which emissions will be estimated) for your inventory. Selecting the year with the greatest data availability is a good starting point.
- For community PCAP GHG inventories, determine which sectors, sources, and scopes can be estimated based on potentially available data and timeline. For government operations inventories, set inventory boundaries by defining what facilities and operations will be included in the inventory[3]. Refer to the protocols linked in Table 1 and see the text box to the right for additional guidance on selecting sectors.
- Outline a work plan and timeline for completing the inventory.

Selecting Sectors:
By focusing on sectors with high emissions and readily available data, such as buildings and transportation, you can quickly create inventories that capture most emissions. Consider the following data sources as a starting point:

- *Transportation:* National Emissions Inventory
- *Electricity/Gas:* State and Local Energy Planning Platform (SLOPE)
- *Solid Waste:* Greenhouse Gas Reporting Program

Engage Stakeholders

Duration: 1 month

Key Objectives

- Build stakeholder awareness and set expectations for stakeholder input and collaboration by reaching out to data providers (Ex. local utilities, other offices or departments, or housing associations) and other interested parties (Ex. community groups, environmental organizations).
- Consider hosting in-person or virtual meetings to inform stakeholders about the inventory process and data needs and communicate the key goals of the PCAP inventory[4].

Collect Data

Duration: 2-3 months

Key Objectives

- Compile a list of data needs for your sector(s), identify potential data sources, and develop data collection templates.
- Contact data providers to gather data. Consider setting up a data sharing agreement with data providers to jumpstart data collection for future inventories.
- Consult national and state resources for supplemental activity data or emissions factors.

[3] Including government operations is optional.
[4] Stakeholder engagement for your GHG inventory can help fulfill the broader stakeholder engagement requirements under CPRG. The PCAP must include a preliminary analysis of benefits for low-income and disadvantaged communities (LIDACs) anticipated to result from GHG reduction measures.

Calculate Emissions

Duration: 1-2 months

Key Objectives

- Calculate emissions using collected data. Use tools to assist in your emissions calculations (see Table 1).
- Document all assumptions, data sources, and emissions factors used in the inventory.

Communicate Results

Duration: 1 month

Key Objectives

- Communicate the results through conversations, webinars and meetings, infographics or fact sheets to government officials, stakeholders, and community members.
- Develop engagement strategies that target low-income and disadvantaged communities, consistent with the CPRG stakeholder requirements.
- Share the results in context – consider telling a story about the results and how they will be used/how the results relate to the climate action planning process.
- Create opportunities for feedback on the results and identify potential focus areas for climate action.

Evaluate and Set Up for Success

Duration: 1 month; ongoing after inventory completion.

Key Objectives

- Evaluate opportunities for improvement in future inventory cycles, such as enhanced data collection or scope expansion.
- Ensure documentation of process and methods to increase the ease of repeatability in future years to allow for tracking emission reduction progress over time.
- Leverage lessons learned during the PCAP to support the development of the Comprehensive Climate Action Plan[5].

[5] Please see the CPRG Program Guidance webpage for additional guidance on developing your Comprehensive Climate Action Plan.

Table 1. Resources to Support Your GHG Inventory

Step	Resource	Author	Description
Define Priorities and Scope	Global Protocol for Community-Scale GHG Emissions Inventories	GHG Protocol	Framework to consistently identify, calculate, and report on GHG emissions (may overlap with a government operations inventory).
	Local Government Operations Protocol	California Air Resources Board (CARB), Climate Action Reserve, The Climate Registry, and ICLEI – Local Governments for Sustainability	Protocol that guides how to estimate GHG emissions from local government operations. Refer to Chapter 3 Organizational Boundaries and Chapter 4 Operational Boundaries.
	CPRG Guidance for Quality Assurance Project Plans	U.S. Environmental Protection Agency	Provides CPRG-specific guidance on developing Quality Assurance (QA) Project Plans
Engage Stakeholders	Local Action Framework: A Guide to Help Communities Achieve Energy and Environmental Goals	U.S. Environmental Protection Agency	Best practices for community engagement. Refer to Engage and Communicate.
Collect Data	National Emissions Inventory	U.S. Environmental Protection Agency	County-level GHG emissions for onroad and nonroad mobile sources. Data can be retrieved here.
	Energy Information Administration State Energy Data System	Energy Information Administration	Energy consumption by state.
	EPA Greenhouse Gas Reporting Program	U.S. Environmental Protection Agency	**F**acility **L**evel **I**nformation on **G**reen**H**ouse gases **T**ool (FLIGHT) provides emissions from large facilities (e.g., power plants, landfills) in the United States.
	SLOPE: State and Local Planning for Energy	National Renewable Energy Laboratory (NREL)	Data viewer has city, county, and state data on renewables, efficiency, and transportation.
Calculate Emissions	EPA State, Local, and Tribal Inventory Tools	U.S. Environmental Protection Agency	Spreadsheet models designed to help states, local governments, tribes, and communities develop comprehensive GHG emissions inventories.
Communicate Results	Local Action Framework:	U.S. Environmental	Best practices for

	A Guide to Help Communities Achieve Energy and Environmental Goals	Protection Agency	engaging communities. Refer to the Engage and Communicate and Take Action: Engage the Community sections for guidance on community outreach.
Evaluate and Set up for Success	Local Action Framework: A Guide to Help Communities Achieve Energy and Environmental Goals	U.S. Environmental Protection Agency	Best practices for tracking and reporting project performance and success. Refer to Track and Report and Take Action: Promote Green Government Operations.