

Greenhouse Gas Inventory Management Plan: U.S. Small Business Administration

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Office of Management and Administration**

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1 Greenhouse Gas Inventory

1.1 Introduction and Background

This Inventory Management Plan (IMP) provides a framework for the management of greenhouse gas (GHG) accounting within the U.S. Small Business Administration.

The Small Business Administration's (SBA's) mission is to maintain and strengthen the Nation's economy by enabling the establishment and vitality of small businesses and by assisting in the economic recovery of communities after disasters. The SBA's Sustainability Policy is to execute the SBA mission in a manner that preserves the environment. The SBA is committed to helping the federal government lead by example in creating a clean energy economy.

As mentors for, and supporters of, small businesses, the SBA has a unique opportunity to help motivate sustainable business practices in the small business community. As a small agency, which leases all of its facilities, the SBA also faces challenges in reporting and reducing our Greenhouse Gas Emissions. Accurately and effectively reporting and reducing emissions requires consistent dialogue with our partners, both inside and outside the federal government, that manage and report our GHG emissions. The SBA is currently focused on building and maintaining these relationships to continue to improve our data quality and reduce our emissions.

This document fulfills the requirements of Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance* (EO 13514) and the associated *Federal Greenhouse Gas Accounting and Reporting Guidance* (the Guidance). The Guidance identifies an IMP as a way to manage inventory quality. This IMP outlines the data, methodologies, and tools required to perform the annual GHG inventory in an accurate, reliable, and repeatable manner.

1.2 Goal

The SBA developed a fiscal year (FY) 2008 greenhouse gas emissions baseline in accordance with EO 13514, Section 2(a), and submitted the baseline to the Council on Environmental Quality (CEQ) and the Office of Management and Budget (OMB). This baseline includes 291.3 metric tons CO₂-equivalent (MTCO₂e) of scope 1 and scope 2 emissions, and 11,479.7 MTCO₂e of scope 3 emissions.

The SBA has established a 28% reduction target for agency-wide scope 1 and 2 greenhouse gas emissions, and a 9% reduction target for agency-wide scope 3 greenhouse gas emissions in absolute terms by FY 2020, relative to the FY 2008 baseline. The SBA has submitted these targets to CEQ and OMB in accordance with EO 13514, section 2(a) and 2(b), Goals for Agencies.

In accordance with EO 13514, Section 2(c), the SBA must establish and report to the CEQ Chair and OMB Director a comprehensive inventory of absolute greenhouse gas

emissions, including scope 1, scope 2, and specified scope 3 emissions. OMB and CEQ will use this inventory to track progress towards the GHG reduction targets. The SBA will submit emissions data to the electronic GHG Reporting Portal developed by The U.S. Department of Energy (DOE) Federal Energy Management Program (FEMP). The GHG Reporting Portal will then calculate SBA's emissions.

2 Methodology

2.1 Guidance

The *Federal Greenhouse Gas Accounting and Reporting Guidance* (the Guidance) details procedures for Federal agencies to comply with Subsection 2(c), EO 13514. The Guidance follows the basic guidelines found in the *Public Sector GHG Accounting and Reporting Standard* (Public Sector Protocol).

The Public Sector Protocol divides GHG emissions into three types:

- **Scope 1:** Direct GHG emissions from sources that are owned or controlled by the Federal agency
- **Scope 2:** Indirect emissions associated with consumption of purchased or acquired electricity, steam, heating, or cooling
- **Scope 3:** All other indirect emissions not included in scope 2. Scope 3 emissions are a consequence of the agency's activities but are released from sources outside its organizational boundary

CEQ selected the emission factors and methodologies referenced in the Guidance because of their applicability to Federal operations, technical authority, and acceptance in other GHG reporting programs. Emission factors and methodologies come from the following sources, in order of authority:

1. EPA, *Mandatory Greenhouse Gas Reporting Rule (MRR)*, *Federal Register*, October 30, 2009
2. EPA, *Climate Leaders Program, Technical Guidance*
3. EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks*
4. EPA, *eGRID Technical Support Document, Chapter 3*
5. DOE, *1605(b) Voluntary Reporting of Greenhouse Gases Program, Technical Guidelines*
6. EIA, *Emissions of Greenhouse Gases in the United States*, Documentation and Emission Factors
7. International Panel on Climate Change (IPCC), *2006 Guidelines for National Greenhouse Gas Inventories*

2.2 Reporting period

EO 13514 requires Federal agencies to establish and report a comprehensive inventory of FY 2010 absolute greenhouse gas emissions by January 2011 to the CEQ Chair and OMB Director. Annually thereafter, each agency must report the inventory of the preceding fiscal year by January.

2.3 Organizational boundaries

The organizational boundaries for this GHG inventory align with the requirements of the Public Sector Protocol and the Guidance. The inventory includes emissions from:

- Facilities operational energy for which the SBA directly pays energy bills
- The operation of mobile sources for which the SBA purchases fuel
- All other emissions from activities over which the SBA has operational control¹
- Domestic sources only (U.S. states and territories)

2.4 Greenhouse gas list

This inventory includes the six GHGs covered under EO 13514. The table below lists all six gases, as well as their common sources and uses:

Greenhouse Gas	Common Sources/Uses
Carbon dioxide (CO ₂)	Mobile and stationary combustion
Methane (CH ₄)	Coal mining, fuel combustion
Nitrous oxide (N ₂ O)	Fuel combustion, fertilizers
Hydrofluorocarbon gases (HFCs)	Refrigerants, fire suppressants, various manufacturing processes
Perfluorocarbon gases (PFCs)	Electrical equipment, various manufacturing processes, refrigerants, medicine
Sulfur hexafluoride (SF ₆)	Electrical equipment, various manufacturing processes, tracer in air modeling, medicine

¹ The Guidance defines operational control as “operational responsibility for an activity or process and the authority to implement operating policies associated with the activity or process.” Examples include fugitive emissions from research or industrial processes, and onsite wastewater and solid waste disposal

2.5 Emissions quantification

2.5.1 Emission Sources

This inventory includes all emission sources required by the Guidance (see table below). The Guidance states that CEQ may require future inventories to include additional scope 3 sources.

Emission Category	
Scope 1	
Stationary combustion	
Mobile combustion	
Fugitive emissions	
- Fluorinated gases	
- On-site wastewater treatment	
- On-site landfills and municipal solid waste facilities	
Process emissions	
Scope 2	
Purchased electricity	
Purchased steam, hot water, and chilled water	
Combined heating and power	
Renewable energy purchases and Renewable Energy Credit (REC) purchases	
Scope 3	
Federal employee business air travel	
Transition and Distribution losses	
Contracted municipal solid waste disposal	
Federal employee business ground travel	
Federal employee commuting	
Contracted wastewater treatment	

2.5.2 Methodologies & emission factors

The *Federal Greenhouse Gas Accounting and Reporting Guidance – Technical Support Document* (TSD) lists required GHG data, calculation methodologies, and emission factors. The SBA will gather all required data and input it into the FEMP GHG Reporting Portal. The Portal will then calculate emissions.

2.6 Facilities summary

The SBA owns no facilities and leases all facilities from the General Services Administration (GSA) and the private sector. The SBA leases approximately 205 facilities from GSA, all of which are full service leases, the SBA does not pay utilities for fully-serviced leases, and is not responsible for inventorying GHGs at these facilities.

The SBA purchases fuel for approximately 263 vehicles (35 owned, 212 leased from GSA, and 21 commercially leased)

3 Roles & Responsibilities

POC	Responsibility
Director of Office of Administration Kenneth Etheridge Kenneth.Etheridge@sba.gov (202) 205-7028	<ul style="list-style-type: none"> • Coordinates submission of yearly GHG inventories
Presidential Management Fellow Aschley Schiller Aschley.schiller@sba.gov (202) 205-7034	<ul style="list-style-type: none"> • Completed FY 2010 and FY 2008 GHG Inventories • Completed Inventory Management plan
Management Analyst Patricia Cullum Patricia.cullum@sba.gov (202) 205-6999	<ul style="list-style-type: none"> • Will complete future inventories and submissions • Is the ongoing POC for SBA GHG inventories
General Equipment Operator Vincent Jordan Vincent.jordan@sba.gov (202) 205-6005	<ul style="list-style-type: none"> • Manages agency FAST data
Senior Sustainability Officer: David Robbins Associate Administrator for Management and Administration	<ul style="list-style-type: none"> • Review and approve SBA GHG inventory

4 Data Management

4.1 Data collection process

The SBA is responsible for data on employee commuting, business air and ground travel and emissions from SBA's fleet. All data except for employee commuting data is already collected and maintained by external databases. The SBA will continue to ensure the accuracy of these data inputs, and will remain abreast of changes to standard calculation procedures as defined by FEMP and CEQ. The SBA used the FEMP tool to collect the Employee Commuting Survey data. This data was also analyzed by NREL. If in the future SBA is required to collect additional data for the GHG inventory submissions, it will examine more robust systems for data collection and processing.

Section 5 lists how the SBA plans to collect each data element.

4.2 Data collection process – quality assurance

The SBA reports GHG emissions data from employee commuting, business air travel, business ground travel and agency operated fleet vehicles. The response rate on the employee commuter survey was very good (54%) with limited detectable entry error. SBA is unsure of the accuracy of data entered into the FAST system by Field Offices. In the coming year SBA will send notices to all field offices reminding them of the importance of this data, and providing refresher information on how to accurately enter this information. While the SBA is confident in the information entered into the GSA TMIS system it, like many federal agencies, The SBA has concerns about how this information was used to estimate GHG emissions. This is especially true of calculations to estimate emissions from rental vehicles. The SBA will continue to track this data, and will remain engaged in the broader discussion about revising these estimation procedures to provide more accurate emissions data for FY 2011. For more information on inventory quality assurance, see Section 7.

4.3 Data collection system security

FAST data can only be accessed by the General Equipment Operator and the Employee Commuter Survey results were sent only to the Senior Sustainability Officer and the Presidential Management Fellow (PMF) drafting this report. All TMIS data can be accessed by two members of the Office of the Chief Financial Officer and the GHG emissions data from this system can also be accessed by the PMF who drafted this inventory. In all cases changes to the data can be made only to the people with full access to the data. Summaries of the data will be kept in a Sharepoint folder available to the whole team working on the Sustainability Initiative, but all copies of the data maintained in this folder will be saved in a read-only format.

4.4 Schedule

Task	Responsible POC	Annual Completion Date
Update IMP	Patty Cullum	August 1
Provide training to all relevant personnel	Patty Cullum	September 15
Release all data calls and data collection tools	Patty Cullum	October 1
Submit all data to Patty Cullum (HARD DEADLINE: later submissions will not be accepted)	Patty Cullum	December 1
Complete inventory <ul style="list-style-type: none"> - Compile all data - Analyze data with appropriate tools 	Patty Cullum	December 20
Pre-submission inventory quality assurance review (Section 7)	Patty Cullum	January 1
Management review and approval of inventory	David Robbins	January 15
Upload inventory to FEMP	Patty Cullum	January 31
Post-submission inventory quality assurance review (Section 7)	Patty Cullum	April 1

5 Data Elements

5.1 Scope 1

5.1.1 Stationary combustion

Not applicable to SBA.

5.1.2 Mobile combustion: Fleet Vehicles

Required Data	Fuel consumption by fuel
Data Source	GSA FAST System
Existing Reporting	FEMP Energy Report
Collection Tool	FAST
POC - Data Collection	Vincent Jordan
POC - Data Review	Aschley Schiller

All SBA Field Offices are responsible for entering their individual fleet information into the GSA FAST database. This information is then aggregated to provide full fleet information for the SBA. The SBA downloaded the fuel-use information from the FAST system, and entered this information into the FEMP Portal to calculate GHG emissions from fleet vehicles.

5.1.3 Mobile combustion: Non-Fleet Vehicles and Equipment

Not applicable to SBA.

5.1.4 Fugitive emissions: Refrigerants & fluorinated gases (hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), SF₆)

Not applicable to SBA.

5.1.5 Fugitive emissions: On-site wastewater treatment

Not applicable to SBA.

5.1.6 Fugitive emissions: On-site Landfills and Municipal Solid Waste Facilities

Not applicable to SBA.

5.1.7 Industrial Process Emissions

Not applicable to SBA.

5.2 Scope 2

5.2.1 Purchased electricity

Not applicable to SBA.

5.2.2 Purchased steam, hot water, or chilled water

Not applicable to SBA.

5.2.3 Combined heating and power

Not applicable to SBA.

5.2.4 Renewable energy purchases and RECs purchases

Not applicable to SBA.

5.3 Scope 3

5.3.1 Federal employee business air travel

Required Data	CO2 emissions
Data Source	Passenger Name Records to GSA
Existing Reporting	Passenger Name Records to GSA
Collection Tool	E2 Travel System
POC - Data Collection	Jan Hall/Maria Moy
POC - Data Review	Aschley Schiller

The information for the GSA TMIS system to calculate GHG emissions for SBA is submitted as a Passenger Name Record (PNR) directly from our TMC. The SBA then pulled the standard GHG reports from the TMIS and entered them into the FEMP Portal.

5.3.2 Transmission & distribution losses

Not applicable to SBA.

5.3.3 Contracted municipal solid waste disposal

Not applicable to SBA.

5.3.4 Federal employee business ground travel

Required Data	Number of trips by vehicle type
Data Source	GSA TMIS
Existing Reporting	- Passenger Name Records currently submitted to GSA - Agency Travel Reporting
Collection Tool	E2 submission of PNR to GSA TMIS
POC - Data Collection	Maria Moy/Jan Hall
POC - Data Review	Aschley Schiller

The information for the GSA TMIS system to calculate GHG emissions for SBA is submitted as a Passenger Name Record (PNR) directly from our TMC. The SBA then pulled the standard GHG reports from the TMIS and entered them into the FEMP Portal. The SBA, like many federal agencies, is concerned with the accuracy of the estimation techniques used by the TMIS system to develop ground travel GHG estimates, and is interested in being involved in the ongoing dialogue to create better estimates in the future.

5.3.5 Federal employee commuting

Required Data	Distance traveled by vehicle type
Data Source	Employee Commuter Survey (through fedcenter.gov)
Existing Reporting	N/A
Collection Tool	Employee Commuter Survey, analyzed by PNNL and FEMP
POC - Data Collection	NREL—contact was Eliza Hotchkiss
POC - Data Review	Aschley Schiller

The SBA used the survey developed and completed by FEMP to gather this information. The Data analysis was also completed by the FEMP team. In the future the SBA will explore tying the Employee Commuter Survey to the annual human capital survey to reduce the burden on SBA employees and encourage higher employee participation.

5.3.6 Contracted wastewater treatment

Not applicable to SBA.

6 Inventory Management

6.1 Training

The PMF attended all trainings related to the inventory and guidance hosted by FEMP, CEQ and GSA for the FY 2008 and FY 2010 submission. Information from these trainings was forwarded to the management analyst from the Office of Administrative Services. In the future all trainings will be attended by a representative from the Office of Administrative Services.

6.2 Control of records

A hard copy of the information used to complete the Greenhouse Gas inventory will be maintained by the Office of Administrative Services. Additionally, a file will be created on the Sharepoint for the Office of Administrative Services that contains all documentation for the annual inventory submission. All instructions for creating the inventory, notes from trainings, and necessary links will also be kept in this file.

6.3 Adjustment – baseline

To ensure a consistent comparison against a baseline that is representative of ongoing agency activities, it may be necessary to recalculate the FY2008 base year or subsequent inventories. If it is determined an adjustment must be made to the FY 2008 base year or subsequent inventories, these recalculations will be conducted in consultation with CEQ and will undergo an internal review process, similar to the initial approval, before they are finalized.

A management analyst will provide a narrative description in the GHG Reporting Portal that explains the reasons for a recalculation, and provide a quantitative description of the impact of those changes on the agency's inventory. The management analyst will notify CEQ and OMB in advance of changes made to base year emissions calculations.

The Guidance and Public Sector Standard outline potential reasons for baseline recalculations. These reasons may include:

- Agency and OU structural changes
- Significant change in mission
- Improvements in emissions calculation methodologies
- Availability of additional data
- Calculation errors

6.4 Adjustment – guidance changes

CEQ may direct Agencies to alter their inventory processes. CEQ will communicate any new requirements by updating the Guidance. Changes may include:

- Requiring additional scope 3 categories
- Modifying calculation methodologies for existing categories
- Modifying emission factors

A management analyst for the Office of Administrative Services is responsible for monitoring and communicating changes to the guidance, and making any subsequent changes to the inventory management.

6.5 Risks

In its first year, there was difficulty establishing who maintained access to the various databases that contain information necessary for GHG reporting. SBA also faces a risk to timely completion of the internal review of the inventory. Completing the draft inventory earlier in the future will reduce this risk.

7 Quality Control

7.1 Internal quality control

Internal Quality control is established by the Office of Administrative Services. This office is responsible for the collection of all FAST and Employee Commuter data, and works in conjunction with the Office of the Chief Financial Officer which is responsible for all GSA TMIS system inputs. The data is checked for accuracy within the Office of Administrative Services, and is then cleared by the Office of Management and Administration prior to undergoing a formal clearance process before it is submitted to both OMB and CEQ.

Pre-submission review

Prior to submission the inventory must be formally reviewed and cleared by the Office of Policy and Strategic Planning, the Office of Management and Administration, the Office of Administrative Services, and by General Counsel.

7.2 Management review

The Associate Administrator for Management and Administration is responsible for the final review and approval of the GHG inventory, as outlined in Section 3. This review is required by January 15 of each year, in advance of the January FEMP submission deadline.

7.3 Corrective action

If corrective action is required, the corrections will undergo the same review process as the initial inventory. All corrective actions will be undertaken in consultation with the Council on Environmental Quality.

7.4 IMP update procedure

The IMP is a living document that will drive continuous improvement in the accuracy and efficiency of the SBA GHG emissions inventory. A management analyst from the Office of Administrative Services is responsible for working with relevant staff to annually update the IMP by August 1 of each year. Potential updates to the IMP include:

- Updated data management procedures
- Updated data requirements and collection tools
- Updated auditing and verification procedures