

The GSA logo consists of the letters "GSA" in a white, sans-serif font, positioned inside a solid blue square.

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The background of the lower half of the slide is a close-up, slightly blurred image of the American flag, showing the stars and stripes in shades of blue, white, and red.

Responding to Executive Order 13514 GSA Carbon Footprint Tool

July 12, 2010

**Jennifer Hazelman
Mile Corrigan (Contractor)**



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“GSA has to embrace a zero environmental footprint goal. We should set our sites on eliminating the impact of the federal government on our natural environment. The words were “eliminate” not “limit.” I’m not kidding. Zero Footprint. This is our moon shot. Yes, it is an unbelievable, wild, magnificent, over the top goal. It has to be.”

Remarks by

GSA Administrator Johnson
at the Coalition for Government Procurement
Partnership Dinner in Orlando, FL
May 5, 2010



Helping Agencies Reduce GHG Emissions

- Professional Energy Services
For further information go to
www.gsa.gov/energyservices
- Travel Management Information Services
For further information go to
www.travel.programs@gsa.gov



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GSA Carbon Footprint Tool Demonstration July 1, 2010

Home Page – <https://www.carbonfootprint.gsa.gov>

GSA Carbon Footprint and Green Procurement Tool

Welcome

NOTICE: On June 29, we will archive any data you may have input into the tool during the Road Test of the Public Sector Standard and agency preview period. This data will still be available upon request pending approval by your agency's Senior Sustainability Officer (SSO), please send all data transfer requests with supporting documentation showing that you received prior approval from your SSO to carbonfootprint@gsa.gov.

A Tool Specifically Designed for a Bottom-Up, Comprehensive GHG Inventory

GSA has developed the GSA Carbon Footprint and Green Procurement Tool to assist agencies in managing their GHGs as required by Executive Order (EO) 13514 and recent energy laws. The tool can address a broad range of tasks including:

- Calculation of an agency's GHG baseline, broken down by different scopes
- Assistance with setting GHG reduction targets
- Compilation of a building-by-building GHG emissions inventory
- Preparation for reporting emissions to the Department of Energy's GHG Reporting Portal

[Click here to sign in to the GSA Carbon Footprint and Green Procurement Tool.](#)

Product Highlights

Bottom-Up Calculations

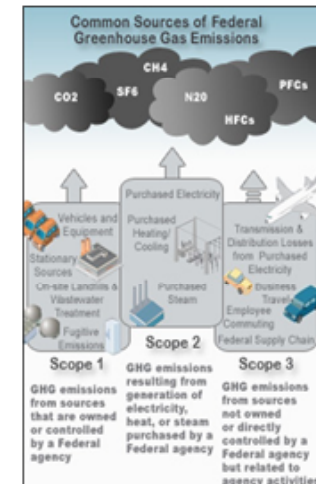
This tool can assist agencies in compiling their GHG emissions inventory using a bottom-up calculation on facility level data with the capability of rolling up to annual agency aggregate level data. This allows an agency to create detailed baseline GHG data to enable the development of reduction targets in the future.

Pre-population of Aggregate Data

With permission from your agency's Senior Sustainability Officer (SSO), GSA will pre-populate the tool with agency-specific data available from GSA business programs. This data includes building energy usage data from GSA's Public Building Service, fuel usage data from GSA's Fleet Program and air business travel data for those agencies using the GSA Travel Management Information Service.

Enterprise Dashboard

The tool provides at-a-glance visualization of key metrics using 3D charts and sliders where agencies can analyze and forecast emissions by adjusting for specific scenarios.



DOE Greenhouse Gas Reporting Portal

While agencies can use the GSA Carbon Footprint Tool to calculate their emissions, they must use the DOE Greenhouse Gas Reporting

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Agency Profile and Site Management

Enterprise Profile
Analyzer
Dashboard
Reports
Carbon Profile Map
ROI Calculator
Employee Survey

User Profile

- Update Password
- Update Information

Agency

- Manage Profile
- Manage Sites
- Manage Users

Locations

- Crystal City
- Willow Wood
- Test - Mobility Paper

GHG Reports

GSA ITS Emissions

Category	2008 CO ₂ e Emission	2009 CO ₂ e Emission	2010 CO ₂ e Emission
Enterprise	4,666		2,933
Purchased Electricity	2,591		1,704
Direct Fuel	54		0

You are here: [Enterprise Profile](#) >> [Manage Agency Sites](#)

Sites (Add)

Action	Site Name	Address 1	Address 2	City	State	Zip	eGRID Subregion	Area		Building Ownership	Lease Type	LEED Cert	Staff Size	Fiscal Year	Point of Contact	
								Building	Occupied						Name	Phone
	Crystal City	2200 Crystal Drive		Arlington	VA	22202	SERC Virginia/Carolina	250000	24388			None	114	2008	Tisa Richardson	(202) 219-1905
	Test - Mobility Paper	1800 F St NW		Washington	DC	20405	RFC East	764125	522368	Unknown		None	1000	2010		
	Willow Wood	10304 Eaton Pl		Fairfax	VA	22030	SERC Virginia/Carolina	134915	69744			None	165	2008	Lisa Hurst	(202) 501-3859

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Scenario List: GHG Inventory Management

- You can create multiple “scenarios” for greater flexibility when analyzing changes to emissions, energy and water use
- Site filters allow you to quickly jump to specific site data

Carbon Footprint Analyzer: Scenario List

Scope emissions are in metric tons of CO₂e.

[Create a new scenario](#)
[GHG Checklist](#)

Site:

FY2009

Building B

User	Scenario	Last Updated	Scope 1	Scope 2	Scope 3	Total
mkcorrigan 	<input type="radio"/> First Scenario	Jun 13th 4:44pm	705,589	0	1,734	707,324

FY2008

Building A

User	Scenario	Last Updated	Scope 1	Scope 2	Scope 3	Total
mkcorrigan 	<input type="radio"/> Baseline	Jun 13th 4:45pm	0	0	0	0
mkcorrigan 	<input checked="" type="radio"/> Baseline Actual	Jun 13th 3:35pm	6	1,296	77	1,380
mkcorrigan 	<input type="radio"/> Demo	Jun 13th 3:38pm	0	0	0	0



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Carbon Footprint Analyzer – Data Input Screen

The screenshot displays the 'Data Input Screen' for the Carbon Footprint Analyzer. It features a navigation bar at the top with tabs for 'Scope 1', 'Scope 2', 'Scope 3', 'Water', and 'GHG Report'. The main content area is divided into sections for 'Scope 1: Direct' emissions, including 'Combustion' (Stationary and Mobile) and 'Fugitive Emissions' (Common and Uncommon). A table for 'Hydrofluorocarbons' allows users to input emissions in lbs for various HFC types. A text box is provided for describing the emissions source. On the right, a summary panel shows 'Total Emissions FY 2008' as 70 metric tons CO2e for Scope 1, with a color-coded progress bar. Callouts highlight key features: 'Checkbox filters to quickly include/exclude emissions sources' points to the 'Stationary Combustion' section; 'Color-coded navigation bar and running emissions total to track real-time progress' points to the top navigation and summary panel; and 'Quick "jump to" links to specific emission-subcategories' points to the 'Fugitive Emissions' list.

Enterprise Profile > Scenarios List

EO 13514 Section 9 Recommendations
Analyzer Calculations and Assumptions

● Incomplete ● In Progress ● Complete

Total Emissions FY 2008
70 metric tons CO2e

Scope 1

Scope 1 | Scope 2 | Scope 3 | Water | GHG Report

Scope 1: Direct

Combustion

Stationary Combustion

- Natural gas
- Petroleum
- Coal
- Biofuel/Biomass

Mobile Combustion

- Fossil Fuels
- BioFuels

Fugitive Emissions

Common Fugitive Emissions

- Hydrofluorocarbons
- Hydrochlorofluorocarbons
- Chlorofluorocarbons
- Perfluorocarbons
- Sulfur Hexafluoride
- Methane

Hydrofluorocarbons

Enter your total HFC emissions in lbs

HFC-23	10	lbs
HFC-32	0	lbs
HFC-125	0	lbs
HFC-134a	0	lbs
HFC-143a	0	lbs
HFC-152a	0	lbs
HFC-227ea	0	lbs
HFC-236fa	0	lbs
HFC-245fa	0	lbs
HFC-43-10mee	0	lbs
HFC-365mfc	0	lbs

Describe the emissions source for HFCs (i.e., refrigeration, air conditioning):

refrigerant lost during maintenance

Uncommon Fugitive Emissions

- Industrial Process Emissions
- Wastewater Treatment
- Landfills and Solid Waste Facilities

Scope 2

Purchased Electricity

- Building Energy
- Data Center
- IT Equipment

Color-coded navigation bar and running emissions total to track real-time progress

Quick "jump to" links to specific emission-subcategories

Checkbox filters to quickly include/exclude emissions sources

● Incomplete ● In Progress ● Complete

Total Emissions FY 2008
70 metric tons CO2e

Scope 1

Combustion

- Stationary Combustion 0.20
- Mobile Combustion 17.10

Fugitive Emissions

- **Common Fugitive Emissions 53.07**
- Hydrofluorocarbons
- Hydrochlorofluorocarbons
- Chlorofluorocarbons
- Perfluorocarbons
- Sulfur Hexafluoride
- Methane
- Nitrous Oxide

● Uncommon Fugitive Emissions

Carbon Footprint Analyzer – Embedded Guidance

The screenshot shows the 'Enterprise Profile > Scenarios List' page. The main content area is titled 'Fugitive Emissions > Common Fugitive Emissions' and 'Chlorofluorocarbons'. It includes a table for entering CFC emissions in lbs, a description field, and a 'Technical Support Document' link. A right-hand sidebar shows 'Total Emissions FY 2009' and a list of emission categories with status indicators (red for incomplete, yellow for in progress, green for complete).

Embedded Guidance Callouts:

- Links to Reference Documentation:** Points to 'EO 13514 Section 9 Recommendations' and 'Analyzer Calculations and Assumptions' links at the top.
- Embedded guidance on emissions categories and general instructions:** Points to the 'Technical Support Document' link and the 'Chlorofluorocarbons' section.
- Embedded Tooltip definitions to guide the user:** Points to the tooltip for 'CFC-11' which reads: 'Alias: Chloropentafluoroethane, Monochloropentafluoroethane, Molecular Formula: C2ClF5, CAS Number: 76-15-3'.

CFC Type	Emissions (lbs)	Unit
CFC-11	33	lbs
CFC-12	0	lbs
CFC-13	0	lbs
CFC-113	0	lbs
CFC-114	0	lbs
CFC-115	0	lbs

Describe: refrigerant lost during installation

Technical Support Document

Chlorofluorocarbons (CFCs) are any of various gaseous compounds of carbon, hydrogen, chlorine, and fluorine, used as refrigerants, aerosol propellants, solvents, and in foam.

Alias: Chloropentafluoroethane, Monochloropentafluoroethane, Molecular Formula: C2ClF5, CAS Number: 76-15-3

EO 13514 Section 9 Recommendations

Analyzer Calculations and Assumptions

Total Emissions FY 2009

Scope 1

- Combustion
 - Stationary Combustion
 - Mobile Combustion
- Fugitive Emissions
 - Hydrochlorofluorocarbons
 - Chlorofluorocarbons
 - Perfluorocarbons
 - Sulfur Hexafluoride
 - Methane
 - Nitrous Oxide
- Uncommon Fugitive Emissions
- Industrial Process Emissions
- Wastewater Treatment
- Landfills and Solid Waste Facilities

Scope 2

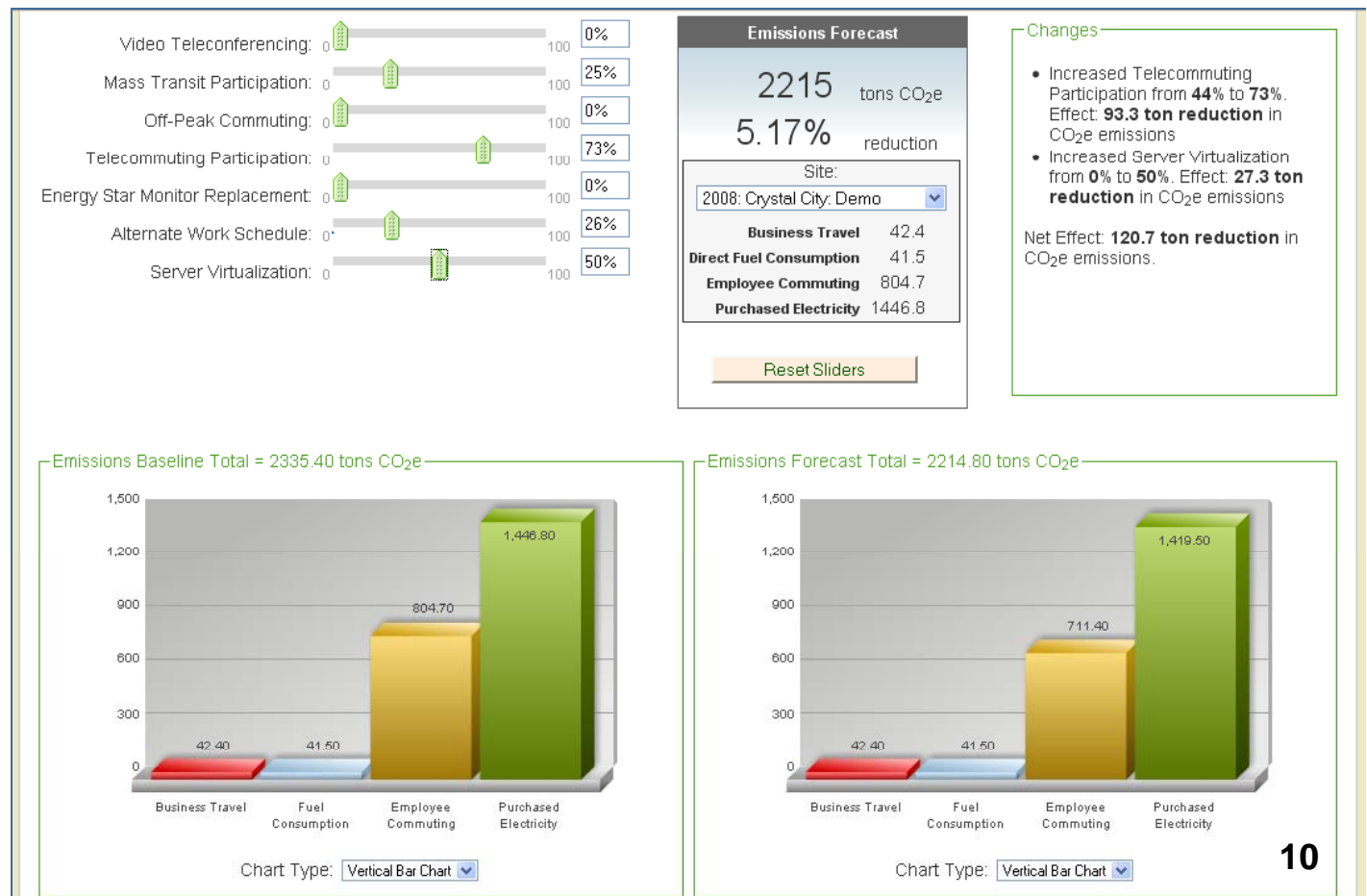
- Purchased Electricity
 - Building Energy
 - Data Center

Previous Next

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Senior Management Dashboard

- Easy way for senior managers to visualize Agency GHG emissions
- “Sliders” let you see impact of using different technologies (*server virtualization*) or business processes (*telework*) to reduce footprint



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Scope 3 Commuting Survey

- Detailed commuting survey
- You can launch survey through the tool
- Obtain data needed to calculate Scope 3 employee commuting emissions

The screenshot shows the 'New Employee Survey' page in the GSA Carbon Footprint and Green Procurement Tool. The page includes a navigation menu with options: Enterprise Profile, Analyzer, Dashboard, Reports, Carbon Profile Map, ROI Calculator, and Employee Survey. The 'Create Survey' form contains the following fields and controls:

- Survey Title:
- Survey Scope:
- Upload List of Invited Survey Participants (.txt file format - one email per line):
- Survey Start Date and End Date: to
- Reporting Fiscal Year:
-

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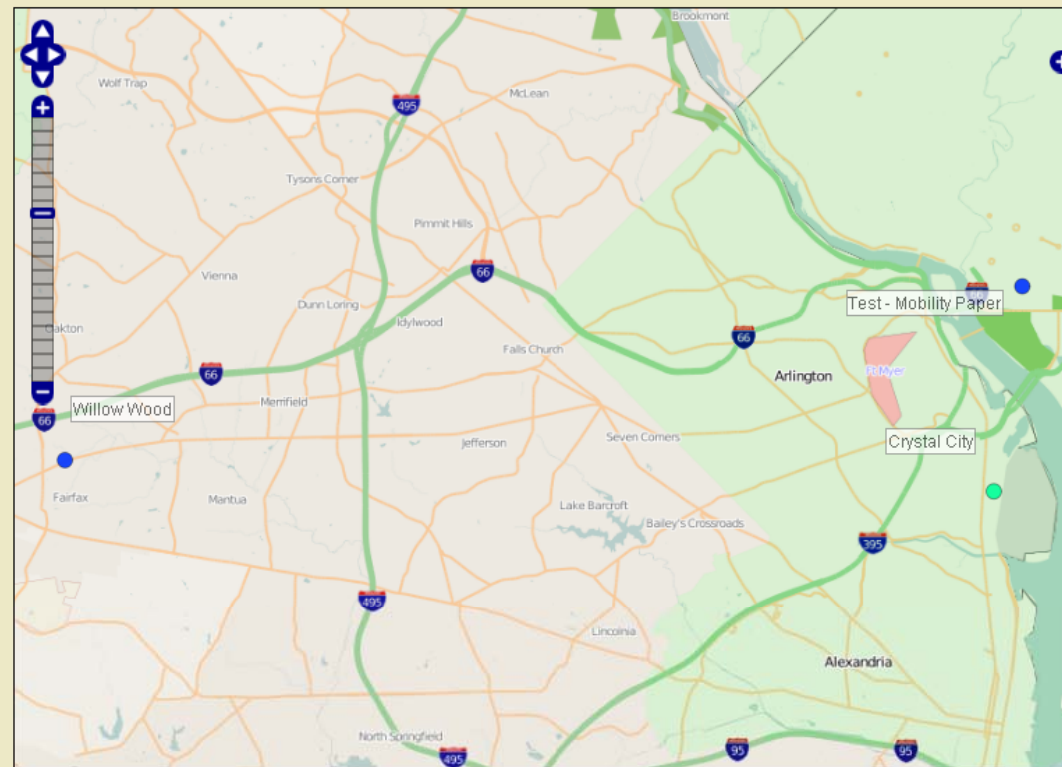
Agency Facilities GIS Map

- Facilities that you input show up on the map
- Rollover facilities to view emissions
- Color coding compares emissions across sites

GSA ITS Carbon Profile Map

The carbon profile map displays your agency's locations depicting net carbon emissions across sites.

***IMPORTANT:** The map displays your "selected" scenario for each site. Please make sure you have selected a scenario in the Carbon Footprint Analyzer Scenario List, accessible via the "Analyzer" tab to view related emissions data.



Site Information

Site Name:
Willow Wood
Metric Tons of CO2e:
2,330.0
Location:
Fairfax, VA
Staff Total:
165
Baseline Year:
FY2008

Legend

Emissions of sites are colored relative to each other using a normal distribution.

standard deviation

- 3 to -2
- 2 to -1
- 1 to 0
- 0 to 1
- 1 to 2
- 2 to 3
- not yet computed

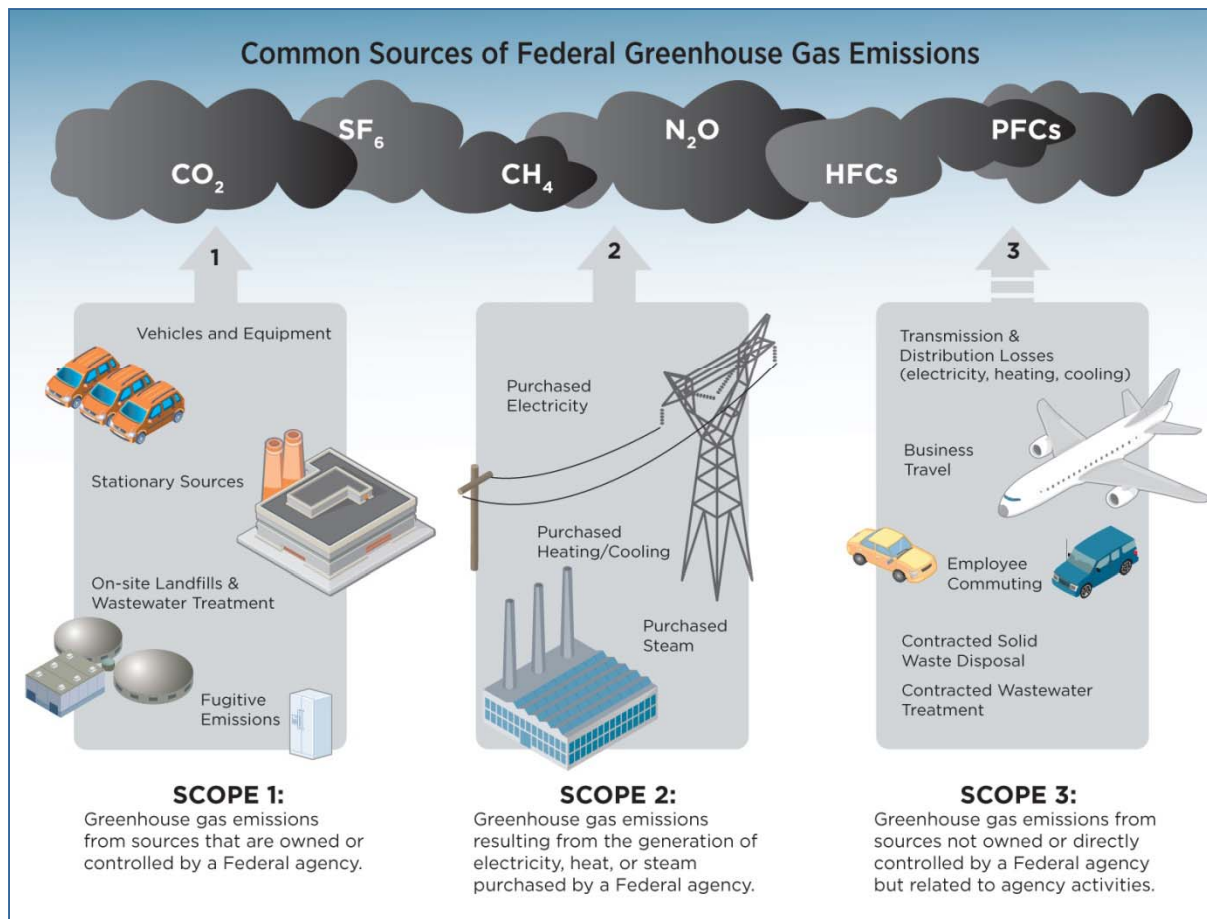
Return on Investment Calculator

- Built-In ROI Calculator
- Annual Savings, Ten Year Savings, ROI, and Payback are calculated for common green investment types

ROI Calculator								
Interior Lighting Investments								
Investment Name	Quantity	Initial Cost (dollars)	Annual Savings		Ten-Year Savings		ROI and Payback	
			Cost Savings (dollars/year)	CO2 Reduction (MT/year)	Cost Savings (dollars)	CO2 Reduction (MT)	Ten Year ROI (percent)	Payback (years)
Compact Fluorescent (25W)	<input type="text" value="1000"/>	\$3,500.00	\$5,616.78	29.65	\$56,167.80	296.51	1,504.79%	0.62
Compact Fluorescent (32W)	<input type="text" value="0"/>	\$0.00	\$0.00	0.00	\$0.00	0.00	0.00%	0.00
LED Exit Sign	<input type="text" value="0"/>	\$0.00	\$0.00	0.00	\$0.00	0.00	0.00%	0.00
Totals:		\$3,500.00	\$5,616.78	29.65	\$52,667.80	296.51	1,504.79%	0.62
Exterior Lighting Investments								
Investment Name	Quantity	Initial Cost (dollars)	Annual Savings		Ten-Year Savings		ROI and Payback	
			Cost Savings (dollars/year)	CO2 Reduction (MT/year)	Cost Savings (dollars)	CO2 Reduction (MT)	Ten Year ROI (percent)	Payback (years)
Metal Halide High Eff. pulse-start	<input type="text" value="0"/>	\$0.00	\$0.00	0.00	\$0.00	0.00	0.00%	0.00
Six 40W twin-tube, electronic ballast, 1.04 BF	<input type="text" value="0"/>	\$0.00	\$0.00	0.00	\$0.00	0.00	0.00%	0.00
Four 55W twintube, electronic ballast, 1.00 BF	<input type="text" value="0"/>	\$0.00	\$0.00	0.00	\$0.00	0.00	0.00%	0.00
Four 54W highoutput, electronic ballast, 1.00 BF	<input type="text" value="0"/>	\$0.00	\$0.00	0.00	\$0.00	0.00	0.00%	0.00
Totals:		\$0.00	\$0.00	0.00	\$0.00	0.00	0.00%	0.00
Solar Power Investments								
Investment Name	Quantity	Initial Cost (dollars)	Annual Savings		Ten-Year Savings		ROI and Payback	
			Cost Savings (dollars/year)	CO2 Reduction (MT/year)	Cost Savings (dollars)	CO2 Reduction (MT)	Ten Year ROI (percent)	Payback (years)
PhotoVoltaic Solar Panel (75W)	<input type="text" value="0"/>	\$0.00	\$0.00	0.00	\$0.00	0.00	0.00%	0.00
PhotoVoltaic Solar Panel (2000W)	<input type="text" value="0"/>	\$0.00	\$0.00	0.00	\$0.00	0.00	0.00%	0.00

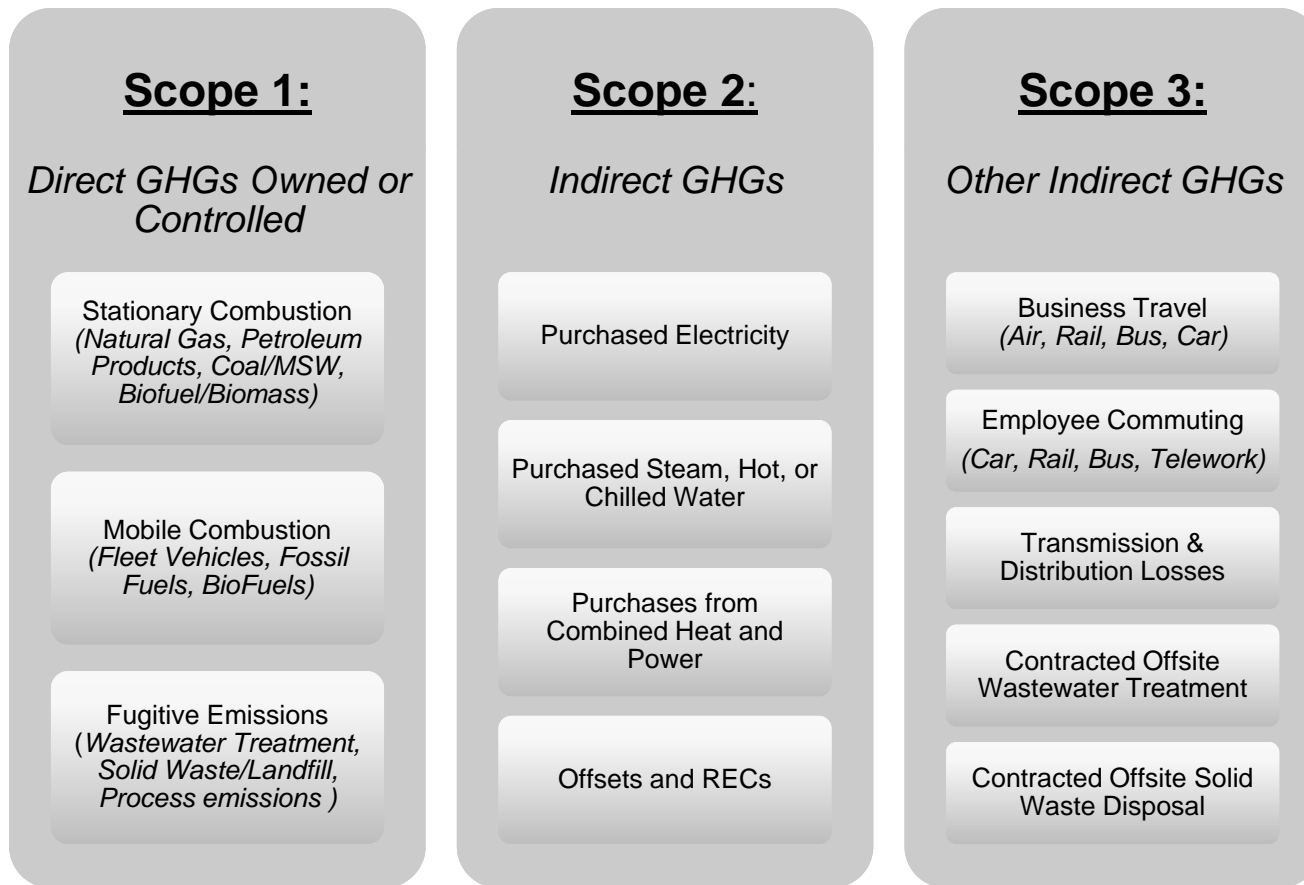
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Scope 1, 2, and 3 GHG Emissions

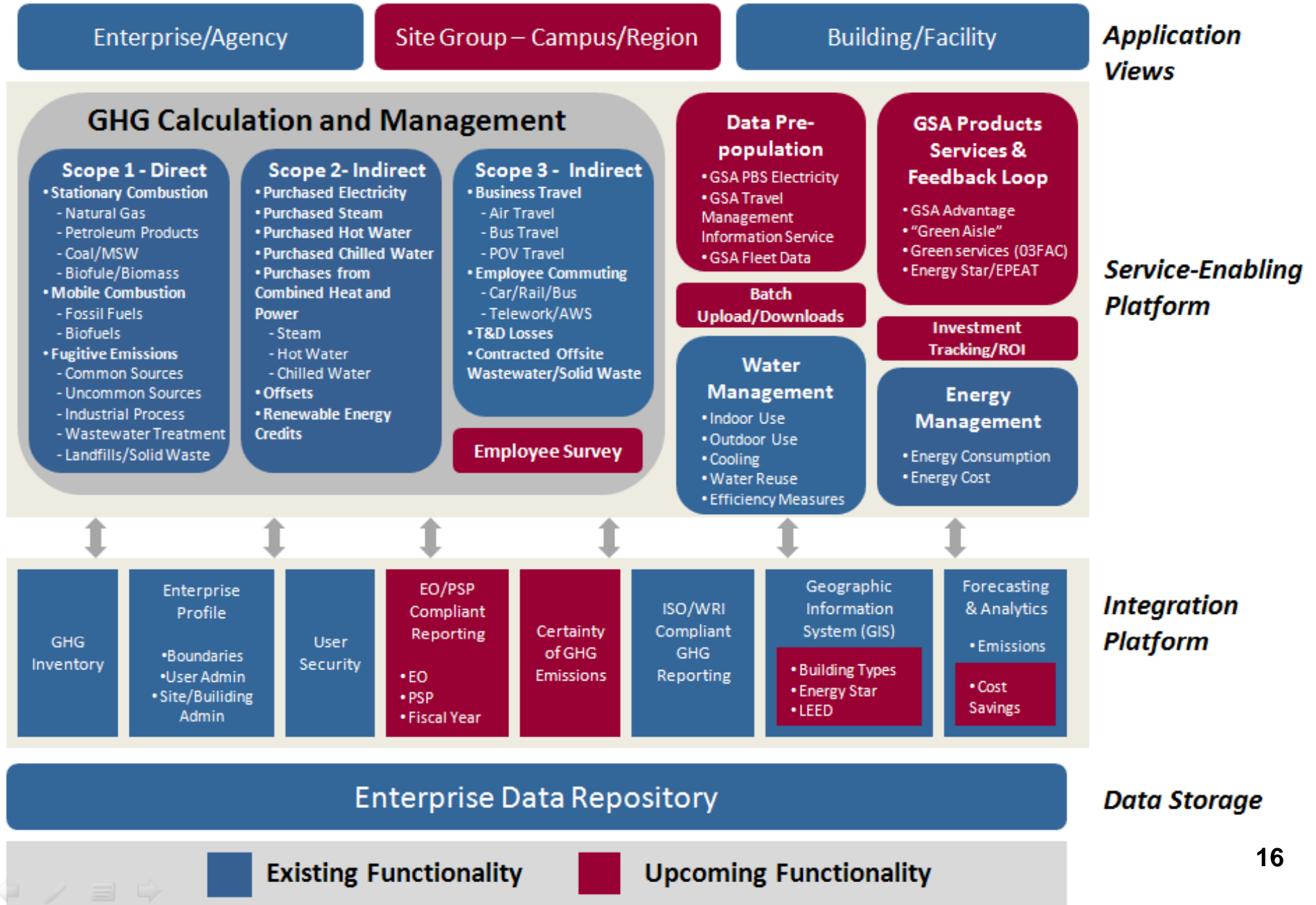




Tool Support - GHG Emissions Breakdown



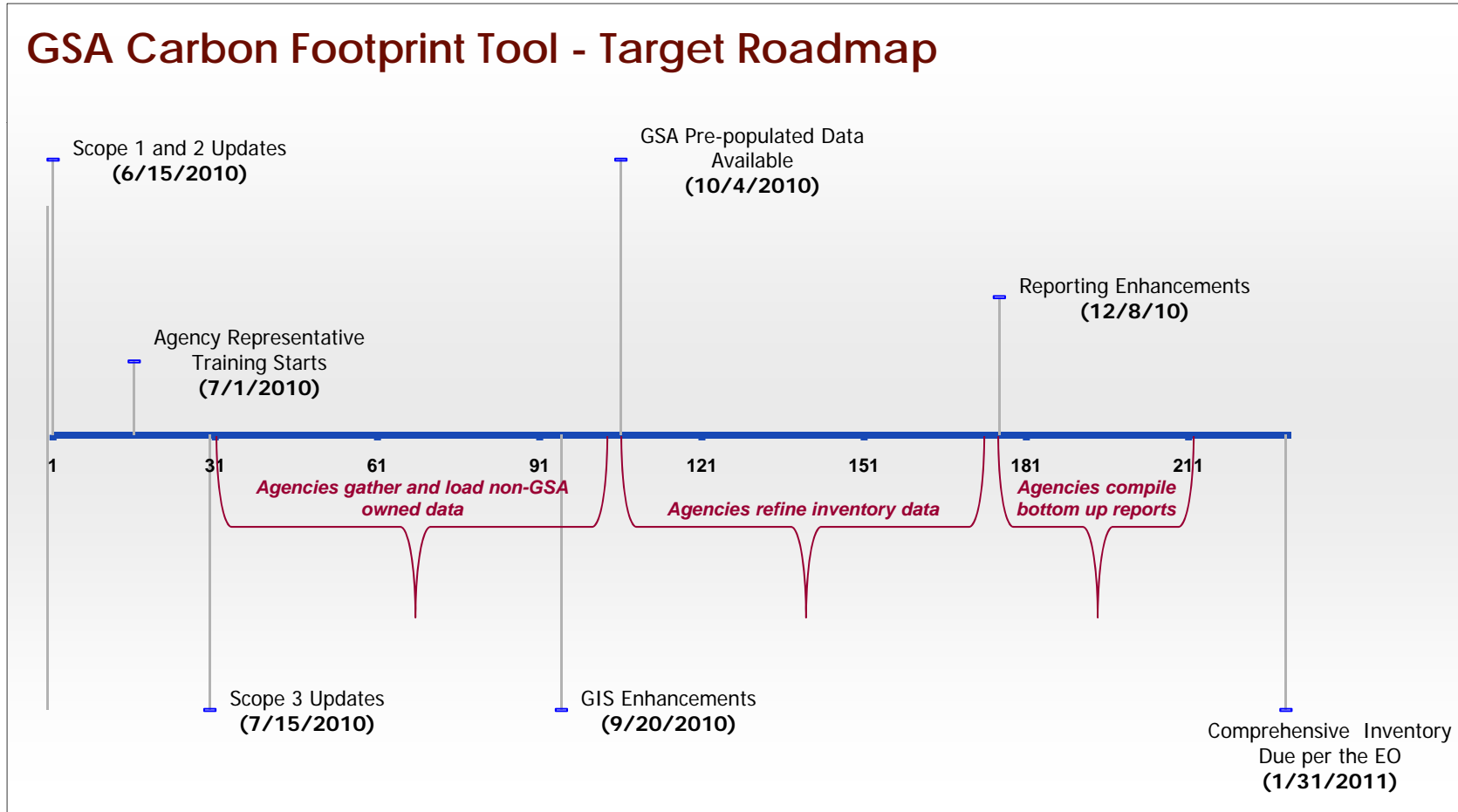
GSA Carbon Footprint Tool – Architecture Overview





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Target System Roadmap – 230 day timeline



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Current Agency Participation - *Over 55 discrete agencies*

- Centers for Disease Control and Prevention
- Central Intelligence Agency
- U.S. Department of Agriculture
- Department of Commerce
NIST, ITA
- Department of Defense
DLA, Air Force, Army, Navy, Missile Defense Agency
- Department of Energy
EIA, FEMP, LBNL, NETL, PNL, NREL
- Department of Health and Human Services
NIH, IHS
- Department of Justice
FBI
- Department of State
- Department of the Interior
NPS, US Fish & Wildlife, BLM, USBR
- Department of the Treasury
- Department of Transportation
- Department of Veterans Affairs
- Environmental Protection Agency
- General Services Administration
- NASA
- Social Security Administration
- United States Postal Service



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Current Agency Adoption

- **Official Commitments (*post June 15 SSO Demo*):**
 - **Department of Homeland Security**
 - **Department of Treasury**
 - **Health and Human Services**
- **Customized SSO/Agency Demonstrations:**
 - **July**
 - **Department of Defense**
 - **Department of Energy FEMP**
 - **Department of Agriculture**
 - **U.S. Geological Survey**
 - **U.S. Forest Service**
 - **August**
 - **Department of the Interior**

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Agency Account Management

- Two (2) Account Types:
 - Agency users tasked with entering inventory data serves as an **Agency User**
 - Enters GHG Inventory Data (Add/Edit/Delete Scenarios)
 - Run Forecasting Methods, Calculate ROI, and View GIS Map
 - Run/View/Download Reports
 - Submit Tool Feedback
 - SSO or Agency Designee serves as the **Agency Account Administrator**
 - SSO assigns agency account administrator(s) for their agency
 - Has all the permissions of an Agency User, plus:
 - Selects/controls data to rollup to the agency level
 - Creates and manages site information for their agency
 - Creates and manages users for their agency
- Individuals sharing both data entry and account management responsibilities will be set up as an **Agency Account Administrator**.

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To Officially Register Your Agency and Receive Training Assistance

➤ Register Your Agency

Contact: carbonfootprint@gsa.gov

OR: Jennifer Hazelman,

jennifer.hazelman@gsa.gov

➤ Approval will be required by your agency's Senior Sustainability Officer (SSO)

➤ To gain access to the tool for previewing, go to <https://www.carbonfootprint.gsa.gov> !



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Any Questions?