

Briefing Paper – Yates Building Greenhouse Gas Inventory and Reduction Efforts

In 2007, the U. S. Forest Service was the first federal land management agency to join the Environmental Protection Agency (EPA) Climate Leaders program. The Forest Service is developing greenhouse gas emissions inventories (GHG inventory) for six pilot projects, including the inventory for the Sidney R. Yates Building in Washington, DC. These inventories are just one method the Forest Service is considering to reduce the energy consumption and CO2 production of its operations, as required by Executive Order 13423 and the Energy Independence and Security Act of 2007.

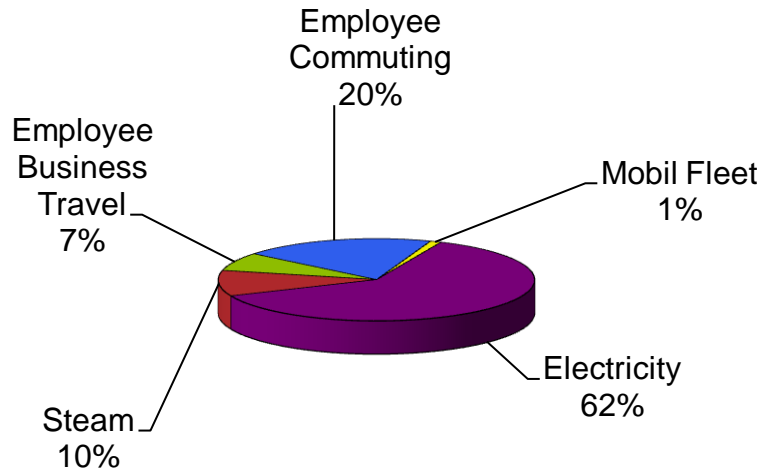
Data Analysis	Source	CO ₂ e (metric tons/year)
Direct (Scope 1)	Shuttle & Van	25
Indirect (Scope 2)	Electricity	1356
	Steam	221
Optional (Scope 3)	Employee Business Travel	159
	Employee Commuting	432
Employee business travel includes airplane, train and car rental.		

Total Emissions and Key Findings

The charts below show the results of the inventory, which was completed using FY 2007 as the base year. The total direct and indirect emissions (required reporting) are 1,603 metric tons of CO₂-equivalent (CO₂-e) gasses. The total optional emissions are 590 metric tons of CO₂-e. All emissions calculated as part of this report total 2,193 metric tons CO₂-e. Key findings were:

- Electrical usage was 61% of our total emissions in FY 2007.** Most of our building systems, including HVAC, run on electricity. For FY 2007, each employee's monthly electrical usage generated 0.25 metric tons of CO₂-e, which is equal to a cube seven feet on each side.
- Many Yates Building employees are already making sustainable commuting choices, primarily by participating in the Transit Benefits Program.
- The business travel calculation only captures some travelers at the associate director level or higher. We estimate that we only captured 30% or less of the total FY 2007 travel. New processes and systems would need to be put in place to calculate emissions from all employee travel.
- There are many personal appliances in the Yates Building that contribute to our electrical load. If all personal and networked printer/scanner/copier/faxes are counted, **we have 325 machines for 425 people, or 1 machine for every 1.3 people.** There are roughly **12 heaters on each floor (60 total); 60% of all employees have a fan (254 total);** and there are **26 air purifiers** in the building.

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CO2e Emissions Sources

Next Steps

Sustainable Operations staff are currently partnering with the Green Team and Building Management Staff from GSA and within the Forest Service to develop reduction strategies. We believe reduction efforts must focus in 3 key areas: reducing electrical usage; changing employee behavior; and purchasing and contracts. Current efforts include:

1. Purchasing – Sustainable Operations and Building Management have worked with Purchasing to acquire a bio-diesel shuttle for the service between Yates and Rosslyn offices, beginning before the end of the year. We are also working together on possibly acquiring a hybrid/electric van when the current van's contract is renewed.
2. Behavior Change – Sustainable Operations has given presentations to the USDA Facilities Working Group and other groups on the results of the GHG Inventory, and developed an exhibit for the 1st floor hallway of the Yates Building. We are partnering with Building Management, CEPO and CIO to sponsor Lighten Your Load Day, a pilot project encouraging employees to excess unneeded appliances.
3. Electrical Usage – Building Management is hoping to schedule another demonstration event when all lights and appliances in the Yates Building would be turned off and the resultant energy savings daylighted for all employees.