

# CARBON FOOTPRINT REPORT

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## for Calendar Year 2011



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## Introduction

This report describes the results of the Portland Water Bureau's (PWB's) carbon footprint calculations for the calendar year 2011. This is the fifth annual calculation of the bureau's carbon footprint. The bureau's previous carbon footprint reports can be found on PWB's web site: [www.portlandonline.com/water/index.cfm?c=31525&a=246395](http://www.portlandonline.com/water/index.cfm?c=31525&a=246395).

For the third year, PWB has included an appendix intended to provide additional contextual information about bureau facilities and operations as it relates to carbon emissions (see page 12).

## Carbon Footprint Goals

The goals of the 2011 carbon footprint are to:

- Continue to identify the best ways to collect, report, and confirm data
- Identify and track bureau greenhouse gas (GHG) emissions trends in order to better understand factors affecting GHG generation and to help target improvement actions. Compare current data to years past to mark improvements or declines.
- Identify bureau functions with the highest carbon impact for 2011
- Create a shared resource to help bureau employees understand the environmental impacts of the work they do
- Assess the bureau's contribution to meeting existing city, county, and state greenhouse gas reduction goals

The City of Portland and Multnomah County have adopted a Climate Action Plan. The city/county goal is to reduce carbon emissions by 80 percent by the year 2050 (City of Portland and Multnomah County 2009). The 2009 Climate Action Plan is available on the City of Portland's web site: <http://www.portlandoregon.gov/bps/49989>. The City also adopted a resolution directing its bureaus to implement policies and programs related to the Climate Action Plan (City of Portland Resolution No. 36749).

The State of Oregon adopted greenhouse gas emissions targets in 2007. The state goals are to begin to reduce greenhouse gas emissions by 2010, achieve greenhouse gas levels 10 percent less than 1990 levels by 2020, and to achieve greenhouse gas levels 75 percent below 1990 levels by 2050. The Oregon Legislature also declared that it is the policy of the state of Oregon for state and local governments, businesses, nonprofit organizations, and individual residents to prepare for the effects of global warming and, by doing so, prevent and reduce the social, economic and environmental effects. The text of the 2007 law is available on the State's web site: <http://www.oregon.gov/ENERGY/GBLWRM/HB3543.shtml>.

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## Methodology

PWB’s 2011 carbon footprint was calculated using the methodology of The Climate Registry’s General Reporting Protocol (GRP), Version 2.0 (2012). The GRP methodology translates units of natural gas, electricity and fuel used into estimates of carbon emissions. The results are reported in carbon dioxide equivalency (CO<sub>2</sub>e) units. The GRP methodology is considered a standard protocol for the United States, especially the western region of the United States. This report uses an updated set of “default emission factors” developed for 2012.

More information about the GRP methodology is available at The Climate Registry’s web site: <http://www.theclimateregistry.org/downloads/2012/01/TCR-Draft-GRP-2.0-For-Public-Comment.pdf>. The PWB recognizes that the GRP Version 2.0 is in draft form and currently in the process of public comment; therefore, the PWB will respond to significant changes to the final GRP version 2.0 in next year’s report.

PWB’s carbon footprint calculation consists of emissions from the following sources:

- Electricity for groundwater and distribution pump stations, lighting, and other facility uses
- Biodiesel, diesel, and gasoline fuels for transportation, heavy machinery, and power tools
- Natural gas for heating
- Fuel for employee air travel

The 2011 calculation excludes sources for which data are not yet readily available. Examples of excluded emissions sources include the following:

- Fuel used during employee commutes to and from work
- Emissions produced by services provided to the bureau such as solid waste collection and disposal
- Emissions produced during the manufacture, delivery, and disposal of purchased material (such as paper, pipe, concrete, or chlorine gas)
- Fuel used during construction work performed by contractors
- Refrigerants (for air conditioning and refrigeration)

## Employee Commuting

Although carbon emissions from employee commutes are not tracked as part of the carbon footprint, the PWB is interested in tracking employee commute trends over time. Trends are tracked by monitoring the number of employees that participate in the city-sponsored TRIPS program. The TRIPS program offers subsidized transit passes or carpool parking and quarterly monetary incentives to employees that bike or carpool. (See Table 1).

**Table 1. PWB TRIPS Program Participation, Calendar Years 2009 - 2011**

Category	Number of Participating Employees		
	2009	2010	2011
Trimet/C-Tran pass (bus, MAX, streetcar)	178	196	178
Carpool	12	20	11
Bike/Walk incentive	32	49	50
<b>Total</b>	222	265	239
<b>Total employee participation</b> <sup>a, b, c</sup>	35%	42%	39%

<sup>a</sup> 640 FT and PT PWB employees in 2009

<sup>b</sup> 636 FT and PT PWB employees in 2010

<sup>c</sup> 619 FT and PT PWB employees in 2011

## 2011 Results

The PWB's total CO<sub>2</sub>e emissions for calendar year 2011 were 11,526 metric tons, an 18 percent increase from the 2010 calendar year. The increase is due to groundwater pumping and increased fuel use in 2011.

PWB's 2011 emissions were equivalent to the annual carbon footprint of approximately 576 average people in the United States, considering an average U.S. citizen generates about 20 metric tons of CO<sub>2</sub>e emissions per year (Massachusetts Institute of Technology 2008).

Approximately 80% of PWB's 2011 emissions were from electrical use. Approximately 17% percent was from fuel used for vehicles, equipment and air travel. A small portion was from natural gas, primarily used for heating, which accounted for 3% of total emissions. Table 2 provides 2011 summary data.

**Table 2. PWB CO<sub>2</sub>e Emissions, Calendar Year 2011**

Fuel Type	CO <sub>2</sub> e in Metric Tons	Percentage
Electricity (indirect emissions)	9,138	80%
Fleet Fuel (ULSD <sup>a</sup> , biodiesel, gasoline)	1,976	16%
Natural Gas	357	3%
Employee Air Travel (air miles)	55	<1%
<b>Total Annual CO<sub>2</sub>e Emissions</b>	<b>11,526</b>	<b>100%</b>

<sup>a</sup> ULSD is ultra-low sulfur diesel

## Historical Trends

PWB first conducted a carbon footprint calculation in 2007. Table 3 shows the PWB's trends for energy and fuel use, calendar years 2007-2011. Table 4 shows trends in CO<sub>2</sub>e emissions for calendar years 2007-2011.

**Table 3. PWB Energy and Fuel Use, Calendar Years 2007-2011**

Energy and Fuel Use Category	CALENDAR YEARS				
	2007 <sup>a</sup>	2008	2009	2010	2011
Electricity (kWh) <sup>b</sup>	27,727,113	22,986,994	24,300,587	19,236,332	23,335,253 <sup>c</sup>
Fleet Fuel (gallons) <sup>d</sup>	286,407	222,848	242,753	230,912	239,557
Natural Gas (therms) <sup>e</sup>	65,914	64,160	67,736	60,299	64,024
Employee Air Travel (air miles)	577,237	660,000	283,031	246,122	322,974

<sup>a</sup> 2007 is the baseline year.

<sup>b</sup> kWh is kilowatt hours.

<sup>c</sup> The spike in electricity use is due to a weather-related increase in groundwater use (see Table 7).

<sup>d</sup> Fleet fuel includes diesel, biodiesel, and gasoline.

<sup>e</sup> Natural gas is used solely for heating.

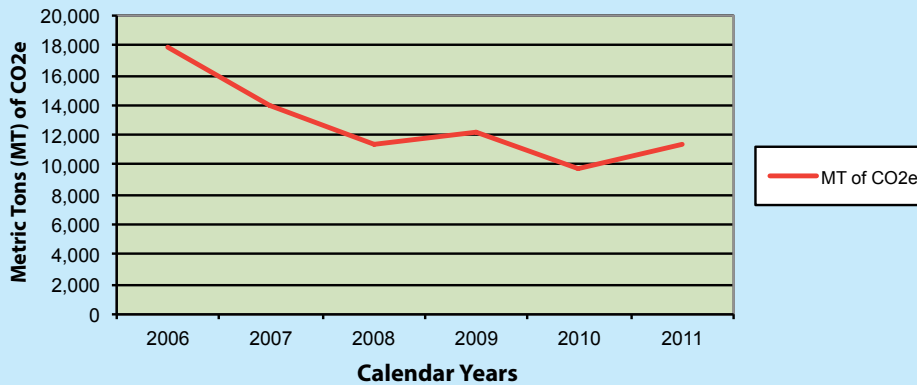
**Table 4. PWB CO<sub>2</sub>e Emissions, Calendar Years 2007-2011**

Category Contribution to CO <sub>2</sub> e Emissions in Metric Tons	CALENDAR YEARS				
	2007	2008	2009	2010	2011
Electricity	11,420	9,549	10,113	8,036	9,138
Fleet Fuel	2,117	1,390	1,678	1,375	1,976
Natural Gas	360	350	370	329	357
Employee Air Travel	111	127	55	48	55
<b>Total</b>	<b>14,008</b>	<b>11,416</b>	<b>12,216</b>	<b>9,788</b>	<b>11,526</b>

As shown in Tables 3 and 4, annual emissions rise or fall based primarily on the amount of electricity used in a calendar year. For example, emissions were highest in 2007 when electricity use was also the highest, and emissions were lowest in calendar year 2010, corresponding with comparatively low electricity use in that year. Electricity use for non-groundwater operations remain relatively constant year to year. Electricity use by the groundwater system is influenced by seasonal and other supplemental water needs.

Graph 1 shows PWB’s CO<sub>2</sub>e emissions estimates, calendar years 2006-2011.

**Graph 1. PWB CO<sub>2</sub>e Emissions, Calendar Years 2006-2011**



### PWB Hydropower

The City owns several hydropower facilities. Powerhouses at each of the two Bull Run dams generated 95 million kWh of electricity in 2011 (see Table 5). The powerhouses, operated by Portland General Electric, produced about 4 times more electricity than the bureau used in 2011. These facilities add to the region’s renewable energy portfolio. They are not, however, included as a carbon emissions offset in the 2011 carbon footprint report.

**Table 5. PWB Hydropower Generation (kWh), Calendar Years 2008-2011**

Hydropower Facilities	CALENDAR YEARS			
	2008	2009	2010	2011
PHP Powerhouse No. 1 (kWh) <sup>a</sup>	58,474,000	54,008,000	56,121,000	54,990,000
PHP Powerhouse No. 2 (kWh)	46,177,000	39,041,000	44,372,000	40,088,000
<b>Total hydropower generated (kWh)</b>	<b>104,651,000</b>	<b>93,049,000</b>	<b>100,493,000</b>	<b>95,078,000</b>

<sup>a</sup> kWh is kilowatt hour

## 2011 Results by Emissions Source

### Electricity Use

In 2011, PWB's electricity use was 23,335,253 kilowatt hours (kWh), a 21 percent increase from calendar year 2010 (see Table 6).

**Table 6. PWB Electricity Use and CO<sub>2</sub>e Emissions, Calendar Years 2007- 2011**

Category	CALENDAR YEARS				
	2007	2008	2009	2010	2011
Electricity (kWh) <sup>a</sup>	27,335,981	22,857,002	24,208,091	19,236,332	23,335,253
CO <sub>2</sub> e Emissions (MT) <sup>b</sup>	11,420	9,549	10,113	8,036	9,138

<sup>a</sup> kWh is kilowatt hour

<sup>b</sup> MT is metric tons

### Top 10 Energy-Using Facilities

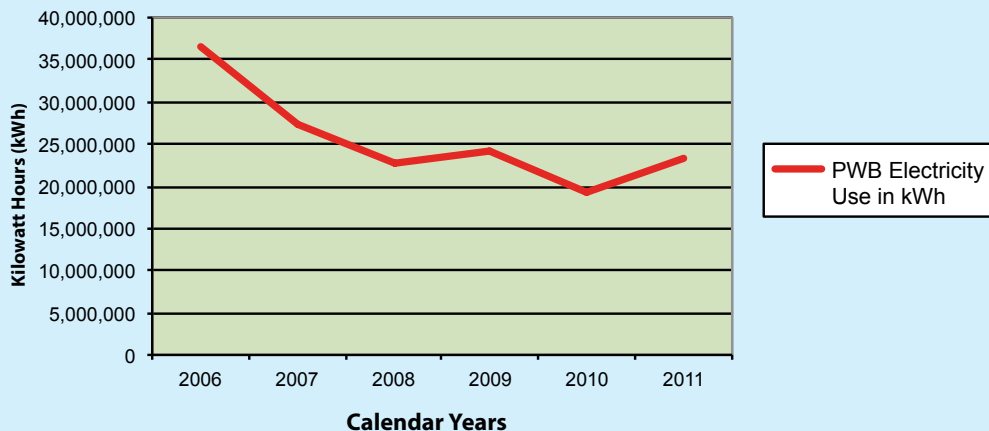
The PWB Energy Committee tracks electricity use at all of the bureau's 220 facilities that use electricity. Special attention is paid to the "top 10" facilities that use the most energy, listed in order of highest energy consumption:

- Calvary Pump Station
- Washington Park Pump Station
- Fulton Pump Station
- Carolina Pump Station
- Sam Jackson Pump Station
- Barbur-Gibbs Pump Station
- Headworks
- Lab/Control Center Building
- Interstate Maintenance Building
- Hoyt Pump Station

Although the groundwater pump station is also a large energy user, it is excluded from the "top 10" because of its episodic/seasonal use.

Graph 2 shows historical trends in electricity use since 2006.

**Graph 2. PWB Electricity Use, Calendar Years 2006-2011**



PWB owns or operates over 220 facilities that use electricity. PWB uses electricity to pump water from reservoirs to storage tanks to provide service to customers at higher elevations, as well as for powering lighting and various types of electrical equipment. The single largest category of electricity use is pumping groundwater from wells in the Columbia South Shore Well Field. The amount of groundwater pumped varies from year to year, depending on weather and associated water supply conditions. The bureau pumped 1.3 billion gallons in 2011. In 2010, 28 million gallons were pumped (see Table 7). This increase in pumped groundwater resulted in an increase in total electricity use between calendar years 2010 and 2011 (see Table 6). Groundwater pumped during 2011 was primarily used to provide an alternative supply during a significant January storm. Groundwater was turned on when this storm increased turbidity in the Bull Run supply, and Bull Run was temporarily turned off.

**Table 7. Comparison of Energy Used for Groundwater Pumping, Calendar Years 2007-2011**

Category	CALENDAR YEARS				
	2007	2008	2009	2010	2011
GW Pumped for Water Supply (MG) <sup>a,b</sup>	1,870	680	1,109	28	1,320
Electricity Used for Pumping GW (kWh)	6,953,454	3,277,935	4,380,036	972,971	5,653,653
CO <sub>2</sub> e Emissions (MT) <sup>c</sup>	2,905	1,369	1,830	406	2,214
Percentage of Total Carbon Emissions	21%	12%	15%	4%	19%

<sup>a</sup> GW is groundwater

<sup>b</sup> MG is million gallons

<sup>c</sup> kWh is kilowatt hours

## QUICK FACT

### CO<sub>2</sub>e per Million Gallons

PWB's gravity-fed water system has a relatively small carbon footprint per unit of drinking water. The U.S. Environmental Protection Agency (EPA) estimates an average of 0.0015 kWh per gallon to convey surface water in the United States (U.S. EPA 2008). This estimate includes pumping raw water, filtration/treatment, and distribution. The PWB estimate is 0.0007 kWh per gallon, or about one-half of the EPA estimate. In 2011, PWB's supply-related electrical use was equivalent to 0.33 metric tons of CO<sub>2</sub>e emissions per million gallons.

**Table 8. CO<sub>2</sub>e Emissions per Million Gallons (MG) of Water, Calendar Years 2007-2011**

Category	CALENDAR YEARS				
	2007	2008	2009	2010	2011
PWB CO <sub>2</sub> e Emissions (MT) <sup>a</sup>	14,008	11,431	12,216	9,788	11,526
MG Water Produced (total)	37,068	37,480	37,977	35,971	35,371
Bull Run Water (MG) <sup>b</sup>	35,198	36,800	36,870	35,943	34,020
Groundwater (MG)	1,870	680	1,109	28	1,320
<b>MT of CO<sub>2</sub>e Emissions per MG</b>	<b>0.38</b>	<b>0.30</b>	<b>0.32</b>	<b>0.27</b>	<b>0.33</b>

<sup>a</sup> MT is metric tons

<sup>b</sup> MG is million gallons

## Natural Gas Use

Natural gas use increased by 6 percent between calendar years 2010 and 2011, from 60,229 therms to 64,024 therms (see Table 9). The increase is in part due to cooler weather in 2011. There were 4,607 heating degree days in 2011 versus 4,186 heating degree days in 2010 (Weather Underground 2012). A heating degree day is a measurement which reflects the energy needed to heat a home or business ( <http://www.epa.gov/heatisland/resources/glossary.htm#h> ).

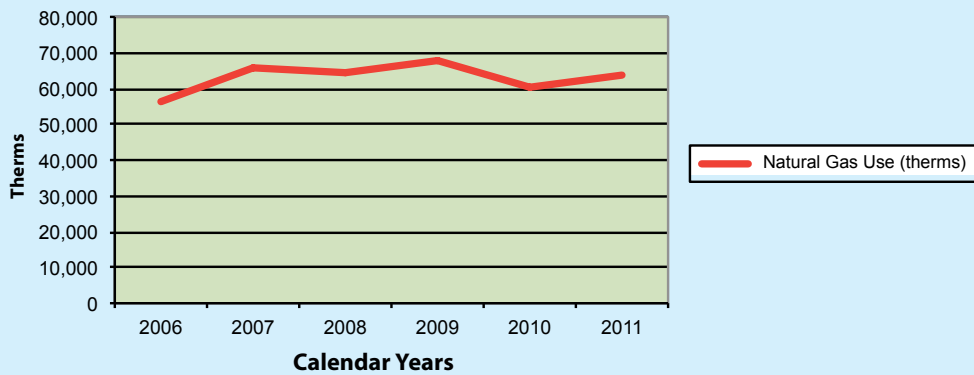
**Table 9. PWB Natural Gas Use and CO<sub>2</sub>e Emissions, Calendar Years 2007-2011**

Category	CALENDAR YEARS				
	2007	2008	2009	2010	2011
Natural Gas (Therms)	65,914	64,160	67,736	60,299	64,024
CO <sub>2</sub> e Emissions (MT) <sup>a</sup>	360	350	370	329	357

<sup>a</sup> MT is metric tons

Graph 3 shows historical trends in natural gas use since 2006.

**Graph 3. PWB Natural Gas Use, Calendar Years 2006-2011**





## Fleet Fuel Use

Total fleet fuel use increased by approx. 4 percent between calendar years 2010 and 2011. Table 10 shows the type and amount of fleet fuel used for calendar years 2007-2011.

Since July 2010, CityFleet has reduced purchases of biodiesel fuel resulting in lower blends that range from 5 to 30 percent. This resulted in increased use of ultra low sulfur diesel (ULSD).

**Table 10. PWB Fleet Fuel Use and CO<sub>2</sub>e Emissions, Calendar Years 2007-2011**

Fuel Type	2007	2008	2009	2010	2011
Diesel (ULSD) <sup>a</sup> (gallons)	69,315	52,830	81,274	57,296	131,953
Biodiesel (gallons)	62,946	77,614	69,779	88,118	34,691
Gasoline (gallons)	154,146	92,404	91,700	85,498	72,913
<b>Total</b>	<b>286,407</b>	<b>222,848</b>	<b>242,753</b>	<b>230,912</b>	<b>239,557</b>
<b>Associated CO<sub>2</sub>e Emissions (MT)<sup>b</sup></b>	<b>2,117</b>	<b>1,390</b>	<b>1,678</b>	<b>1,375</b>	<b>1,976<sup>c</sup></b>

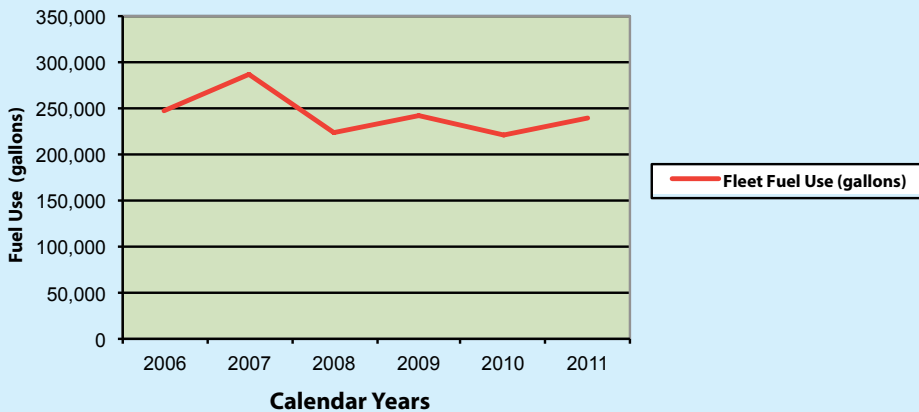
<sup>a</sup> ULSD is ultra-low sulfur diesel

<sup>b</sup> MT is metric tons

<sup>c</sup> 370 MT of biofuel CO<sub>2</sub> were emitted in 2011 via the use of biodiesel blends B5-B30 and 10% Ethanol (E10). Based on requirements set by the Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories, it is important to note that the quantity of biofuel CO<sub>2</sub> emissions is reported separately from fossil fuel emissions. This standard is based on the conclusion that CO<sub>2</sub> emissions from the combustion of biofuels do not cause a net change of CO<sub>2</sub> in the atmosphere. Biofuels are derived from plants that sequester CO<sub>2</sub> from the atmosphere while fossil fuels are extracted from geological sources that do not sequester CO<sub>2</sub>. Based on the IPCC guidelines, a biofuel CO<sub>2</sub> is not included in the 2011 total of 1,976 MT.

Graph 4 shows historical trends in fleet fuel use in calendar years 2006-2011.

**Graph 4. PWB Fleet Fuel Use, Calendar Years 2006-2011**



PWB offers free transit passes to employees for travel to meetings or between facilities during the work day. Table 11 shows PWB's Trimet pass use for calendar years 2009-2011.

**Table 11. Work-Related Transit Use**

Category	CALENDAR YEARS		
	2009	2010	2011
Portland Building Trimet Tickets Distributed	107	193	193
Interstate Trimet Tickets Distributed	52	66	168
<b>Total Trimet Tickets Distributed</b>	<b>159</b>	<b>259</b>	<b>361</b>

Table 12 shows miles driven, fuel consumption, and miles per gallon (MPG) by vehicle class. Passenger vehicle MPG improved modestly in 2011 due in part to the purchase of 15 Ford Hybrid Escapes. Table 13 shows PWB's vehicle and equipment inventory for calendar years 2008-2011. PWB experienced a slight decrease in vehicle inventory between calendar years 2010 and 2011 (from 303 vehicles to 296 vehicles) and a very slight decrease in total inventory due to a small decrease in equipment (from 50 pieces of equipment to 43). PWB's goal is to decrease vehicle inventory over time through more efficient vehicle deployment and scheduling.

**Table 12. PWB Vehicle and Equipment Average MPG per Class, Calendar Year 2011**

Vehicle Class	Miles	Gallons	MPG
Passenger Vehicles	193,397	11,124	17
Light-Duty Trucks	980,889	94,747	10
Heavy-Duty Trucks	424,748	84,897	5
Heavy Construction Equipment	25,607	11,000	2
<b>Total</b>	<b>1,624,641</b>	<b>201,768<sup>a</sup></b>	<b>8</b>

<sup>a</sup> Actual fuel use was 239,557 gallons with equipment and external fuel tanks included.

**Table 13. PWB Vehicle Inventory, Calendar Years 2008 - 2011**

Vehicle Type	Vehicle Inventory			
	2008	2009	2010	2011
Passenger Vehicles	43	45	45	49
Light-Duty Trucks	180	170	168	154
Heavy-Duty Trucks	88	88	83	87
Heavy Construction Equipment <sup>a</sup>	6	4	7	6
Equipment <sup>b</sup>	31	38	43	37
<b>Total all Categories</b>	<b>348</b>	<b>345</b>	<b>346</b>	<b>333</b>

<sup>a</sup> Heavy construction equipment category is equipment that accumulates miles (e.g. concrete truck)

<sup>b</sup> Equipment category is equipment that does not accumulate miles (e.g. tractor, forklift, backhoe)

## Air Travel

PWB employees traveled 322,974 miles by air in 2011, an increase of over 31 percent from 2010 but is still substantially less than 2008. The 2011 air miles produced 55 metric tons of CO<sub>2</sub>e. Table 14 shows the 2007-2011 trend in air miles traveled and the associated CO<sub>2</sub>e emissions.

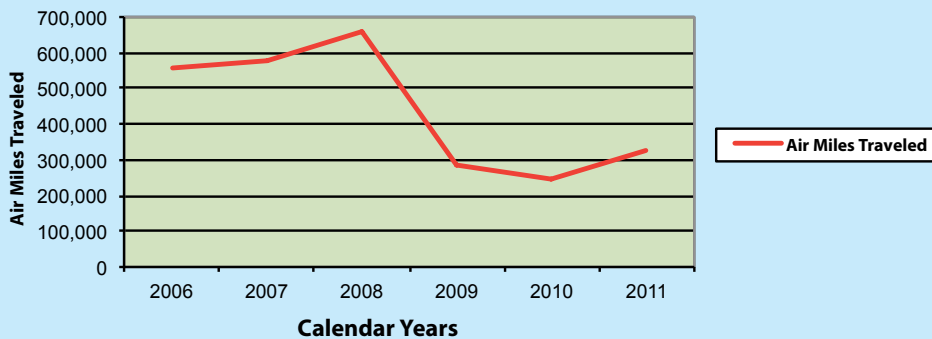
**Table 14. PWB Employee Air Travel in Miles and CO<sub>2</sub>e Emissions, Calendar Years 2007-2011**

Category	CALENDAR YEARS				
	2007	2008	2009	2010	2011
Air Miles	577,237	660,000	283,031	246,122	322,974
CO <sub>2</sub> e Emissions (metric tons)	111	127	55	48	55

<sup>a</sup>Emissions based on employee air travel factors from the 2011 U.S. EPA’s “Emission Factors for Greenhouse Gas Inventories.”

Graph 5 shows historical trends in fleet fuel use in calendar years 2006-2011

**Graph 5. PWB Air Miles Traveled, Calendar Years 2006-2011**



Employee air travel is categorized by The Climate Registry (TCR) as Scope 3, indirect emissions. TCR does not provide default emission factors for business air travel. The PWB used the air travel factors from the 2011 U.S. EPA’s *Emission Factors for Greenhouse Gas Inventories*, <http://www.epa.gov/climateleadership/documents/emission-factors.pdf>.

## PWB’s Carbon Mitigation Efforts

Some highlights from 2011 include the following:

- Energy use at the Water Bureau’s top ten facilities, excluding groundwater, was 16% lower than the 2005-2008 baseline.
- Eco-Driving training class was initiated to improve fuel economy, reduce emissions, and improve safety.
- Bureau purchased 15 hybrid SUVs to help reduce fuel consumption.
- Use of transit for work-related trips increased, and more staff chose smaller sedans for work travel rather than larger SUVs and trucks.

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## References

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## Appendix

This appendix is modeled after the Global Reporting Initiative's Sustainability Reporting Guidelines (GRI SRG) Version 3 Part 2: Standard Disclosures, Strategy and Profile section (2006). PWB is incorporating this small portion of the GRI SRG to provide context about PWB size and operation.

### **Name of organization**

Portland Water Bureau, City of Portland, Oregon

### **Primary products, services, and markets served**

PWB delivers water to approximately 932,400 people in a 225-square mile service area (retail and wholesale). PWB's service area covers parts of Multnomah, Washington, and Clackamas counties. PWB provides water to almost one-quarter of the population of Oregon.

PWB also owns and manages the Columbia South Shore Well Field (CSSWF) which provides a backup water supply during turbidity events or when additional supply is needed, such as during long, dry summers. CSSWF consists of 27 groundwater wells that pump water from three aquifers located in a five square-mile area on the south shore of the Columbia River.

### **Operational structure of the organization, including main divisions**

PWB employees are organized into seven groups: Administration, Customer Service, Engineering, Finance and Support Services, Maintenance and Construction, Operations, and Resource Protection and Planning. To learn more about each group, visit the web site: <http://www.portlandonline.com/water/index.cfm?c=29964&a=123366>.

### **Number of employees**

619 employees: 615 full-time and 4 permanent part-time, as well as a number of temporary part-time employees not included in the total.

### **Location of organization's headquarters**

PWB operates out of two main facilities, the Portland Building in downtown Portland and the Interstate Facility located 2.4 miles from the Portland Building and on the east side of the Willamette River. The majority of PWB employees work out of these two facilities. PWB employees also occupy six smaller facilities: Groundwater Pump Station, Headworks, Lusted Hill, Paint Shop, Powell Butte and Sandy River Station.

### **Number of buildings and properties owned or managed**

The bureau owns over 170 properties such as pump stations (43), buildings (24), well properties (30) and vault sites (6) on 1,170 acres of land (excluding land in the Bull Run Watershed).

### **Significant changes during the reporting period (such as location of or changes in operations, including facility openings, closings, and expansions)**

No new buildings were added in CY 2011.

### **Quantity of products or services provided (water)**

In fiscal year 2010-2011, the PWB produced an average of 98 million gallons of drinking water per day.

**Table 15. System Production Data, Fiscal Years 2007 - 2011**

Category	Fiscal Year			
	07-08	08-09	09-10	10-11
Average Daily Production in MGD <sup>a</sup>	103	103	101	98

<sup>a</sup> MGD is million gallons per day

### Breakdown of sales

PWB directly served over 161,300 single and multi-family residential accounts and about 19,900 commercial and industrial accounts. Portland's wholesale customers served an estimated population of more than 366,100 in FY10-11.

### Average water use per customer

In fiscal year 10-11, residential customers used an average of 57 gallons per capita per day. Commercial customers used an average of 1,350 gallons per service per day (see Table 16).

**Table 16. Avg. Water Use, Residential and Commercial Accounts, FY 07-08 to 10-11**

Category	Fiscal Year			
	07-08	08-09	09-10	10-11
Residential Customers (gallons per capita)	63	62	61	57
Commercial, Industrial, Institutional Accounts <sup>a, b</sup>	1,460	1,450	1,410	1,350

<sup>a</sup> Average daily consumption per service in gallons

<sup>b</sup> Adjusted to exclude fireline services

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For more information on the Portland Water Bureau's Sustainability Program  
see the web page:

[www.portlandonline.com/water/index.cfm?c=31525](http://www.portlandonline.com/water/index.cfm?c=31525)

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Web site: [portlandoregon.gov/water](http://portlandoregon.gov/water)

Randy Leonard, Commissioner  
David G. Shaff, Administrator

*The City of Portland will make reasonable accommodation for people with disabilities. Please notify us no less than five (5) business days prior to the event by phone at 503-823-7404, by the city's TTY at 503-823-6868, or by the Oregon Relay Service at 1-800-735-2900.*

 August 2012

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