

# CARBON FOOTPRINT REPORT

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## for Calendar Year 2009



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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 2009. This is the third 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 first time, PWB has included an appendix to the Carbon Footprint report that is modeled on the Global Reporting Initiative methodology. This appendix is 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 2009 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 CO<sub>2</sub>e generation and to help target improvement actions
- Identify bureau functions with the highest carbon impact for 2009
- 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 that has put the Portland metropolitan area on a path 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/index.cfm?c=41896>. 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).

In 2007, Oregon's Governor Kulongoski signed House Bill (HB) 3543, which sets greenhouse gas emissions targets for the state. The goals of the bill 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 Legislative Assembly 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 of global warming. The text of HB 3543 is available on the State's web site: <http://www.oregon.gov/ENERGY/GBLWRM/HB3543.shtml>.

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## Methodology

PWB’s 2009 carbon footprint was calculated using the methodology of The Climate Registry’s General Reporting Protocol (GRP) Version 1.1 (2008). The GRP methodology is considered a standard protocol for the United States, especially the western United States.

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. More information about the GRP methodology is available at The Climate Registry’s web site: <http://www.theclimateregistry.org/downloads/GRP.pdf>.

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 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, refrigeration, and water fountains)

### A First Look at Employee Commuting

PWB does not currently track carbon emissions associated with employee commutes to and from work. However, as a first step in understanding the commuting habits of PWB employees, the PWB analyzed data from the City-sponsored Trip Reduction Incentive Program (TRIP) in calendar year 2009. The TRIP program offers reduced-rate bus passes and carpool parking to city employees or a cash incentive for employees who bike or walk to work. In calendar year 2009, 35 percent of the bureau’s 635 employees participated in the TRIP program (see Table 1).

**Table 1. PWB program participation in TRIP, Calendar Year 2009**

Category	Number of Employees
Trimet/C-Tran pass (bus, MAX, streetcar)	178
Carpool	12
Bike/Walk incentive	32
<b>Total</b>	<b>222</b>
<b>Total employee participation <sup>a</sup></b>	<b>35%</b>

<sup>a</sup> As a percentage of the 635 FT and PT PWB employees in 2009

## 2009 Results

The PWB's total CO<sub>2</sub>e emissions for calendar year 2009 were 12,216 metric tons, a 7 percent increase from the 2008 calendar year. This increase is a result of a rise in electrical use due primarily to groundwater pumping, and a 20,000 gallon increase in fleet fuel use. A modest increase in natural gas use was also observed in 2009.

PWB's 2009 emissions were equivalent to the annual carbon footprint of approximately 610 average people in the United States. 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 83 percent of PWB's 2009 emissions were from electrical use. Most of the remaining 17 percent was from fuel used for vehicles, equipment, and air travel. A small portion (3 percent) was from natural gas, primarily used for heating. Table 2 provides the 2009 summary data.

**Table 2. PWB CO<sub>2</sub>e Emissions, Calendar Year 2009**

Fuel Type	CO <sub>2</sub> e in Metric Tons	Percentage of Total
Electricity	10,113	83
Fleet Fuel (ULSD <sup>a</sup> , biodiesel, gasoline)	1,678	14
Natural Gas	370	3
Employee Air Travel (air miles)	55	>1
<b>Total Annual CO<sub>2</sub>e Emissions</b>	<b>12,216</b>	<b>100</b>

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

## Five-Year Historical Trends

PWB first conducted a carbon footprint calculation in 2007, and backcasted to 2005 to provide context to the 2007 data. Table 3 shows the PWB's five-year trends for energy and fuel use, calendar years 2005-2009. Table 4 shows the PWB five-year CO<sub>2</sub>e emission trends for calendar years 2005-2009.

**Table 3. Portland Water Bureau Energy and Fuel Use, Calendar Years 2005 – 2009**

Energy and Fuel Use Category	CALENDAR YEARS				
	2005	2006	2007	2008	2009
Electricity (kWh) <sup>a</sup>	20,099,286	36,430,956 <sup>b</sup>	27,335,981	22,857,002	24,208,091
Fleet Fuel (gallons) <sup>c</sup>	229,968	247,447	286,407	222,848	242,753
Natural Gas (therms) <sup>d</sup>	53,462	56,312	65,914	64,160	67,736
Employee Air Travel (air miles)	646,653	558,573	577,237	660,000	283,031

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

<sup>b</sup> The 2006 spike in electricity use is due to a weather-related increase in groundwater use (see Table 7).

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

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

**Table 4. PWB CO<sub>2</sub>e Emissions, Calendar Years 2005 – 2009**

Category Contribution to CO <sub>2</sub> e Emissions in Metric Tons	CALENDAR YEARS				
	2005	2006	2007	2008	2009
Electricity	8,397	15,220	11,420	9,549	10,113
Fleet Fuel <sup>a</sup>	2,216	2,189	2,117	1,390	1,678
Natural Gas	292	307	360	350	370
Employee Air Travel	125	108	111	127	55
<b>Total</b>	<b>11,030</b>	<b>17,824</b>	<b>14,008</b>	<b>11,416</b>	<b>12,216</b>

<sup>a</sup> Fleet fuel emissions were calculated based on fuel type and percentage of biodiesel.

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 years 2006 and 2007 when electricity use was also highest and emissions were lowest in calendar years 2005 and 2008, corresponding with comparatively low electricity use in those years.

## PWB Hydropower

The City owns several hydropower facilities. Powerhouses at each of the two Bull Run dams generated a total of 93 million kWh of electricity in 2009 (see Table 5). The powerhouses, operated by Portland General Electric, produced over 3 times more electricity than the bureau used in 2009. An additional micro hydro facility at Mt. Tabor generated 271,720 kWh of electricity in 2009, enough to power about 30 homes in the Pacific Northwest for a year (U.S. Energy Information Administration 2005). These facilities add to the region’s renewable energy portfolio. They are not, however, included as a carbon emission offset in the 2009 carbon footprint report.

**Table 5. PWB Hydropower Generation at Bull Run Dams (kWh), Calendar Years 2008-2009**

Hydropower Facilities	Calendar Years	
	2008	2009
PHP Powerhouse No. 1 (kWh)	58,474,000	54,008,000
PHP Powerhouse No. 2 (kWh)	46,177,000	39,041,000
<b>Total hydropower generated (kWh)</b>	<b>104,651,000</b>	<b>93,049,000</b>

## 2009 Results by Emissions Source

### Electricity Use

In 2009, PWB's electricity use was 24,208,091 kilowatt hours (kWh), a 6 percent increase from calendar year 2008 (see Table 6).

**Table 6. PWB Electricity Use and CO<sub>2</sub>e Emissions, Calendar Years 2005 – 2009**

Category	CALENDAR YEARS				
	2005	2006	2007	2008	2009
Electricity (kWh)	20,099,286	36,430,956	27,335,981	22,857,002	24,208,091
CO <sub>2</sub> e Emissions (MT) <sup>a, b</sup>	8,397	15,220	11,420	9,549	10,113

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

<sup>b</sup> CO<sub>2</sub>e emissions from electricity were calculated using the emissions factor for the northwest eGRID subregion (The Climate Registry 2008). Emission factors are based on the regional power-pool of coal and renewable sources.

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 1.1 billion gallons during 2009 to meet seasonal demand. In 2008, only 680 million gallons were pumped. This 39 percent increase in pumped groundwater resulted in a 6 percent increase in electricity use between calendar years 2008 and 2009 (see Table 7).

**Table 7. Energy Used for Groundwater Pumping, Calendar Years 2005 – 2009**

Category	CALENDAR YEARS				
	2005	2006	2007	2008	2009
GW Pumped for Water Supply (MG) <sup>a, b</sup>	0	4,680	1,870	680	1,109
Electricity Used for Pumping GW (kWh)	971,946 <sup>c</sup>	15,726,549	6,953,454	653,473	4,380,036
CO <sub>2</sub> e Emissions (MT) <sup>d</sup>	406	6,570	2,905	273	1,830
Percentage of Total Carbon Emissions	4%	37%	21%	2%	15%

<sup>a</sup> GW is groundwater

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

<sup>c</sup> In 2005, the groundwater facility used some electricity for testing and equipment maintenance but no groundwater was pumped for water supply.

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

#### QUICK FACT

#### SOLAR ON THE SLOUGH

In 2009, PWB installed a 267-kilowatt solar array at the Groundwater Pump Station. The array produces 300,000 kWh of electricity per year and, to a modest but measurable degree, helps to offset the bureau's purchases of electricity. Regionally, it adds more renewable energy capacity to the grid, reducing our community's reliance on fossil fuels and lowering carbon emissions.

## PWB Top 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:

- Groundwater Pump Station
- Washington Park Pump Station
- Fulton Pump Station
- Carolina Pump Station
- Sam Jackson Pump Station
- Barbur-Gibbs Pump Station
- Headworks
- 1900 Interstate Building
- 2010 Interstate Building
- Hoyt Pump Station

As one means to reduce use at the pump stations, the bureau tests the pumps to determine which ones are the most efficient. Because the system has redundant capacity to ensure supply, the operating procedures can then be changed to favor the most efficient pumps for routine operation. PWB has set a 2012 goal to reduce use at the top 10 facilities by 5 percent.

### 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 (2008). This estimate includes pumping raw water, filtration/treatment, and distribution. The PWB estimate is 0.0006 kWh per gallon, or about half of the EPA estimate. In 2009, PWB's supply-related electrical use was equivalent to 0.32 metric tons of CO<sub>2</sub>e emissions per million gallons (see Table 8).

**Table 8. CO<sub>2</sub>e Emissions per Million Gallons of Water, Calendar Years 2005 – 2009**

Category	CALENDAR YEARS				
	2005	2006	2007	2008	2009
PWB CO <sub>2</sub> e Emissions (MT) <sup>a</sup>	11,029	17,823	14,008	11,431	12,216
MG Water Produced (total)	35,195	37,926	37,068	37,480	37,977
Bull Run Water (MG) <sup>b</sup>	35,195	33,248	35,198	36,800	36,870
Groundwater (MG)	0	4,680	1,870	680	1,109
<b>MT of CO<sub>2</sub>e Emissions per MG</b>	<b>0.31</b>	<b>0.47</b>	<b>0.38</b>	<b>0.30</b>	<b>0.32</b>

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

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

## Natural Gas Use

Natural gas use increased 5 percent from calendar year 2008, from 64,160 therms to 67,736 therms (see Table 9). In 2009, two new buildings that use natural gas were added to the PWB property portfolio. These new facilities used an additional 1,500 therms of natural gas.

**Table 9. PWB Natural Gas Use and CO<sub>2</sub>e Emissions, Calendar Years 2005 – 2009**

Category	CALENDAR YEARS				
	2005	2006	2007	2008	2009
Natural Gas (therms)	53,462	56,312	65,914	64,160	67,736
CO <sub>2</sub> e Emissions (metric tons)	292	307	360	350	370

## Fleet Fuel Use

Total fleet fuel use increased by 8 percent between calendar years 2008 and 2009. This was due to an 8 percent increase in miles driven from 2008 to 2009. PWB employees drove 1,733,269 miles in 2009, up from 1,595,681 driven in 2008. This increase is thought to be due to two large projects under construction in 2009. The first was the Sandy River Crossing project, a 50-mile round-trip drive from downtown offices. The second was the Powell Butte Reservoir project, 20-miles round-trip from the PWB downtown offices.

The type of fuel used in PWB vehicles also shifted in 2009. For the first time since PWB began using biodiesel in 2005, the gallons of biofuel used by the bureau declined (see Table 10). The biodiesel decline results from a change in fuel-type for 80 PWB-owned Ford F-Series trucks. From 2005 until the change in 2009, these Ford trucks were fueled with a biodiesel blend of B99 in summer and B50 in winter. In 2009, the Ford trucks began to experience serious engine performance problems. Due to these problems as well as engine warranty constraints, the bureau decided to run all Ford F-Series trucks on a year-round B5 biodiesel blend.

**Table 10. PWB Fleet Fuel Use and CO<sub>2</sub>e Emissions, Calendar Years 2005-2009**

Fuel Type	CALENDAR YEARS				
	2005	2006	2007 <sup>a</sup>	2008	2009
Diesel (ULSD) <sup>b</sup>	103,225	94,920	69,315	52,830	81,274
Biodiesel <sup>c</sup>	0	19,446	62,946	77,614	69,779
Gasoline	126,743	133,081	154,146	92,404	91,700
<b>Total</b>	<b>229,968</b>	<b>247,447</b>	<b>286,407</b>	<b>222,848</b>	<b>242,753</b>
<b>Associated CO<sub>2</sub>e Emissions (MT)</b>	<b>2,216</b>	<b>2,189</b>	<b>2,117</b>	<b>1,390</b>	<b>1,678</b>

<sup>a</sup> Fuel consumption figures for 2007 and previous years were generated through invoice review and receipt counting, a process subject to error. In 2008, a new system was put in place to more accurately track fuel consumed per vehicle.

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

<sup>c</sup> Fuel is B100



Table 11 shows miles driven, fuel consumption, and mpg by vehicle class. Table 12 shows PWB's vehicle and equipment inventory for calendar years 2008 and 2009. In 2008 PWB criteria required that all vehicles be classified by type, based on vehicle chassis. As a result, a comparison of fuel consumption and inventory by vehicle type between 2008 and previous years is not possible because of the differences in classification. PWB experienced a very slight decrease in total vehicle inventory between calendar years 2008 and 2009. PWB's goal is to further decrease vehicle inventory over time through more efficient vehicle deployment and scheduling.

**Table 11. PWB Miles Driven, Fuel Consumption and Average MPG per Vehicle Class, Calendar Year 2009**

Vehicle Class	Miles Driven	Fuel Consumed <sup>a</sup>	Miles per Gallon
Passenger Vehicles	206,268	14,977	14
Light-Duty Trucks	1,081,097	100,312	11
Heavy-Duty Trucks	419,870	85,082	5
Heavy Construction Equipment	26,034	9,998	3
<b>Total</b>	<b>1,733,269</b>	<b>210,369<sup>b</sup></b>	<b>8</b>

<sup>a</sup> Fuel consumption is in gallons

<sup>b</sup> Vehicles with erroneous fuel mileage, equipment, and external tank fuel were not included in the calculation. Therefore, gallons of fuel used in this table are 32,384 gallons less than total fuel used by PWB in 2009 (see Table 10).

**Table 12. PWB Vehicle and Equipment Inventory, Calendar Years 2008 and 2009**

Vehicle Type	Vehicle Inventory	
	2008	2009
Passenger Vehicles	43	45
Light-Duty Trucks	180	170
Heavy-Duty Trucks	88	88
Heavy Construction Equipment <sup>a</sup>	6	4
Equipment <sup>b</sup>	31	38
<b>Total all Categories</b>	<b>348</b>	<b>345</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 (tractor or forklift)

## Air Travel

PWB employees traveled 283,031 miles by air in 2009, a significant decrease of over 375,000 miles from 2008. The 2009 air miles produced 55 metric tons of CO<sub>2</sub>e. The decrease in air miles traveled is a result of PWB's efforts to reduce discretionary expenditures during the recession. Table 13 shows the 2005-2009 trend in air miles traveled and the associated CO<sub>2</sub>e emissions.

**Table 13. PWB Employee Air Travel in Miles and CO<sub>2</sub>e Emissions, Calendar Years 2005 – 2009**

Category	CALENDAR YEARS				
	2005	2006	2007	2008	2009
Air Miles	646,653	558,573	577,237	660,000	283,031
CO <sub>2</sub> e Emissions (metric tons)	125	108	111	127	55

The PWB purchased carbon offsets from the Bonneville Environmental Foundation (BEF) to counteract the impact of 2009 air travel. The offset purchase cost was \$3,492; those funds will be used by BEF partners to help develop new renewable energy projects in the Pacific Northwest.

## PWB's Carbon Mitigation Efforts

Some of the actions taken in 2009 included the following:

- PWB studied the feasibility of replacing small pickup trucks with hybrid vehicles for meter readers and meter inspectors.
- An Employee Green Team was started at the downtown facility.
- A food waste composting program was implemented at the downtown facility. Composting food waste prevents carbon dioxide emissions (U.S. EPA 2009).
- A 267-kilowatt solar array was installed at the Columbia South Shore Well Field and began operating in December 2009. A display showing the power generated to-date and current power generation is available at: [http://live.deckmonitoring.com/?id=groundwater\\_solar](http://live.deckmonitoring.com/?id=groundwater_solar).
- Reduced building energy consumption by 1.5% by repairing a leaky air compressor, reducing thermostat settings at remote facilities, undergoing HVAC improvements, installing lighting motion sensors and upgrading inefficient lighting.

Current sustainability projects and carbon mitigation strategies can be viewed in the PWB Sustainability Action Plan: <http://www.portlandonline.com/water/index.cfm?c=49430&>.

### QUICK FACT

#### **PWB Building Achieves LEED Gold**

In the fall of 2009, the PWB opened the doors to the bureau's first Leadership in Energy and Environmental Design (LEED) certified building, the PWB Meter Shop. LEED is an internationally recognized green building certification system developed by the U.S. Green Building Council (USGBC). The Meter Shop has a number of green features such as energy-efficient lighting and HVAC systems, solar electric and solar hot water, an ENERGY STAR-rated roof, building materials that are low in volatile organic compounds, and a recycled water system for testing water meters.

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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 as an appendix 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 880,000 retail and wholesale customers in a 225-square-mile service area. PWB's service area covers parts of Multnomah, Washington, and Clackamas counties. PWB provides water to almost one-quarter of the population in Oregon.

PWB also owns and maintains the city's 19 decorative fountains, 14,200 fire hydrants, and 126 Benson Bubbler drinking fountains. Another city bureau, the Bureau of Environmental Services, manages and treats wastewater and stormwater.

Portland's primary source of drinking water is the Bull Run Watershed located 26 miles east of downtown Portland within the Mt. Hood National Forest. Ninety-five percent of this land is federally owned and managed by Mt. Hood National Forest, four percent is owned by the City of Portland, one percent is federally owned and managed by the Bureau of Land Management.

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: [www.portlandonline.com/water/index.cfm?c=29964&a=123366](http://www.portlandonline.com/water/index.cfm?c=29964&a=123366).

### **Number of employees**

635 employees: 630 full-time and 5 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 1,164 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)

Since the calendar year 2008 reporting period, PWB has added two new buildings: the LEED-certified Meter Shop and the McCall Building at Waterfront Park. Both buildings use electricity and natural gas.

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

In fiscal year 2008-2009, the PWB produced an average of 103 million gallons per day.

**Table 14. Total Annual System Production Data, Fiscal Years 06-07 through 08-09**

Category	Fiscal Year <sup>a</sup>		
	06-07	07-08	08-09
Average annual production in million gallons per day	106	103	103

<sup>a</sup>Data available for FY only

### Breakdown of sales

Portland Water Bureau directly served over 163,000 single and multi-family residences and about 20,000 commercial and industrial customers. Portland's wholesale customers served an estimated population of more than 326,000 in 2008-09.

### Average water use per customer

In fiscal year 2008-2009, residential customers used 62 gallons per capita per day. Commercial customers used 1,590 gallons per service per day.

**Table 15. Average Water Use, Retail Residential and Retail Commercial Accounts, Fiscal Year 06-07-08-09**

Category	Fiscal Year <sup>a</sup>		
	06-07	07-08	08-09
Residential Customers (average gallons per capita per day)	66	64	62
Commercial, Industrial, Institutional Accounts (average daily consumption per service in gallons)	1,690	1,610	1,590

<sup>a</sup>Data available for FY only

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

[www.portlandonline.com/water/sustainability](http://www.portlandonline.com/water/sustainability)

PWB's Sustainability Coordinator, Kim Dinan,  
can be reached at 503-823-4724 or [Kim.Dinan@portlandoregon.gov](mailto:Kim.Dinan@portlandoregon.gov).

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**Portland Water Bureau**

1120 SW 5th Avenue, Room 600  
Portland, OR 97204-1926  
Phone: 503-823-7404  
Customer Service: 503-823-7770  
Web site: [portlandoregon.gov/water](http://portlandoregon.gov/water)

Randy Leonard, Commissioner  
David G. Shaff, Administrator

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