

## Portland Water Bureau

The Portland Water Bureau works to reduce the carbon emissions impact of the water system, both by taking action within our own bureau and by participating in citywide efforts. (Not all of Portland's sustainability-related actions are listed below; see <http://www.portlandonline.com/water/index.cfm?c=31525> for more information.) In 2007, the bureau adopted a Sustainability Action Plan. The September 2008 update of the action plan summarizes our initial calculation of the bureau's GHG emissions and defines a set of mitigation strategies. Strategies for carbon footprint mitigation at the Portland Water Bureau include:

### Reducing Fuel Emissions

- Purchases more than 75,000 gallons of biodiesel annually. Many WB vehicles use B99 (99% biodiesel) during the warmer months (April 1- November 1). These vehicles include backhoes, dump trucks, graders, excavators, and water service trucks.
- Owns six Toyota Prius Hybrids- Hybrid vehicles have improved fuel efficiency and reduced emissions over traditional combustion engines. The bureau continues to evaluate alternative fuel and more efficient vehicles
- Owns two electric-powered Segues for security patrols at in-town reservoirs
- Video surveillance at remote facilities reduces vehicle miles driven responding to reported incidents
- Purchased emissions offsets for 100% of employee air travel in CY08
- Adopted a city-wide engine idling reduction policy

### Using/Encouraging Alternative Modes of Transportation

- City sponsors cash incentives ("Bike/Walk to Work Bucks") to encourage employees to bike or walk to and from work
- City sponsors discounted Tri-met bus passes to employees
- Bureau provides bicycles for commuting between the downtown and Interstate facilities and for collecting water quality samples in water supply operations
- Bureau provides free Tri-met passes (bus, light rail) to employees for commuting during work hours on bureau-related business

### Renewable Power

- Generates ~86 million kilowatt-hours of hydroelectric power per year from two dams in the Bull Run Watershed. This is approximately three times our average annual electric power used to operate the water system.
- Generates ~1 million kilowatt-hours of micro-hydroelectric power per year using hydraulic head within the distribution system. The bureau is evaluating additional micro-hydro power opportunities, and has a project planned for a neighborhood tank site (replacing a pressure reduction valve with a microhydro unit)
- Currently building a 270 kW capacity photovoltaic project. Working with a third party equity partner who will own, operate and sell power back to the bureau for an initial period. Power generated from this facility will partially offset the power

- used at the bureau's groundwater pump station. Excess power will be fed into the local power grid under a net-metering agreement
- Installed a 12kW photovoltaic system on a LEED-Gold remodel of our meter shop

#### Green Building

- City-wide green building policy requires incorporation of green building practices into the design, construction, remodeling and operation of all City-owned facilities

#### Reducing Paper Use

- Uses 100% post consumer waste paper for all 20 lb print and copy paper. More than 80% of the bureau's annual paper use falls in this category
- Currently developing electronic billing and bill pay for customers

#### Maximizing Energy Efficiency

- Operates system to minimize peak power loading
- Performed energy audits, replaced lighting, and made HVAC performance improvements
- Installed Variable Frequency Drives and refined operating procedures at several pump stations
- Evaluated and modified pump station operations to favor most efficient pumps. One of these projects saved 950,000 kWh per year
- Formed an energy committee and joined a peer networking project with other Portland area industrial energy users