



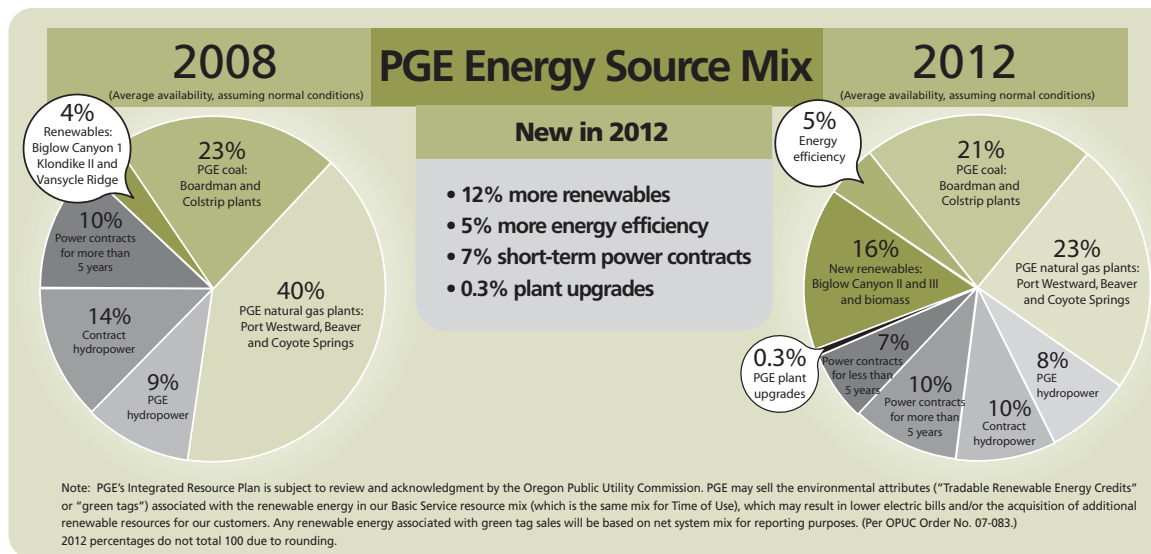
## Portland General Electric helps craft Oregon's Renewable Energy Standard

Providing a consistent, reliable source of reasonably priced electricity is PGE's commitment to our customers. At the same time, we are striving to achieve that in an increasingly sustainable way.

In line with those goals, PGE helped develop the Renewable Energy Standard. Adopted by

the Oregon Legislature and signed into law by Gov. Kulongoski in 2007, this landmark legislation sets the "25 by 25" benchmark, requiring Oregon's largest utilities to acquire 25 percent of their electricity from new renewable energy sources by 2025.

In 2007, PGE filed a new Integrated Resource Plan with the Oregon Public Utility Commission that targets additional renewable resources.



We plan to procure another 218 average megawatts of renewable power by 2015. This, in combination with other existing renewable resources and the construction of our Biglow Canyon Wind Farm, will help us meet the new standard.

We are also working to expand energy efficiency efforts in partnership with Energy Trust of Oregon. We aim

to increase the amount of load met through efficiency measures by an additional 45 megawatts by 2012, beyond the amount already targeted by Energy Trust, through measures directed at commercial customers, school districts and low-income households.

For more details, visit [www.PortlandGeneral.com/EnergyMix](http://www.PortlandGeneral.com/EnergyMix).

## Biglow Canyon Wind Farm spins renewable power to PGE customers

An important piece of Oregon's energy future is sprouting from eastern Oregon wheat fields. The Biglow Canyon Wind Farm is expected to produce enough electricity to power 100,000 homes after all three phases of construction are completed. By the end of 2007, the first phase will give rise to 76 wind turbines, generating up

to 125 megawatts — enough to power 34,000 homes in our service territory.

Biglow Canyon will be built, owned and operated by PGE and is funded in part by Energy Trust of Oregon. The project responds to continuing demand from PGE customers for renewable power, and is a key pillar of our Integrated Resource Plan.



Visit [www.RoadtoBiglow.com](http://www.RoadtoBiglow.com) for more details.



## A letter from Peggy Fowler

Oregon is a special place, and — as Oregonians — we know it's up to each of us to keep it that way. In 118 years serving our neighbors, Portland General Electric has always placed a high priority on environmental stewardship.

Today, we continue to align our business decisions with our customers' values. Customers tell us they want safe, reliable power at affordable prices. Energy efficiency initiatives are high on their list, too. But they also prefer energy sources that are more sustainable and have a lower impact on the environment.

For us, sustainability means operating in a way that can be sustained over time — environmentally, socially and economically — as the provider of an essential product for businesses and residents in the communities we serve. While this is not a new concept for PGE, it's one that we are working to better define and integrate into our daily operations and long-term planning.

These days, our customers are asking us not only to meet demand, but to continue to protect the environment while also controlling prices. It's a tall order, but we're working hard to respond, and to ensure a bright energy future for Oregon.

*Peggy Y. Fowler*

Peggy Fowler  
Portland General Electric  
CEO and President

## Boardman power plant **improvements**

Out on the sage flats of the Columbia River Basin, the largest PGE generating station produces electricity for more than 250,000 customers. Supplying nearly one-fifth of PGE's internal generating capacity, the 585-megawatt Boardman Plant is a foundational component of PGE's balanced energy portfolio.

The Boardman plant was designed to minimize emissions by using low-sulfur coal, low nitrogen oxide burners and an oversized electrostatic precipitator to control particle emissions. These controls exceeded environmental standards when the plant was licensed and built in the late 1970's, but improvements in technology have made it possible to reduce emissions even further today.

Consistent with PGE's Environmental Policy, our goal is to meet or exceed state and federal environmental standards at Boardman. PGE is cooperating with Oregon's Environmental Quality Commission (EQC) and Department of Environmental Quality (DEQ) to minimize emissions of pollutants that contribute to haze. In fact, we volunteered to be first in line for DEQ's new haze regulatory process.

PGE has developed an aggressive plan to cut haze-causing emissions from the plant by more than 76 percent. Addressing haze in these areas is expected to improve visibility in the Columbia River Gorge National Scenic Area. We also will install controls to cut the plant's emissions of airborne mercury by 90 percent — one of the

most ambitious reduction targets in the nation.

The PGE long-term emissions control strategy will involve major construction at the Boardman plant, including installation of a scrubber to reduce sulfur dioxide emissions; a fabric filter to reduce sulfur dioxide particulate matter and mercury emissions; new burners, modified over-fire air ports, and a selective non-catalytic reduction system on the plant's steam boiler to cut nitrogen oxides; and a sorbent injection system for mercury control.

Our goal is to continue to find emissions solutions at Boardman that allow us to address environmental concerns while serving Oregon's need for reliable power at a reasonable cost.

## Helping salmon navigate back to their Oregon spawning grounds

PGE has set itself a high rung on the ladder when it comes to fish protection in large hydropower operations. In 2004 and 2005, we signed collaborative agreements with a wide variety of stakeholders for the relicensing of six of our eight hydroelectric projects. The centerpiece of each agreement is retrofitting each project to maximize fish passage and improve habitat for threatened salmon and steelhead. We have committed funding and the effort to improve fish habitat and passage on the Deschutes, Clackamas and Sandy river systems, as well as at Willamette Falls.

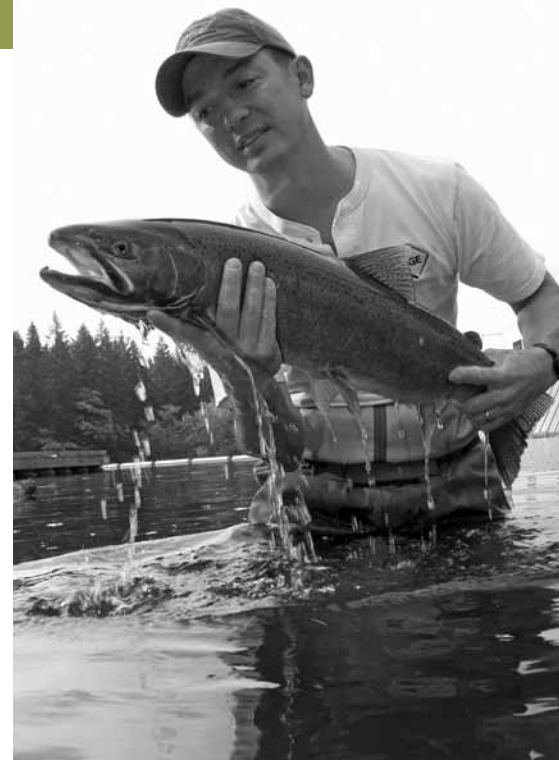
Progress is already evident. At PGE's River Mill Dam near Estacada, for example, what used to be a rock cliff face just below the powerhouse is home to a new, streamlined fish ladder. The \$18 million project was designed to improve fish passage on the Clackamas River. Meanwhile, the 2007 removal of the Marmot and Little Sandy dams will increase unhindered fish passage along the entire length of the Sandy River.

Salmon habitat is rebounding, thanks to about 9,000 PGE customers who

are pitching in to help with salmon habitat protection through their participation in PGE's Habitat Support supplement to the renewable power choice. By selecting this option, customers donate \$2.50 per month to The Nature Conservancy of Oregon. The conservancy uses these funds to support local watershed groups working to restore salmon habitat in Oregon. To date, Habitat Support customers have helped restore more than 120 miles of stream habitat in our area.

On the eastern slope of the Cascades, the PGE Pelton Round Butte Project is the only hydro facility in the United States co-owned by a utility company and a Native American tribe. (The Confederated Tribes of Warm Springs own one-third of the project.) PGE relicensed the hydro project and worked with the Tribes to achieve a landmark consensus among 22 organizations to restore salmon passage above the project's three dams for the first time since 1968.

In 2007, an array of planned environmental protection measures, including a new fish passage system



*Fish Biologist Tim Shibahara holds a wild steelhead as he works in the reservoir behind PGE's North Fork Dam on the Clackamas River to separate wild fish from those that are hatchery-raised. Only wild fish are released to continue upstream, where fishing prohibitions protect native stocks.*

currently under construction, qualified the Pelton Round Butte Project for certification as "low impact" from the Low Impact Hydropower Institute Board. With its 465-megawatt generating capacity, Pelton Round Butte is the second-largest hydro project in the United States to merit this designation.

For more information, visit [PortlandGeneral.com/Fish](http://PortlandGeneral.com/Fish).



## Port Westward plant: among nation's most efficient gas-fired generators

PGE's new natural gas-fired power plant in Columbia County is the first major new PGE generating plant placed into service since 1995. Powered by a new Mitsubishi G1-class combined-cycle combustion turbine, the Port Westward natural gas-fired plant on the Columbia River is one of the most efficient generators of its type in the United States today.

Port Westward produces lower emissions of nitrous oxide, carbon monoxide and volatile oxides of carbon than the strict levels permitted by the Oregon Department of Environmental Quality. In addition, PGE contributed \$5.4 million to the Oregon Climate Trust to fund projects that offset the plant's carbon dioxide emissions.

## In review

From wind energy to salmon restoration, PGE's environmental stewardship is making an impact around Oregon.



### **Marmot Dam removal allows unfettered fish passage on Sandy River**

In 2007, PGE removed the Marmot Dam, opening a new chapter for native fish and wildlife on the scenic Sandy River. Removal of Marmot Dam is part of a larger plan to help increase wild salmon and steelhead runs, improve habitat and boost recreational opportunities in the Sandy basin. For more information, visit [www.MarmotDam.com](http://www.MarmotDam.com).

### **PGE #1 in residential green power sales**

PGE sold more renewable power to homes in 2005 and 2006 than any other utility in the country. The U.S. Department of Energy's National Renewable Energy Laboratory released its rankings of the nation's green power programs using 2005 and 2006 customer data from more than 600 utilities across the country. When looking at residential use, PGE customers are at the top.

### **PGE renewable energy named U.S. "Green Power Program of the Year"**

In December 2006, the U.S. Environmental Protection Agency and the U.S. Department of Energy recognized PGE as the 2006 Green Power Program of the Year. PGE was recognized for its commitment to advancing the development of the nation's green power market, and is

one of only six utilities in the United States to reach at least 5 percent customer participation in renewable power sales.

### **Advanced metering will boost efficiency and savings**

In September 2007, PGE agreed to purchase a new advanced metering system that is expected to deliver savings through increased efficiency and a wide range of benefits to customers. PGE plans to install the Sensus FlexNet Advanced Metering Infrastructure (AMI) system at approximately 850,000 residential and commercial meter locations between 2008 and 2010.

AMI will provide customers with greater control and help PGE pinpoint power outages faster and more accurately. It also will support the future development of demand response and direct load control programs — programs that should help improve energy efficiency and reduce the need for new power plants.

### **Wind energy acquired from Klondike II wind farm**

In late 2005, PGE signed a 30-year contract with PPM Energy to purchase 75 megawatts of capacity from the Klondike II wind energy farm near Wasco in eastern Oregon. This agreement was the first major step toward meeting the company's Integrated Resource Plan goal of including 200 megawatts of renewable power capacity in PGE's energy resource portfolio.

### **Solar manufacturers warm to Portland area**

Recent relocation announcements by three solar manufacturers shed

new light on the Portland area's attractiveness to clean-tech industries. PGE is working closely with representatives of the state of Oregon, metropolitan counties and cities to welcome new companies and show them the benefits of operating here.

Newly announced plants include:

- **XsunX** announced in September 2007 plans to locate a new solar module manufacturing facility here.
- **Solaiex**, a manufacturer of mono-crystalline silicon ingots and wafers for solar photovoltaic applications, selected Portland in June 2007 as the location for its new silicon manufacturing facility.
- **SolarWorld AG**, a German company, announced in spring 2007 its plan to move its solar-wafer and cell production facility to Hillsboro, Ore. SolarWorld plans to invest \$397 million to double its solar-cell and wafer production by 2010 and add 1,000 new jobs.

### **PGE gives green to make green**

In 2006 alone, just over 800 PGE employees volunteered approximately 4,000 hours with 13 different environmental organizations. PGE also provided approximately \$150,000 in combined contributions to environ-



mental associations through the PGE Employee Giving Campaign, company sponsorships and the PGE Foundation.

### **Schools see sunnier outlook for solar energy**

Four metro-area schools received solar power panels from PGE, Energy Trust of Oregon and the Bonneville Environmental Foundation. PGE's Solar 4R Schools program gives students a "hands-on" education about the features and benefits of solar power, an increasingly popular renewable resource in Oregon.



### **Sullivan Plant improvements boost fish passage**

The T.W. Sullivan Plant, PGE's and Oregon's oldest hydroelectric project, continues to upgrade fish passage with new technology that further enhances survival of juvenile steelhead and salmon. PGE has installed a bypass system at Willamette Falls focused on helping young ocean-bound fish complete their journey. The bypass system comprises a 200-foot-wide gated flow-control structure at the tip of Willamette Falls. The concrete and rubber ramp will help fish avoid the rocks below by guiding them to the deep water at the base of the falls.

### **Beaverton and Salem recognized by the EPA/DOE "Green Power Challenge"**

Beaverton residents have been recognized by the U.S. Environmental Protection Agency (EPA) as an EPA Green Power Community, becoming

the fifth city in Oregon and 11th in the nation to receive the designation. The federal agency extends the honor to communities that show their environmental commitment by purchasing renewable energy in amounts that meet or exceed EPA purchase requirements.

Farther south, the Salem City Council in July 2006 launched a five-month "Green Power Challenge" that urged residents and small businesses to purchase renewable energy. The community energy drive also merited Salem's winning the EPA's green power designation.

### **Providence Newberg Medical Center embraces wind power**

Providence Health System's new medical center in Newberg became the first hospital building in the United States to acquire enough renewable wind power to meet all its energy needs. Providence agreed to purchase 183,294 kilowatt hours per month of renewable power from PGE through the Clean Wind program.

### **Burgerville Restaurants cookin' with the wind**

Burgerville, a Northwest fast food icon, made one of the largest purchases to date from PGE's Clean Wind program for medium to large organizations. By buying more than 600,000 kilowatt hours per month of energy generated from Oregon and Washington wind farms, Burgerville became one of the first quick-service restaurants in the nation to purchase 100 percent of its energy from wind power.

### **Hillsboro Civic Center green turns gold**

The City of Hillsboro became a renewable energy leader by signing on as a 100 percent supporter of PGE's Clean Wind program for medium to large organizations. PGE's Clean Wind program gave the city

the boost it needed to qualify the Hillsboro Civic Center as Gold Certified under the Leadership for Energy and Environmental Design Green Building Rating System of the U.S. Green Building Council.

### **PGE adopts climate change policy**

In late 2005, PGE adopted a corporate climate change policy. Consistent with our history of good environmental stewardship, the policy provides a framework for making sound decisions on issues related to climate change.

For the full text of the PGE climate change policy, visit our Web site at [www.PortlandGeneral.com/ClimateChange](http://www.PortlandGeneral.com/ClimateChange).

### **PGE drives greener**

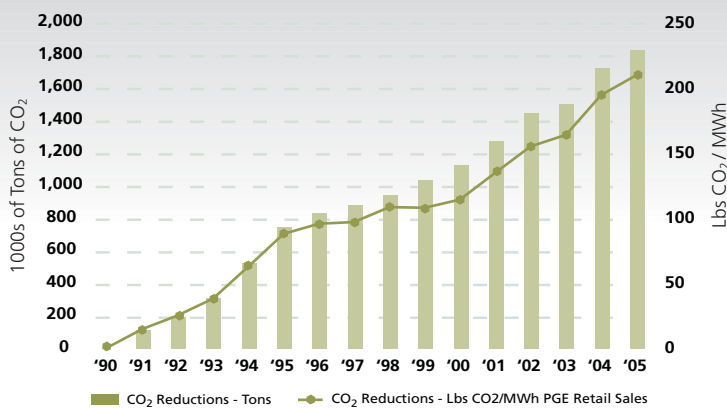
PGE's first hybrid manlift utility truck is one of only a few hundred available in the U.S. today. The overall run time for the diesel engine is estimated at just 30 to 40 minutes per day, compared to eight hours with a traditional manlift. That translates to an approximate 40 percent reduction in fuel consumption. In addition, the battery-powered lift cuts idle time by approximately 80 percent.

Like the rest of the other 428 PGE distribution vehicles, the hybrid manlift runs on 5 percent biodiesel fuel.



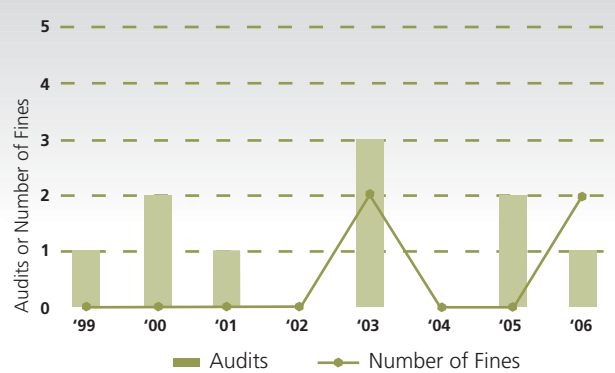
# A snapshot of PGE environmental performance

## Carbon Dioxide Emissions Mitigation



Voluntary efforts by PGE have cut the production of more than 1.4 million tons of CO<sub>2</sub>. This includes direct reductions from PGE generating plants, operations and energy-efficiency measures as well as offsets from recycling and tree-planting programs. Note: Due to an Energy Information Administration (EIA) 1605b volunteer reporting format change, 2006 data is not yet available.

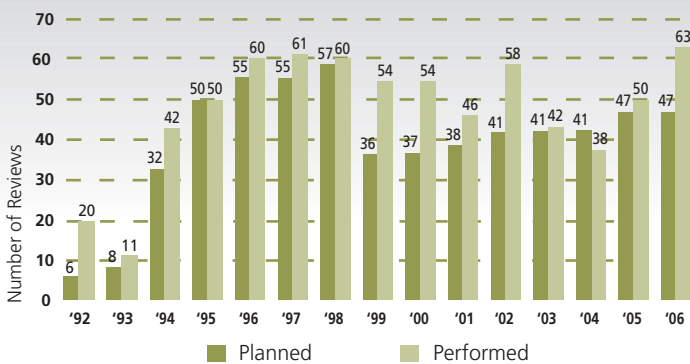
## Federal Audits and Number of Fines



PGE environmental performance is audited regularly by federal and state officials.

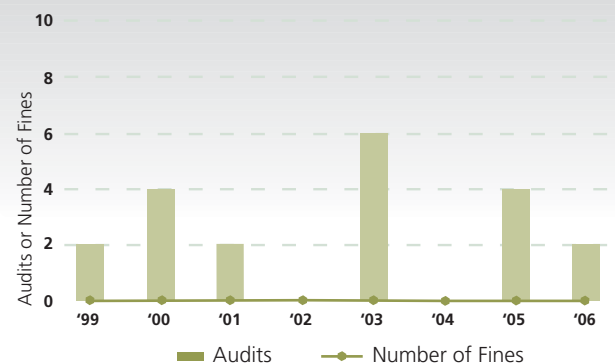
Regulatory authorities performing audits: the Environmental Protection Agency (EPA) Underground Storage Tank Program, EPA Air Quality Planning & Standards and the Federal Energy Regulatory Commission (FERC) Hydropower Administration & Compliance.

## Internal Compliance Reviews



By conducting internal compliance reviews of our environmental performance, PGE actively identifies and corrects problems rather than waiting for external audits.

## State of Oregon Audits and Number of Fines



PGE environmental performance is audited regularly by federal and state officials.

Regulatory authorities performing audits: the Department of Environmental Quality (DEQ) Underground Storage Tank Program, DEQ Hazardous Waste Program, DEQ Air Quality Program and the DEQ Water Quality Program.

## Regulatory compliance

The number of compliance items PGE is required to meet can number in the thousands. Our goal is to meet or exceed all regulatory requirements. Our internal scorecard requires us to have no regulatory non-compliance items resulting in fines. To meet this rigorous self-imposed goal, PGE's

Environmental Services Department conducts internal audits throughout the year at multiple sites. Facilities are scheduled on a rotating basis and are audited for compliance with federal and state regulatory requirements for air, water, hazardous and solid waste, oil spills and toxics.

## Oil spills

All utilities must be prepared for potential oil spills, since oil is used in electrical equipment as a cooling medium. Oil spills result from vehicles hitting power poles, oil-laden transformers hitting the ground — even from criminals cutting down power poles to steal metal for scrap.

## Avian protection plan **protects birds** around power poles and lines

PGE employs processes and teams to act quickly to clean up oil spills. All field employees are instructed to immediately report any spills observed from PGE's electrical equipment. Most utilities hire outside contractors to do their oil spill cleanups. However, PGE has a specially trained department that immediately responds to oil spills at any hour of the day or night.

### **PCB reduction**

Polychlorinated biphenyls are chemicals once favored for their insulating qualities in electrical equipment. PGE has consistently worked to remove PCBs from its service territory by not putting PCB-containing equipment back in service once it has been discovered. PGE received a letter in 2007 from EPA acknowledging our excellent progress.

Removal of PCBs from service is completed as transformers fail or as replacements are made due to other events. Operationally, either all oil containing PCBs is removed from the transformers as they come into the shop, or the transformers are sent for disposal as a whole. Transformers that are reused are refilled with mineral oil containing no PCBs.

In 2006, 136 transformers containing 50 parts per million (PPM) or more of PCBs were disposed of. Additionally, PGE disposed of 65,747 gallons of oil containing less than 50 ppm PCBs. The EPA regulates use and disposal of PCBs at or above 50 ppm.

Eagles and other raptors such as hawks and ospreys are benefiting from a new plan that helps birds who use utility lines and poles as perches for resting, hunting, roosting and nesting. Following a two-year collaborative effort, PGE adopted an avian protection plan to help birds avoid electrocutions and collisions with electric utility power lines and equipment.

PGE worked with the U.S. Fish and Wildlife Service and other habitat area managers, including the Oregon Department of Fish and Wildlife, to identify high-risk areas and retrofit power lines, power poles and other structures to safer standards. Initial work is complete at the Tualatin River National Wildlife Refuge. Other known high-risk areas identified in the plan for action in 2007-2009 include the Sauvie Island Wildlife Area and Hillsboro's Jackson Bottom Wetland Preserve. PGE has committed up to \$100,000 per year through 2010 to reduce bird risks in the vicinity of these wildlife refuge areas.

"Electrocutions remain a significant cause of mortality, and we are pleased that PGE is taking a proactive approach to address these hazards," said Bob Sallinger, urban

conservation director for the Audubon Society of Portland.

The plan includes using preventative bird-safe methods for newly constructed or rebuilt lines and other electrical equipment in areas with high bird risk; tracking and documenting all bird mortalities and at-risk nests so that remedial actions can take place; undertaking risk assessments of existing lines and structures; and providing employee training on bird protection issues and procedures.



PGE linemen install wire covers and anti-perching devices along Reeder Road on Sauvie Island.

## Our **renewable options**

PGE residential and small nonresidential customers can select Green Source<sup>SM</sup> or Clean Wind<sup>SM</sup> renewable power options and include a habitat option. Larger commercial customers can participate in PGE's Clean Wind program, which allows them to purchase wind power generated from Oregon and Washington wind farms and receive significant advertising and publicity benefits.

**Green Source<sup>SM</sup>** — Customers purchase 100 percent of their electricity from renewable sources, which helps them reduce their reliance on fossil fuels. With this plan, 50 percent of the electricity comes from new wind sources, 40 percent from new geothermal sources and 10 percent from new biomass power.

**Clean Wind<sup>SM</sup>** — Sold in 200 kWh units, customers purchase 100 percent new wind power from Northwest wind farms for a set monthly fee. Clean Wind helps build new renewable resources in Oregon, and there is no limit on the number of units purchased.

In addition to the above two options, customers may also select to support stream habitat for salmon and other fish in our service territory by adding **Habitat Support** to their renewable option. This small monthly fee goes directly to the Nature Conservancy of Oregon.

## Notable numbers

**57,000** Number of PGE customers enrolled in PGE's renewable power programs as of Oct. 2007.

**1030** Percentage growth in number of PGE renewable customers since 2001.

**1** PGE rank by the U.S. Environmental Protection Agency and Department of Energy for the 2006 "Green Power Program of the Year."

**1** PGE rank by the U.S. Department of Energy's Renewable Energy Laboratory for having the most residential green power sales in 2006.

**2** Number of years PGE offered renewable power options before they were mandated by Oregon law.

**76** Turbines acquired for phased construction of the 25,000-acre Biglow Canyon Wind Farm.

**6,156** Number of youth educated about energy efficiency through PGE's "You Ooze, You Lose!" musical theatrical performance.

