

Demand-Side Management & Alternative Energy Programs



DEMAND-SIDE MANAGEMENT

WESTERN REGION INITIATIVES

Because Progress Energy Carolinas' Western Region is a winter-peaking area, there are opportunities to implement specific demand-side management programs tailored to address energy usage in the winter months. Programs under consideration and/or development include:

- **Water heater load control:** This program allows Progress Energy to remotely control residential water heaters during peak-load periods. Progress Energy will begin installing switches to control water heaters in the Western Region as part of this program and may expand to other Progress Energy regions.
- **Residential heating control:** This program allows Progress Energy to remotely control residential heating systems during peak-load periods. Progress Energy will begin installing switches to control electric strip heat in the Western Region as part of this program and may expand to other Progress Energy regions.
- **Energy Advisor On-Loan:** The Energy Advisor On-Loan program provides public and governmental facilities – particularly schools – with an experienced energy expert to help customers identify and pursue energy-savings opportunities. The advisor works on-site approximately one day per week for about three months. The Haywood County School system is participating in this program, along with Chatham County Schools in central North Carolina.
- **Compact fluorescent lightbulbs (CFLs):** Progress Energy will begin distributing CFLs in the Western Region in collaboration with a retail partner. Since the region's peak energy use occurs in winter, reductions in indoor lighting demand create efficiency opportunities not available in other parts of Progress Energy's service area. CFLs are four times more efficient and last up to 10 times longer than incandescents.
- **Custom energy survey and report:** This program distributes a comprehensive energy survey to residential customers and collects information about their homes and energy usage. The survey will be distributed to residential customers in the Western Region in 2007 and will be used to help design additional energy-efficiency programs for the region.

COMPANYWIDE INITIATIVES

Progress Energy Carolinas has several new residential and commercial demand-side management programs under way throughout our service area. We expect to include full-scale implementation plans in our annual resource plan filing with the North Carolina Utilities Commission in September. These programs will be available to all Progress Energy Carolinas customers, regardless of location.

Residential programs

- **Residential load control:** This program allows Progress Energy to remotely control residential central air conditioners during peak-load periods via wireless paging technologies and "smart" end-use thermostats. Participants will receive a free, Internet-compatible programmable thermostat in exchange for allowing PEC to cycle AC units or raise thermostat temperature settings. In addition, Progress Energy will begin installing switches to control water heaters and electric strip heat in the Asheville area as part of this program.
- **HVAC tune-up and duct repair:** This program will encourage customers to improve the efficiency of their existing HVAC systems by tuning up air conditioners and sealing leaks in the duct system. Certified contractors performing these services will receive incentives, which will lower the cost and increase the quality of tune-ups for these customers. Repairing poorly maintained HVAC and duct systems can result in significant efficiency gains.
- **In-home energy display:** This program offers customers access to information about their energy usage through an in-home display. The portable display provides real-time information about electrical consumption and the resulting costs of that consumption. Similar programs at other utilities have shown a reduction in customer usage, simply by providing customers the real-time feedback.
- **Community Energy Savings:** The Community Energy Savings Low-Income Assistance Program is designed to improve energy efficiency for low-income customers in existing residential housing. Participants receive a walk-through energy check and installation of an energy-savings kit, including a low-flow showerhead, faucet aerators, compact fluorescent lights, wall plate insulators, weather stripping and a night light. This program is already under way in Buncombe and Wake counties.

Commercial programs

- **Commercial on-line energy audit:** This program makes an on-line energy analysis tool available for commercial and governmental facilities with peak loads between 30 kW and 200 kW. The tool enables small- to medium-sized customers to conduct relatively quick and easy energy audits that can help them identify opportunities for energy-efficiency improvements.
- **Premier Power peak operation:** Progress Energy Carolinas now has a Premier Power program, under which 13 PEC-owned distributed generation units are located at the sites of participating customers with high reliability needs. The peak operation extension of this program would allow PEC to operate these units to meet system needs or to reduce short-term supply costs.

- **Changes in our own buildings:** By July, all of the incandescent lightbulbs in our two corporate headquarters buildings in Raleigh will be replaced with CFLs. The Two Progress Plaza building, which was completed in 2005, was built with numerous other energy-efficient features. We will be moving forward with efficiency initiatives at our other company buildings as well.

RENEWABLE AND ALTERNATIVE ENERGY

- **Landfill gas:** Progress Energy purchases approximately 1 MW of electricity produced at a landfill gas site in western North Carolina. The Buncombe County Landfill Gas Project, which is part of the NC GreenPower program, creates a safe and cleaner landfill environment and provides a dependable source of energy.
- **Fuel cell projects:** Progress Energy has invested \$1 million in Microcell Corp., a Raleigh-based company working to bring commercially available fuel cell applications to industrial, commercial and consumer markets. One potential application for fuel cells is in operating distributed generation, or power plants located on or near the customer's property. Microcell has announced plans to build a production facility in North Carolina.
- **Hybrid vehicles:** In 2007, Progress Energy will convert one Toyota Prius in its fleet to a plug-in hybrid, which will result in even greater fuel efficiency and allow the company to test this emerging technology. In addition, the company is adding two hybrid bucket trucks to its fleet in 2007 and planning to add 20 to 30 new hybrid and E85 vehicles to its fleet annually, including pickup trucks, cars and bucket trucks.
- **Hog waste pilot project:** The North Carolina Pork Council announced a pilot project in 2007 that will evaluate whether producing electricity from hog waste is economically and technically feasible. Under the pilot, the state's electric suppliers, including Progress Energy, would purchase the power – up to 25 MW – if the pork producers generate the electricity.
- **NC GreenPower:** Progress Energy is a "Champion" sponsor of NC GreenPower, a statewide program that encourages residential and business customers to support renewable energy development. More than 9,300 customers voluntarily pay \$4 or more on their monthly electric bills to subsidize the purchase of renewable energy for the grid. Almost 30 renewable energy generators are under contract or operating under this program, including solar, wind, wood waste, small hydroelectric, animal biomass and landfill methane gas.

- **Hydroelectric plants:** Progress Energy has four hydroelectric plants in North Carolina, capable of producing 225 MW of electricity. They comprise about 2 percent of the company's generation capability.
- **Green neighborhood:** Progress Energy is working with Silverwood Inc., a developer of energy-efficient homes, to connect the homes in Bingham Ridge neighborhood in northern Chatham County to the grid. This is the first "green" neighborhood on Progress Energy Carolinas' system. All of the homes in the development, which has almost 40 sites, are or will be ENERGY STAR certified, incorporate solar panels and/or solar water heating, and will have the capability to sell all of their power back to Progress Energy.

For more information on our demand-side management and alternative energy efforts, please visit progress-energy.com/save.