

NORTH CAROLINA

<http://www.energync.net/>



The State Energy Office of the N.C. Department of Administration serves as North Carolina's lead agency for energy programs, services and information for consumers, businesses, government agencies, nonprofit organizations, schools and policymakers. The Office promotes energy efficiency, renewable energy and alternative fuels, striving for a sustainable energy future.

State Energy Program (SEP) Activities

Utility Savings Initiative for State Facilities

The Utility Savings Initiative for State Facilities (USI) seeks to reduce utility usage by 20 percent in State agencies, universities, community colleges and public schools by 2008. Since the program's inception in 2002, the program has saved North Carolina taxpayers more than \$30 million in avoided utility costs. Fundamental to the program is the preparation of a strategic energy plan by each agency and university. The plan is submitted to the SEO on an annual basis and includes a signed mandate committing the agency to the energy reduction goal. Facility audits, energy management training sessions and technical workshops are offered by SEO staff throughout the year. Site visits are conducted two to four times per year to determine progress and to troubleshoot problems.

As part of the USI program, the SEO manages the State's performance contracting program for State facilities. Approximately \$40 million in projects are under construction or in the engineering audit phase. The work is performed and energy savings are guaranteed by private energy service companies that have been qualified by the SEO to do business with the State. The energy savings are used to pay back the costs of the equipment and improvements, which means the State incurs no debt for these major capital improvements.

Renewable Energy Initiatives

North Carolina's first landfill development project, the Energy Exchange in Mitchell and Yancey counties, resulted in the utilization of on-site gas for 12 horticultural greenhouses, a glass-blowing studio, pottery kilns, and other crafts buildings, boosting the region's economy through new jobs and increased tourism. The project was replicated in Jackson County, along with the development of a biodiesel production plant. Similar projects are actively underway in Wilkes, Watauga, Avery and Buncombe counties.

Alternative Fuel Initiatives

The SEO convenes the State's Alternative Fuels Consortium, which oversees the implementation of the State's 20 percent mandated displacement of petroleum in State vehicles. The consortium is working on getting more fueling infrastructure in place to make alternative fuels more widely available statewide as well.

The SEO is also one of the primary funding agencies for three small biodiesel plants, two of which began production of alternative fuel in the fall of 2006. These plants represent North Carolina's first in-state production of alternative fuels, with an eventual capacity of more than 1 million gallons per year. The success of these plants should open the door to much larger enterprises that are now in the planning stages.

Residential Energy Efficiency Initiatives

The HealthyBuilt Homes program is the state's most comprehensive, environmentally sustainable program for builders. The program provides certification for homes that meet high standards for energy efficiency, renewable energy, waste minimization, water conservation, indoor air quality and use of recycled materials. The homes must be at least 50 percent more energy efficient than code-built homes to be certified by the program. More than 400 homes have been registered for the program.

The Upgrade and Save program works with manufactured home dealers in 17 eastern North Carolina counties to upgrade standard electric furnaces to energy efficient heat pumps. The SEO pays for the upgrade, which is performed by the home dealer, so that no cost is charged to the new home buyer. Annual winter savings for each home owner range from \$350 to \$700 per year. Around \$200,000 in winter energy savings were realized in 2006 by the 308 manufactured home owners who upgraded to heat pumps over the past three years. In 2007, the program is expected to expand to another 33 counties, with an estimated 700 additional homes upgraded to an energy efficient heat pump.

Industrial Energy Efficiency Initiatives

The state's Energy Management Program has helped North Carolina industry save more than \$170 million through suggested energy saving improvements. Low-cost facility audits are offered upon request to identify inefficiencies, and average annual recommended savings per survey total more than \$46,000. Approximately 40 no- and low-cost workshops for facility personnel are held annually to provide training in different topic areas, including compressed air, HVAC, lighting, cooling towers and motors to achieve these savings.

Education and Awareness Initiatives

The Students Fueling the Future program teaches middle and high students across the state about alternative fuels through competitions to build and race model cars powered by fuel cells, comprehensive presentations, and an energy quiz bowl. The South Brunswick High School team won first and third place honors at the 2006 International Youth Fuel Cell Competition in Honolulu, Hawaii. The team from Smith Middle School in Chapel Hill received second place honors in the model fuel cell competition at the 2006 U.S. Department of Energy Science Bowl in Denver, Colo. The students also placed in the top eight during the science bowl academic challenge.

The Electric Vehicle Challenge program involves about 30 high schools that compete in presentations, fundraising, design and racing competitions centered around the conversion of vehicles to run on electricity. These programs are successful in rural and inner-city schools, providing energy and transportation education through innovative tools. Several schools charge their vehicles with solar charging stations, resulting in no emissions or air pollutants.

The Renewable Energy Management Diploma Series is an adult education program that provides professionals with "hands-on" experience installing renewable energy technologies. The Energy Management Diploma Series provides practical facilities and energy management education by experienced, successful energy professionals. Both programs provide a certificate at the end of the two-week training period.

NORTH CAROLINA

Energy Improvement Loan Program

The Energy Improvement Loan Program, administered by the SEO, provides low interest loans for eligible energy conservation and renewable energy measures for North Carolina industry, commercial businesses, local government units, community colleges, primary and secondary public school systems and nonprofit organizations. Loans of up to \$500,000 with a 1 to 3 percent interest rate are available. The loan period cannot exceed the average payback time of the conservation measures, with a maximum payback period of 10 years. In the past year, 10 loans have been approved or are in the approval process.

State Energy Emergency Plan

The SEO, under the direction of the N.C. Energy Policy Council, is directed to develop contingency and emergency plans to deal with possible shortages of energy, including strategies for fuel allocation, conservation measures, recommendations to avert shortages, and procedures for review of complaints and special exemptions. The Energy Emergency Plan, last revised in 2003 with another update scheduled for spring 2007, is prepared for the Council by SEO staff to meet these directives. The SEO also is designated as the lead State agency responsible for responding to and aiding in the recovery from fuel shortages, power outages and capacity shortages that impact or threaten to impact large numbers of citizens.

State Energy Plan

The SEO, under the direction of the N.C. Energy Policy Council, is charged with developing and recommending to the Governor a comprehensive, long-range state energy policy to achieve maximum effective management and use of present and future energy sources. This is achieved with the State Energy Plan. Last revised in 2005, with another revision scheduled for fall 2007, the State Energy Plan presents more than 90 recommendations geared to advancing a sustainable energy future in North Carolina. These recommendations are presented to the Governor, General Assembly, other State agencies, and key decision makers for consideration and implementation.