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## Energy Education Ideas that Work

Sarah D. Kirby

North Carolina State University, sarah\_kirby@ncsu.edu

Amy G. Chilcote

North Carolina State University, amy\_chilcote@ncsu.edu

Autumn H. Guin

North Carolina State University, autumn.guin@ncsu.edu



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## **Energy Education Ideas that Work**

**Sarah D. Kirby**

Associate Professor and Housing Specialist

[sarah\\_kirby@ncsu.edu](mailto:sarah_kirby@ncsu.edu)

**Amy G. Chilcote**

Extension Associate

[amy\\_chilcote@ncsu.edu](mailto:amy_chilcote@ncsu.edu)

**Autumn H. Guin**

Extension Associate

[autumn\\_guin@ncsu.edu](mailto:autumn_guin@ncsu.edu)

North Carolina State University

Raleigh, North Carolina

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**Abstract:** Due to rising fuel prices, energy conservation is an area of considerable importance to consumers and researchers in the United States. This article discusses methods that North Carolina's E-Conservation Program uses to reach and teach consumers about energy efficiency and conservation. This growing energy conservation initiative is the result of partnerships between the North Carolina Cooperative Extension Service, leading energy authorities, and local extension agents across the state.

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## **Energy Revisited**

The 1970's Oil Embargo crisis sparked interest in conservation, efficiency, and alternative energy sources. Cooperative Extension responded with educational programs that targeted consumer energy conservation knowledge. Now, with renewed interest in energy, Cooperative Extension again offers educational opportunities for the American public to become more energy responsible, through more efficient and conservative practices.

## **E-Conservation Program**

Americans spend more than \$200 billion a year to heat, cool, light, and live comfortably in their homes (National Action Plan for Energy Efficiency, 2006). States have seen their share of increases in electric and natural gas rates in recent years. Some families can absorb the increases, while other families cannot. Lower income families are disproportionately affected by rising utility prices and are least likely to have additional resources to help alleviate costs.

To respond to this pressing issue in North Carolina, Cooperative Extension and the State Energy Office developed the E-Conservation consumer energy program. E-Conservation provided consumers with

education about ways to reduce energy use and increase energy efficiency in the home. The program teaches consumers to be proactive in reducing home energy consumption and in saving money through no/low cost energy efficiency measures, behavioral changes and home retrofits (Chilcote, Guin, & Kirby, 2007).

## Ideas for Reaching and Engaging Consumers

Individuals differ in the ways they learn and the amount of time available to learn. E-Conservation uses a variety of outreach methods. Traditional methods include locally scheduled workshops, tours, exhibits, individual consultations, media appearances, newsletters, news releases, and public service announcements.

Research indicates that energy consumption behaviors respond to educational interventions (Weihl, 1987), and combining education with incentives results in substantial reductions in energy consumption (Geller, 1981). As an incentive in the E-Conservation Program, a Consumer Energy Kit and/or a subsidized certified home energy audit are offered to participants. The kit is given to those individuals who attend a basic energy conservation county workshop. The kit includes a compact fluorescent light bulb, wall gasket, LED night-light, refrigerator thermometer, and hot water temperature card. The kit allows consumers to make simple immediate changes after participation in the educational workshop.

The subsidized certified home energy audit is offered to consumers for \$100. The approximate cost of an audit on the open market is between \$350 and \$450. The audit consists of a blower door test; an inspection of all mechanical, heating, and ventilation systems; and a walk-through home appliance inspection. After the audit, homeowners receive a report indicating both low cost/no cost and higher cost improvements to increase home-energy efficiency, save money, and raise comfort levels.

The E-Conservation Web site <[www.e-conservation.net](http://www.e-conservation.net)> is a reference for both consumers and Cooperative Extension educators. The consumer-focused portion of the Web site includes an overview of the E-Conservation program, consumer oriented publications, Web resources, a frequently asked questions section, and interactive learning modules for consumers to participate in five to seven video lessons for real-time, on-demand learning. The site also includes a section for state and national energy conservation news, a calendar of statewide conservation events, an advisory board listing, and local E-Conservation success stories. The Extension educators' portion of the Web site offers online curricula, reporting and evaluation resources, fact sheets, press releases, and news articles.

## Program Partners

The E-Conservation Program emphasizes the importance of partnerships. Partnerships vary from county to county and may include city and county government agencies, local school systems, economic development, non-profit groups, civic groups, faith-based organizations, local utility cooperatives, local businesses, and professional associations. Some partners serve on the program's advisory board.

This board is made up of partners in the energy education field, rural electric cooperatives, energy focused non-profits, for-profit energy management and building performance companies, representatives of the renewable energy industry, the State Energy Office, and state and county Extension professionals. The advisory board helps to ensure that the program is relevant and responsive to consumer needs, guides the program, and provides expertise and reviews program materials. The board is essential to the success of the program and provides input on statewide and national trends.

## Evaluating Outcomes

Each component of the E-Conservation Program includes an evaluation plan designed specifically for that component. For the learning modules, pre-, post- and 6-month follow-up questionnaires gauge participant learning. For the audit component, questionnaires are given before, 6 months after, and 1 year after the audit is performed. Additionally, utility bills are collected from all audit participants during all three measurement times to allow for a cost benefit analysis. By collecting utility information, kilowatt-hours can be converted into savings to the homeowner in monies spent on utilities and savings to the environment in pounds of carbon dioxide emissions. For the consumer energy conservation kits, each kit recipient is sent a brief follow-up questionnaire. This questionnaire asks about installation of the various energy saving products included in the kits. Consumer knowledge gains from viewing E-Conservation's online learning modules are ascertained with online post-participation questionnaires.

## Summary

Energy is at the forefront of consumers' minds across the nation. Cooperative Extension is strategically situated to play a key role energy conservation and efficiency education. By tackling complex consumer energy issues with a variety of methods, Cooperative Extension offers more consumers relevant, convenient, and accessible energy conservation education programs. North Carolina's Cooperative Extension continues to work with the public to find realistic, sustainable solutions to change consumer energy conservation behaviors.

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