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**South Carolina Energy Office  
Strategic Energy Action Plan  
2002-2003**

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**State Budget and Control Board**  
September 2002

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## **STATE BUDGET AND CONTROL BOARD**

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## Executive Summary

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To systematically address critical needs in the state, the South Carolina Energy Office (SCEO) has focused its 2002-2003 Strategic Plan on efforts to assist the public sector, including state agencies, school districts, colleges and universities, and local governments. Public sector assistance provides maximum benefit to our citizens, as improvements in operating efficiency allow more resources to be spent on programs to better our state. The Strategic Plan concentrates on four areas: Energy Efficiency and Conservation in Facilities, Transportation Conservation and Diversification, Energy Information and Awareness, and Energy Resource Use and Development. Each of these program areas attempts to increase the productivity of the public sector while providing energy information and policy guidance for the public at large.

A major component of the Energy Efficiency and Conservation in Facilities Program is the Rebuild South Carolina project (established with a grant from the Department of Energy) to assist public organizations in energy management. Organizations need to establish baseline measures for energy use before we can assist them. We will continue to provide assistance in tracking energy consumption data at public agencies and school districts. As we learn the trends of public facility energy use, we can then analyze them and identify opportunities for assistance. Organizations can become Rebuild South Carolina (RBSC) Partners, opening them up to full-service energy management coordination.

Contracted engineers provide audits of facilities that specify areas where improvements, both physical and operational, could be made. SCEO staff work with the auditors, the organizations' energy managers, and necessary public officials to review the audits, make recommendations, and move to implementation. Experienced SCEO staff assist organizations in the development of a Request for Proposals and other procurement procedures as well as locating financing assistance. In addition, the SCEO will revise its public sector loan program to expand financing options for energy projects. Finally, once projects are implemented, the SCEO provides continual training for energy managers in the state, both through the Association of South Carolina Energy Managers and workshops sponsored through Rebuild South Carolina.

The Transportation Conservation and Diversification Program combines two themes of transportation sustainability. The primary concern is that petroleum is a fossil fuel and will eventually run out, meaning we cannot continue our current consumption patterns. One method to ensure sustainability is to reduce the amount of petroleum consumption through the reduction of vehicle miles traveled, or simply by helping people travel less. The second theme is to reduce petroleum consumption through increasing the consumption of alternative fuels such as ethanol or natural gas. The variety of Strategic Objectives in this Program will directly impact both of these areas of Transportation Conservation & Diversification.

A number of concerns are addressed in the Energy Information and Awareness Program. We strive to make people aware of our services, the effects of high energy consumption, and techniques for conserving energy. We provide targeted programs for children in kindergarten through the twelfth grade. By educating children we hope to have an effect on their behaviors in the future, as well as to provide enhancements to the State Department of Education curriculums. We also supply homeowners with information on reducing energy consumption so that they may become smarter consumers.

The Energy Resource Use and Development program strives to reduce energy demand and develop renewable resources for utilization by consumers. Reducing the demand for energy means that we will need fewer power plants to supply power, therefore reducing regulatory and infrastructure costs in the future. We also work with the supply side of the equation, helping to establish policies that will promote the development of renewable resources like landfill gas energy, biomass energy, and solar energy.

## Introduction

### South Carolina's Energy Picture

South Carolina has changed little in energy use habits in recent years. The *2001 South Carolina Energy Use Profile* details energy data specific to our state. The Profile is updated every two years as data is prepared by the federal Energy Information

Administration (EIA). Table 1 shows the energy use per capita in South Carolina and the United States from 1990 through 1999.

According to information released by the EIA, South Carolina ranks 19<sup>th</sup> in the country in energy consumption per capita, using

384.2 trillion Btu in 1999. The average energy consumption per capita in the United States was 350.9 trillion Btu in 1999, with South Carolina using more energy per capita than 31 other states.

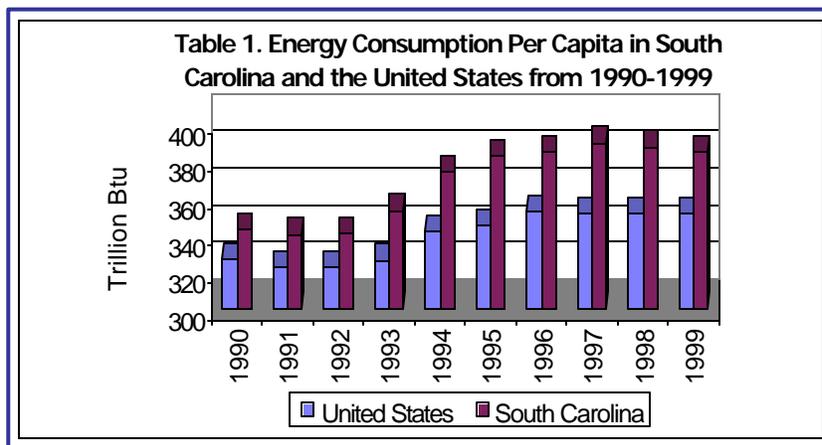
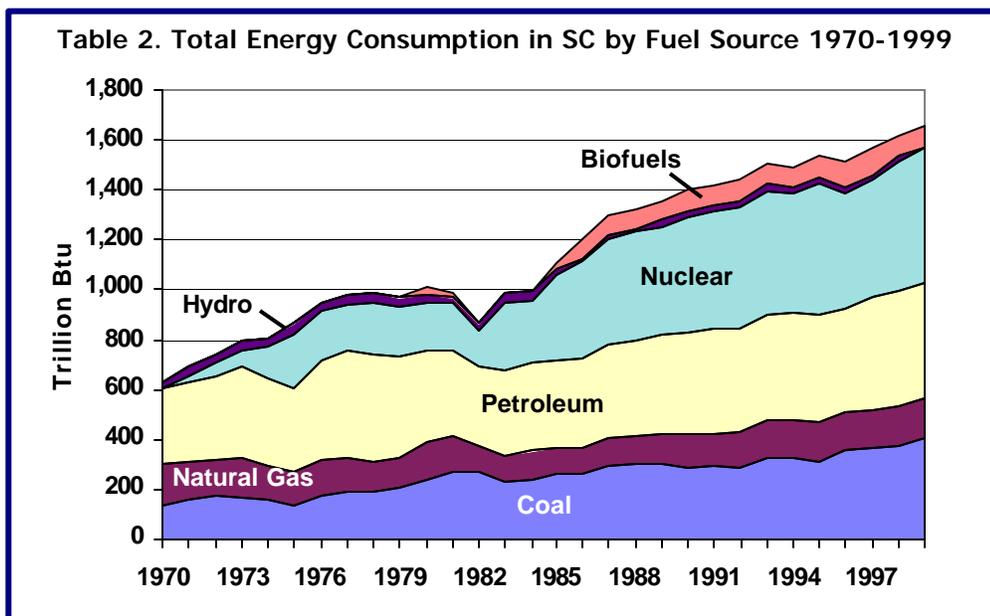


Table 2 shows the levels of use of various fuel sources in South Carolina. In order to provide security from fuel price increases and market fluctuations, especially petroleum, natural gas, and coal, the SCEO plans to implement activities designed to diversify our fuel sources. A greater level of renewable resource use in South Carolina will also improve air quality and help protect the environment.



### The 2002-2003 Strategic Plan

Following a very intensive reassessment of our mission, objectives, and goals, the 2002-2003 Strategic Plan of the SCEO focuses our efforts and resources on public sector energy efficiency through facility, transportation, energy awareness, and energy resource development

measures. Previously the SCEO had attempted to provide many programs and services to a wide variety of customers. The current environment in South Carolina necessitates a focus on saving taxpayer dollars in order to increase the effectiveness of other public programs.

Since the public sector operates on the investment of tax receipts from citizens, it is our obligation to ensure those funds are spent in the most efficient method. Data collected through the South Carolina S.A.V.E.\$ program (Schools and Agencies Verify Energy Dollars) shows that public agencies in South Carolina spent \$174.89 million on energy in fiscal year 2001. One of the Program Objectives is to reduce consumption by ten percent in targeted public facilities. We also plan to increase awareness of energy issues through every contact we make, resulting in behavioral changes that will reduce energy consumption. Based on the amount consumed and the average fuel prices for public sector organizations in FY 2001, we estimate that a three percent decrease in energy consumption could have saved nearly \$5.2 million (See Table 3).

kBtu Consumed	Three Percent Reduction in kBtu	Average Fuel Cost/kBtu	Possible Savings
<b>School Districts</b>			
4,675,900,000	140,277,000	\$.019	\$2,665,263
<b>State Agencies</b>			
2,787,900,000	83,637,000	\$.013	\$1,087,281
<b>Colleges With Housing</b>			
3,901,700,000	117,051,000	\$.010	\$1,170,510
<b>Colleges Without Housing</b>			
547,700,000	16,431,000	\$.016	\$262,896
<b>Total Possible Savings</b>			<b>\$5,185,950</b>

By deploying integrated services for the public sector, the SCEO will increase the quality and competitiveness of government functions. Primarily through partnerships with organizations on the regional, state and local levels, the SCEO intends to impact the operating efficiency of the public sector through activities in the following Programs:

- Energy Efficiency and Conservation in Facilities;
- Transportation Conservation and Diversification;
- Energy Information and Awareness; and
- Energy Resource Use and Development.

Each Program addresses definite needs of our state. As the recent decrease in revenues forces reductions in expenditures for government, increased operating efficiency is a must. Energy consumption costs money, and the SCEO plans to help organizations divert money from energy expenses to service delivery.

The SCEO eagerly anticipates implementation of this Strategic Plan. A focused and cohesive strategy will result in improved customer service, in turn improving allocation of resources and the overall quality of service. The success of the Plan will be measured and presented in the 2002-2003 SCEO Accountability Report.

## Addressing Every Sector's Needs

Though the focus of this Strategic Plan is on assistance for the public sector, the SCEO maintains programs for all consuming sectors of our state. For instance, the Commercial and Industrial sectors are eligible for energy audits of their facilities. The SCEO also coordinates financial assistance through programs of the U.S. Department of Energy, such as National Industrial Competitiveness Through Energy, Environment, and Economics (NICE<sup>3</sup>), Inventions and Innovations, Industries of the Future, the State Energy Program Special Projects Solicitation, and others that may be issued. The SCEO assists the Residential sector through public information activities like Home Shows, a toll-free help line, and a large variety of useful publications. Our web site (<http://www.state.sc.us/energy>) showcases our participation in activities for every sector.



## **Mission**

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The mission of the South Carolina Energy Office is to increase efficiency in the use of all energy resources in all consuming sectors of the state, and, to the extent practical, to maximize environmental quality and to minimize the cost of energy use.



## Energy Efficiency & Conservation in Facilities Program

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Program Goal: To provide the highest quality centralized energy conservation & efficiency services for the public at the least cost.

Program Objectives:

1. To reduce energy consumption in targeted public facilities by three percent;
2. To achieve an energy cost avoidance of three percent of projected annual energy expenditures for targeted public facilities;
3. To increase lighting quality in five low-income public schools to meet code (70 foot-candles) at the greatest cost efficiency through implementation of lighting retrofits.

Strategic Objectives:

A. Through SC S.A.V.E.\$. (Schools and Agencies Verify Energy Dollars) and other tracking procedures, assist 160 public entities in monitoring and analyzing energy consumption data.

<i>Critical Steps</i>	<i>Dates of Completion</i>
• Provide technical support and training to energy accounting software users via telephone, e-mail and on-site.	Ongoing
• Research and evaluate energy accounting software packages for public agencies.	Ongoing
• Compose letters and forms to be sent to all public entities requesting their assistance in providing the Energy Office with their fiscal year energy consumption data.	July 2002
• Receive, compile and analyze energy consumption data from reporting entities.	September 2002 to February 2003
• Write report.	March 2003
• Publish <i>Energy Use in South Carolina's Public Facilities</i> .	April 2003
• Send customized energy reports to all entities with copies of <i>Energy Use in South Carolina's Public Facilities</i> .	June 2003

### *Performance Measurement*

The impact of the SC S.A.V.E.\$. program and the *Energy Use in South Carolina's Public Facilities* report will be counted the same way as the Test Metering Project. The data collected for the report will be used to identify energy and cost savings opportunities at public facilities in the state.

B. Recruit eight new Rebuild South Carolina Partners and assist five Rebuild South Carolina Partners in implementing energy efficiency projects.

<i>Description of Each Step</i>	<i>Dates of Completion</i>
• Contract with auditors.	July 2002
<i>Rebuild SC process for each partner</i>	
• Identify and recruit organization for Rebuild SC partnership.	Month 1
• Assign energy audit.	Month 2
• Receive and review audits.	Month 3-6
• Present audits to organization with recommendations for projects.	Month 3-6
• Identify financing options. Promote to decision makers.	Month 4-6

- Technical evaluations and assistance during procurement and implementation phases.
  - Monitor and verify savings.
- Months 6-24  
12 months following implementation

*Performance Measurement*

Opportunities for savings, both energy and cost, are identified through audits. We will follow-up with each audit recipient and maintain a database of measures implemented from the audit. Once measures are implemented we will be able to determine the actual savings resulting from our efforts.

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C. In cooperation with York Technical College (YTC), survey 13 school buildings for general conditions and develop Operations and Maintenance (O&M) manuals for three schools. YTC will educate staff and teachers on potential energy conservation measures as related to their facility.

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<i>Description of Each Step</i>	<i>Dates of Completion</i>
• Conduct a survey of 13 school buildings to identify those items which impact energy usage.	December 2002
• Evaluate the impact of these items on energy consumption.	January 2003
• Develop O&M handbook to ensure that the identified items are being operated for maximum energy efficiency.	April 2003
• Develop workshops to train the school staff on the energy efficient procedures and handbook.	May 2003
• Conduct workshops.	June 2003
• Evaluate program.	August 2003

*Performance Measurement*

The development of the O&M manuals for the three pilot schools will be an immediate success since they may lack a coordinated plan for maintaining the school as energy efficiently as possible. Once the manuals have been used for at least a year, we will compare the energy usage and costs with those figures from previous years to determine savings. If the O&M manuals prove successful for the pilot schools, we will investigate the feasibility of designing manuals for other SC public schools.

The next four activities offer financing options for public sector organizations to implement projects that impact energy efficiency or costs. One is only available for school districts, one is only available for public colleges and universities, another is only for state agencies, but the fourth can be used by any public sector organization, including not-for-profits.

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D. Implement energy efficient retrofits in five low-income public schools.

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<i>Description of Each Step</i>	<i>Dates of Completion</i>
• Grant cycle begins, send letters to qualifying grantees.	October 2002
• Receive and review applications.	April 2002
• Awarding grants.	May 2002
• Monitor implementation of energy retrofit	Ongoing
• Receive information on actual energy costs and consumption.	1 year following implementation.

*Performance Measurement*

A lighting retrofit will bring school lighting levels up to code; other energy measures will be implemented in an effort to reduce energy consumption. The impact of these energy measures will be measured by estimating the system's effect on energy consumption and cost data.

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E. Award incentives to six public higher education institutions to implement energy efficient projects.

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<i>Description of Each Step</i>	<i>Dates of Completion</i>
<ul style="list-style-type: none"><li>• Prepare mailing for facility managers and finance officers of public colleges and universities with details for the Rewards for Higher Education Energy Efficiency Projects program (RHEEEP) and certification of cost savings. Post information on web site.</li></ul>	October 2002
<ul style="list-style-type: none"><li>• Receive cost savings reports. SCEO staff reviews and certified appropriate projects</li></ul>	December 2002 to January 2003
<ul style="list-style-type: none"><li>• Compile cost savings information and send to Commission on Higher Education; RHEEEP awards determined</li></ul>	February 2003
<ul style="list-style-type: none"><li>• Notify institutions of award; contract paperwork distributed</li></ul>	April 2003
<ul style="list-style-type: none"><li>• Authorize awards to qualifying institutions which are spent on projects that increase or promote energy efficiency and conservation. Staff monitors.</li></ul>	April 2003 to June 2004
<ul style="list-style-type: none"><li>• Process continues annually.</li></ul>	

*Performance Measurement*

Once projects have been implemented with the RHEEEP funds, institutions will report their direct savings from the project. Since other projects are allowed, such as training or increasing energy awareness, we will measure the impact of those through user surveys.

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F. Provide financial assistance to state agencies to implement four energy efficiency projects.

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<i>Description of Each Step</i>	<i>Dates of Completion</i>
<ul style="list-style-type: none"><li>• Develop guidelines for public agency financing assistance program.</li></ul>	March 2002 to May 2002
<ul style="list-style-type: none"><li>• Work through the Rebuild South Carolina program and other opportunities to market the financing program.</li></ul>	Ongoing
<ul style="list-style-type: none"><li>• Identify appropriate projects and form partnerships through the Rebuild South Carolina program (engage the organization as a Rebuild SC partnership).</li></ul>	June 2002 to June 2003
<ul style="list-style-type: none"><li>• Implement project.</li></ul>	Ongoing
<ul style="list-style-type: none"><li>• Monitor savings.</li></ul>	Ongoing

*Performance Measurement*

Accurate savings can be determined following the identification of the projects.

G. Provide financial assistance through the ConserFund Loan Program to state agencies, local governments, school districts, and not-for-profits to implement four energy efficiency projects.

*Description of Each Step*

- Market loan program to eligible entities.
- Engage organization in agreement, secure funding.
  
- Implement project.
- Monitor savings.

*Dates of Completion*

Ongoing  
 July 2002 to June 2003  
 Ongoing  
 Ongoing

*Performance Measurement*

Accurate savings can be determined following the identification of the projects.

Though the Rebuild South Carolina program is targeted to public sector organizations, financing assistance is available for small businesses for energy efficiency projects as well.

H. Provide financial assistance to 20 small businesses to implement energy efficiency projects.

*Description of Each Step*

- Develop guidelines and criteria for the program, put program in place.
- Market program to eligible entities.

*Dates of Completion*

December 2002  
 Ongoing

*Small business loan program process for each partner.*

- Engage organizations in agreement, secure funding.
- Implement projects.
- Monitor savings.

Month 1  
 Month 3  
 Month 12

*Performance Measurement*

Accurate savings can be determined following the identification of the projects.

I. Educate 400 energy-related professionals on techniques to reduce energy consumption.

*Description of Each Step*

- Determine appropriate audiences for training activities.
  
- Develop workshop needs assessment survey; Administer to audiences.
- Receive and evaluate results from survey. Determine appropriate workshop topics based on survey results.
- Write RFP's and award contracts for workshops
- First workshop
- Second workshop
- Third workshop
- Fourth and fifth workshop
- Sixth workshop
- Seventh and eighth workshops

*Dates of Completion*

August 2002  
  
 September 2002  
 October 2002  
 October 2002  
 October 2002  
 November 2002  
 February 2003  
 April 2003  
 June 2003  
 June 2003

*Performance Measurement*

Participants will be surveyed to determine the effect of the training and the likelihood of using the information. SCEO staff will contact participants at least three months following the workshop to find out if the person has been able to use any of the knowledge gained at the workshop.

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J. Conduct 6 Level II energy audits for commercial & industrial customers.

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*Description of Each Step*

- Write RFP and contracts
- Conduct energy audits
- Receive and review audits
- Present audits to organization with recommendations for projects
- Contact organization to determine if measures have been implemented.

*Dates of Completion*

August 2002  
Ongoing  
Ongoing  
Ongoing  
Three months following presentation of audit if no other contact is made.

*Performance Measurement*

Participants will be surveyed to determine the effect of the audit and the likelihood of implementation.

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K. Facilitate and accelerate the adoption of LEED Green Building practices and standards resulting in increased energy efficiency and environmental excellence.

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*Description of Each Step*

- Assist in building alliances with the public and private sectors.
- Develop and implement an element specific, assignment specific, and time specific 1 year, 3 year and 5 year strategic plan.
- Assist with the publication of quarterly newsletter.
- Assist with preparation, promotion and presentation of quarterly statewide LEED educational workshops.
- Support the North and South Carolina Sustainable Purchasing Coalition proposed by the International Design Center for the Environment.

*Dates of Completion*

Ongoing  
  
October 2002  
October 2002,  
January, April, June  
2003  
January, April, June  
2003  
  
Ongoing

*Performance Measurement*

Program impact will be measured by the number of allies contacted and involved, the number of projects started, and successful completion of the newsletter. Also, evaluations of workshop attendees will be conducted to determine effectiveness.

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L. Fund components for telecommuting program development in two state agencies.

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Telecommuting is located in the Transportation Fuel Conservation & Diversification Program because the primary intent is to reduce vehicle miles traveled. However, a secondary effect, and often the motivating factor for agencies to participate, is the reduction in office space since fewer people need offices. Because the participating agencies will track their space reductions, we can also attribute energy consumption and cost savings for public agencies to telecommuting.

As the highest energy consuming facilities in South Carolina, the commercial and industrial sector requires attention to their energy use habits. The next two activities focus on these two sectors.

## Transportation Conservation & Diversification

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Program Goal: To provide, for the common need, the highest quality centralized transportation fuel conservation and diversification services at the least cost.

Program Objectives:

1. To reduce petroleum fuel consumption in targeted locations by five percent through reduction of miles traveled;
2. To increase alternative fuel availability by ten percent in the areas targeted by Clean Cities activities;
3. To increase alternative fuel consumption in the State Fleet by five percent.

Strategic Objectives:

### *Activities*

The first two activities deal with reducing miles traveled which in turn reduces petroleum usage.

A.	Implement demonstration project with two local governments to reduce trips, therefore reducing miles traveled and fuel consumed.
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### *Description of Each Step*

- Issue contracts to two local governments to develop Energy Elements for adoption into their Comprehensive Plans. This step includes at least two meetings with contractors to develop energy data.
- Receive and evaluate Energy Elements
- Assist in presenting results from projects at statewide meeting.
- Assist local governments with Energy Elements in securing funding for Implementation Strategies in the Energy Element through DOE programs.

### *Dates of Completion*

August 2002 to July 2003

July 2003 to September 2003

September 2003, depending on date

Ongoing after July 2003

### *Performance Measurement*

After the local governments incorporate the Energy Element into their Comprehensive Plans, we will assist them in measuring the expected savings from implementation of the elected strategies.

B.	Assist in the implementation of telework programs in two state agencies.
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### *Description of Each Step*

- Complete contracts for two programs.
- Document miles eliminated.
- Agencies identify and implement telecommuting policies. Select priority components for possible funding assistance.
- Complete contracts for component.
- Document miles eliminated

### *Dates of Completion*

December 2002

Ongoing

Ongoing

June 2003

Ongoing

*Performance Measurement*

As the telework programs are developed, agencies will survey staff to determine qualifications for telecommuting. Those that qualify will be asked their vehicle type and mileage to work. Once the programs are implemented the mileage reduction will be continuously tracked on each occasion that an employee telecommutes.

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C. Monitor effectiveness of e-government programs implemented at eleven state agencies.

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*Description of Each Step*

*Dates of Completion*

- Work with the Office of Information Resources (OIR) to monitor usage of e-government services. Ongoing
- Analyze data received from OIR quarterly. July 1 2002- June 30, 2003

*Performance Measurement*

The eleven agencies that provide services online have a mechanism that totals the vehicle miles eliminated each time a person uses the online services. The Energy Office will keep track of this reduction in vehicle miles traveled and the amount equivalent amount of petroleum saved.

The next three activities accomplish the goals of increasing alternative fuel availability and increasing alternative fuel use in the state fleet.

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D. Coordinate alternative fuels activities in the Columbia and Rock Hill areas, thereby reducing use of gasoline in targeted areas and increasing alternative fuel use, as well as achieving official designation through the national Clean Cities program.

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*Description of Each Step*

*Dates of Completion*

- Issue contracts for two coordinators to facilitate development of alternative fuel vehicle (AFV) infrastructure and activities in Columbia and Rock Hill. July 2002 to June 2003
- Activities will include the following:
- Public awareness campaign
  - Advancing the Choice event
  - Travel to regional meetings and national conference
  - Coordinator work time
  - Development of State Clean Cities Program Plan
  - Stakeholder recruitment
  - Fleet survey
- Attend four major stakeholder meetings and all working group meetings. Ongoing
  - Work with local groups on legislative questions pertaining to alternative fuels. Ongoing
  - Participate in Southeast Alternative Fuels meeting. Fall 2002

*Performance Measurement*

The goal of this program is to develop alliances that will strengthen AFV infrastructure in South Carolina, and also improve awareness of AFVs. If they provide any public information, we ask that they include user surveys in the material.

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E. To increase alternative fuel availability and usage, fund development of two alternative fuel refueling stations; and encourage a state agency to refuel its buses with biodiesel.

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*Description of Each Step*

*Dates of Completion*

- Contract with SCE&G to develop a new CNG refueling facility for 7 city buses, state government, and other interested users. Ultimately, the bus fleet will move towards 100% CNG use. December 2002
- Pilot use of biodiesel fuel in 12 of the University of South Carolina's full-size campus buses. Contract will fund the difference in cost between B-20 and diesel. Information from the project will be used to develop potential program for using alternative fuels in SC school buses. June 2003
- Develop account to buy-down the cost of ethanol in Rock Hill and Columbia at all stations where it is sold. June 2003

*Performance Measurement*

Use fuel card system to track fuel use in state fleets; require USC to report miles traveled and fuel consumed by biodiesel-fueled buses.



## Energy Information & Awareness

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Program Goal: To provide the highest quality centralized energy awareness and education services for the public and private sector at the least cost.

Program Objectives:

1. To increase K-12 student awareness of energy conservation practices in 75 percent of the students we reach;
2. To increase public awareness of energy conservation practices and policy issues in 70 percent of the customers we reach;

Strategic Objectives:

### *Activities*

The first two activities accomplish the objectives of increasing K-12 students' awareness of energy efficiency and conservation. The SCEO partners with the Department of Health and Environmental Control to promote the *Action for a Cleaner Tomorrow* curriculum, *Energy 2 Learn*, the National Energy Education Development Project (NEED), and the Palmetto Energy Awards Program (PEAP).

A. Implement Energy 2 Learn curriculum in 400 K-12 classrooms statewide.
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<i>Description of Each Step</i>	<i>Dates of Completion</i>
<ul style="list-style-type: none"> <li>• Debut of Earth Camp for selected rising 5th and 6th graders sponsored by International Paper.</li> </ul>	July 2002
<ul style="list-style-type: none"> <li>• Send up to 8 South Carolina teachers to the NEED teachers conference in Charleston, SC, including the SC Energy Educator of the Year. Send any K-12 student finalists and chaperones to the Washington, DC NEED Youth Awards if invited by NEED.</li> </ul>	July 2002
<ul style="list-style-type: none"> <li>• Develop and administer contract to assist with the funding for having the Action curriculum energy lessons correlated to the social studies, language arts and math standards for SC.</li> </ul>	October 1, 2002 – September 30, 2003
<ul style="list-style-type: none"> <li>• Investigate developing new energy lessons on nuclear waste and alternative fuels.</li> </ul>	December 2002
<ul style="list-style-type: none"> <li>• NEED coordination of services - administrative staff time and associated office services.</li> </ul>	September 2002
<ul style="list-style-type: none"> <li>• SC NEED coordinator and energy educators for statewide training and promotion.</li> </ul>	Ongoing
<ul style="list-style-type: none"> <li>• Mini NEED workshops across the state (where students and teachers demonstrate to other students and teachers how the curriculum is to be used). Scheduling of these will begin in the Fall, 2002.</li> </ul>	Ongoing
<ul style="list-style-type: none"> <li>• Purchase \$400 NEED Science of Energy kits for teachers attending mini NEED workshops.</li> </ul>	Ongoing
<ul style="list-style-type: none"> <li>• Train teachers to use the Action curriculum and distribute information about PEAP</li> </ul>	Ongoing throughout school year
<ul style="list-style-type: none"> <li>• Select SC Energy Educator of the Year</li> </ul>	April 2003
<ul style="list-style-type: none"> <li>• Energy 2 Learn Teachers conference</li> </ul>	June 25, 2003

- Debut new E2 IQ Kit containing energy-related lessons and activities at E2L. June 25, 2003  
This will replace the NEED kit.
- 2<sup>nd</sup> annual Earth Camp July 2003

*Performance Measurement*

Teachers will be surveyed to learn which lessons they are using. Teachers will give their students pre-and post-testing for the energy portion of the curriculum. The pre- and post-test results will give us an indication of whether the students are retaining the energy information. Students at the Enviro Camp will also be tested. A set of interactive lessons with pre- and post- testing are also in development.

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B. Judge projects at the University of South Carolina (USC) Central South Carolina Region 2 Science and Engineering Fair; select 8 for energy awards.

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*Description of Each Step*

- Design certificates and purchase trophies for awards. Pick up trophies and deliver to USC.
- Judge and award science fair awards.
- Purchase U.S. EE Series Savings Bonds for winners in differing amounts.

*Dates of Completion*

February to April 2003  
April 2003  
April 2003

*Performance Measurement*

Part of the success of the energy science fair activity is the increasing number of energy projects at the fair. Additionally, the SCEO hopes that the projects might represent some of those described in the *Science Fair Project Guidebook*, a book published by the SCEO.

The next set of activities deals with both the general public and two specific sectors that the SCEO attempts to target for increased awareness of energy efficiency and conservation. The activities for the general public are listed first, then the public sector, followed by residential.

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C. Promote energy awareness and conservation to citizens of South Carolina.

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*Description of Each Step*

- Investigate development of paystub energy conservation reminder for state employees.
- Develop utility bill insert for appropriate season in South Carolina.
- Contact utilities and cooperatives to determine interest in receiving utility bill inserts.
- Help promote America Recycles Day by participating in school recycling fairs.
- Help promote energy conservation through participation in statewide activities.
- Promotion of existing E2 public service announcements.

*Dates of Completion*

Depending on availability  
August 2002  
August-September 2002  
November 2002  
Ongoing  
Ongoing

*Performance Measurement*

Each element of public information will include a user survey designed for that medium. Each of the various surveys will include some identical questions that will allow comparison across media types.

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D. Update the SCEO web site 50 times with new information.

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*Description of Each Step*

- Receive updates from staff. Post to web site.
- Solicit new information from staff monthly. Post to web site.

*Dates of Completion*

Ongoing  
Ongoing

*Performance Measurement*

Web site updates are tracked in a database. SCEO will continue to use OIR's web site usage tracking system to determine the number of hits the site receives each month. Web site users can also participate in a survey that measures the quality of information, ease of use, and increased awareness of energy issues.

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E. Publish Energy Connection newsletter twice annually.

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*Description of Each Step*

- Determine and assign articles for Summer 2002 edition. Produce, print, and distribute.
- Determine and assign articles for Winter 2003 edition. Produce, print, and distribute.

*Dates of Completion*

August-September  
2002  
January-February  
2003

*Performance Measurement*

The Energy Connection has gone to an electronic format, however, some hard copies will still be printed. Interactive feedback features have been added to gauge interest in articles and increased awareness of the SCEO and energy issues.

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F. Develop targeted outreach programs for three critical needs public sector agencies to reduce end-user consumption of energy.

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*Description of Each Step*

- Through the *Energy Consumption Report* and discussions with staff members, identify critical need agencies
- Develop agency specific presentation and gather materials
- Begin delivering presentations
- Administer user surveys to participating agencies.
- Continue to identify agencies and modify presentations as necessary/requested

*Dates of Completion*

September 2002  
September 2002 to  
October 2002  
October 2002  
3 Months following  
presentation  
October 2002 to June  
2003

*Performance Measurement*

Surveys will be prepared that allows the SCEO to determine any problems or issues that could be improved with the program. We will also attempt to determine the degrees of participation in the program.

G. Distribute 6,000 pieces of energy conservation information to 4,000 people at booths in the Home Shows in Columbia, Charleston and Greenville.

<i>Description of Each Step</i>	<i>Dates of Completion</i>
• Secure booth space and electrical power.	November 2002 to February 2003
• Purchase foam outlet and switch cover gaskets and/or compact fluorescent lightbulbs as promotional items and door prizes	January 2003
• Contractor staffs the three Home Shows.	February to March 2003
• CFLs are mailed to winners whose names were drawn during the course of the three shows. Three CFLs are awarded daily at each show	March 2003

*Performance Measurement*

Visitors to the Home Show booth will be asked to complete surveys at random. The sample of attendees will evaluate the impact of the booth, materials, staff interaction, and their personal awareness of energy issues. If they permit follow-up contacts or request materials, we will encourage further feedback.

H. In coordination with the Manufactured Housing Institute of South Carolina, distribute 100 energy information packets to manufactured housing dealers.

<i>Description of Each Step</i>	<i>Dates of Completion</i>
• Announce availability of "Your Mobile Home" book, free from SCEO.	July 2002
• Develop or purchase a manufactured housing fact sheet in coordination with MHISC, detailing ways owner can save energy in a manufactured home.	December 2002
• Print and distribute Energy Efficient Labels to manufacturers of mobile homes that are sold to dealers in SC.	Ongoing
• Develop and administer contract to condense "Your Mobile Home" book to make it specific for South Carolina.	February 2003
• Work with the Manufactured Housing Institute to review legislation and make recommendations regarding changes, additions or deletions.	September – December 2002

*Performance Measurement*

The value of the information will be assessed through an evaluation distributed with the packets. We will also track the number of manufactured home owners who request further information.

The final activity involves coordination of the Energy Advisory Committee, which was re-formed in 2001 to provide program and policy guidance to the SCEO on development of the Strategic Energy Action Plan and other issues.

I. Coordinate two meetings of the SCEO Energy Advisory Committee (EAC).

<i>Description of Each Step</i>	<i>Dates of Completion</i>
• Meet with Chairman to develop agenda for fourth meeting.	August 2002
• Develop critical path for fourth meeting.	August 2002
• Distribute meeting materials to committee members.	August 2002
• Conduct fourth meeting of EAC.	September 2002

- Meet with Chairman to develop agenda for fifth meeting. January 2003
- Develop critical path for fourth meeting. January 2003
- Distribute meeting materials to committee members. March 2003
- Conduct fifth meeting of EAC. March 2003

*Performance Measurement*

The level of participation from EAC members at the meetings and through other communications will show the success of the committee.



## Energy Resource Use & Development

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Program Goal: To provide the highest quality centralized energy resource services for the public and private sector at the least cost.

Program Objectives:

1. To increase the use of landfill gas energy by five percent through the Landfill Methane Outreach Program;
2. To increase the use of biomass energy by five percent through national and regional programs.

Strategic Objectives:

A. Provide leadership and assistance in the Environmental Protection Agency's Landfill Methane Outreach Program toward partnership creations that result in achieving operational status for six South Carolina Landfill Gas Conversion Projects.

*Description of Each Step*

- | <i>Description of Each Step</i>   | <i>Dates of Completion</i> |
|---|----------------------------|
| • Palmetto Landfill: Ongoing assistance in all aspects for operational status.          | December 2002              |
| • Screaming Eagle Landfill: Ongoing assistance in all aspects for operational status.   | January 2003               |
| • Anderson Regional Landfill: Ongoing assistance in all aspects for operational status. | February 2003              |
| • Lee County Landfill: Ongoing assistance in all aspects for operational status.        | April 2003                 |
| • Oak Ridge Landfill: Ongoing assistance in all aspects for operational status.         | September 2003             |
| • Hickory Hill Landfill: Ongoing assistance in all aspects for operational status.      | October 2003               |

*Performance Measurement*

The operational status of the landfills will indicate the level of use of landfill gas.

B. Assist in developing one or more biomass energy projects through national and regional programs.

*Description of Each Step*

- | <i>Description of Each Step</i>  | <i>Dates of Completion</i>    |
|--|-------------------------------|
| • Publicize request for two page preliminary proposals for <b>SERBEP</b> .               | July 2002 to August 2002      |
| • Notify best potential candidates.  | August 2002                   |
| • Assist in the preparation of the proposal(s) and submit to responsible agency.         | August 2002                   |
| • If funded, award contract.   | September 2002                |
| • Publicize request for two page preliminary proposals for <b>DOE-Special Projects</b> . | November 2002 to January 2003 |
| • Notify best potential candidates.  | February 2003                 |
| • Assist in the preparation of the proposal(s) and submit to responsible agency.         | February 2003 to March 2003   |
| • If funded, award contract.   | July 2003                     |

- Publicize request for two page preliminary proposals for **NICE3**. December 2002 to January 2003
- Notify best potential candidates. February 2003 to March 2003
- Assist in the preparation of the proposal(s) and submit to responsible agency. April 2003 to July 2003
- Administer and report quarterly on existing projects. Ongoing

*Performance Measurement*

Biomass generation or usage will be measured once the projects are implemented.

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C. Coordinate a coalition of solar energy stakeholders to market development of solar energy, particularly through the Million Solar Roofs Initiative (MSRI).

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*Description of Each Step*

*Dates of Completion*

- Formalize the South Carolina Solar Energy Society in conjunction with the American Solar Energy Society. November 2002
- Coordinate and conduct meeting 2 of the MSRI Partnership to review status of program, receive additional input, and draft system tracking mechanism. December 2002
- Contract with York Tech for a detailed assessment of current situation in SC with consideration given to all aspects of installing solar systems. December 2002
- Coordinate and conduct meeting 3 to review the results of the inventory and identify specific objectives and strategies. April/May 2003
- Develop draft Implementation Plan based on recommendations and feedback from MSRI Partners. May/June 2003
- Attend American Solar Energy Society National Conference to obtain information on Strategies for the Implementation Plan. May 2003
- Distribute draft Implementation Plan for comments from SC MSRI Partners. Incorporate necessary revisions and finalize. June/July 2003
- Submit Implementation Plan for SC MSRI Partnership to DOE. September 2003
- Coordinate and conduct meeting 4 to allocate responsibilities for Implementation Plan Strategies and prepare for grant application to DOE. October/November 2003
- Prepare MSRI proposal based on highest priority Strategies. December 2003

*Performance Measurement*

We will be able to track the number of solar installations following development of the system tracking mechanism. We can obtain the production capacity of the projects through this database.

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D. In cooperation with the University of South Carolina, pilot the use of a natural gas powered fuel cell in a green dorm that will be used for research, education, and renewable energy awareness.

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*Description of Each Step*

*Dates of Completion*

- Award grant to USC upon authorization from Department of Energy. September 2002
- Develop grant contract with USC. October 2002
- Monitor grant. Ongoing
- Close grant. June 2004

*Performance Measurement*

The fuel cell generation data will be included in a final report to the Department of Energy.

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E. Revise Energy Emergency Plan to incorporate sustainable solutions that will increase reliability.

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<i>Description of Each Step</i>	<i>Dates of Completion</i>
<ul style="list-style-type: none"><li>• Study 1990 Energy Emergency Preparedness Plan to determine outdated, changed material.</li><li>• Write new plan.</li></ul>	August 2002 to September 2002 October 2002 to January 2003
<ul style="list-style-type: none"><li>• File completed report with Public Service Commission and Emergency Preparedness Division for inclusion in State Emergency Operations Plan.</li></ul>	January 2003

*Performance Measurement*

The revised Energy Emergency Plan will provide an updated procedure for the SCEO to manage fuel emergencies.

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F. Compile energy data for publication in *South Carolina Energy Use Profile*.

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<i>Description of Each Step</i>	<i>Dates of Completion</i>
<ul style="list-style-type: none"><li>• Regular updating and maintenance of database with latest available energy statistics.</li><li>• Regular posting on SCEO web site of latest available energy statistics.</li></ul>	Ongoing Ongoing
<ul style="list-style-type: none"><li>• Publish South Carolina Energy Use Profile every other year, contingent upon data released by sources in the public domain.</li></ul>	January 2004

*Performance Measurement*

Mandated by statutory provision, the Energy Use Profile serves as a measure of energy trends and patterns in South Carolina and the United States. It is intended to be used as an information tool for state legislators, state agencies, students, public organizations, and the general public and as a planning tool for the SCEO.

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G. Develop an energy forecast for South Carolina, with consideration to economic growth, environmental impacts, and resource availability.

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<i>Description of Each Step</i>	<i>Dates of Completion</i>
<ul style="list-style-type: none"><li>• Determine priorities and necessary standards for document through staff meetings and with input from the Energy Advisory Committee.</li><li>• Develop RFP for South Carolina energy forecast.</li><li>• Issue RFP; award contract.</li><li>• Receive draft report, review.</li><li>• Receive final document; distribute to Public Service Commission and Energy Advisory Committee.</li></ul>	January 2003 February 2003 March 2003 September 2003 October 2003

*Performance Measurement*

The South Carolina Energy Forecast will be used for planning and policy development as well as a public information tool.

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H. Partner with the SC Soybean Board to determine the feasibility of establishing a biodiesel production facility in the state.

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*Description of Each Step*

- |  | <i>Dates of Completion</i> |
|--|----------------------------|
| <ul style="list-style-type: none"><li>• If SERBEP funding is awarded, contract with SC Soybean Board for a study on the feasibility of producing biodiesel at a production facility in SC.</li></ul> | November 2002-June 2003    |
| <ul style="list-style-type: none"><li>• Receive final report</li></ul>   | June 2003                  |

*Performance Measurement*

Once the study is complete, the SCEO will work with the Clean Cities organization and the SC Soybean Board to promote the establishment of a biodiesel production facility in SC.

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I. Analyze and report on all of the utilities' programs designed to affect demand.

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*Description of Each Step*

- |   | <i>Dates of Completion</i>     |
|---|--------------------------------|
| <ul style="list-style-type: none"><li>• Send out request letters to all utilities.</li></ul>                                    | May 2002                       |
| <ul style="list-style-type: none"><li>• Collect information reports from utilities- input into database.</li></ul>              | July 2002 to Oct 2002          |
| <ul style="list-style-type: none"><li>• Follow-up with utilities to get delinquent reports and correct data problems.</li></ul> | October 2002 to November 2002  |
| <ul style="list-style-type: none"><li>• Analyze data, write and edit report.</li></ul>  | December 2002 to February 2003 |
| <ul style="list-style-type: none"><li>• Print and distribute report.</li></ul>  | March 2003                     |

*Performance Measurement*

The Demand Side Management Report is required by the enabling legislation of the SCEO.

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J. Monitor and report on state energy-related legislation.

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*Description of Each Step*

- |  | <i>Dates of Completion</i>     |
|--|--------------------------------|
| <ul style="list-style-type: none"><li>• Complete legislative report for 2001-2002 session.</li></ul>           | October 2002                   |
| <ul style="list-style-type: none"><li>• Read prefiled bill to determine energy relevance.</li></ul>            | November 2002 to December 2002 |
| <ul style="list-style-type: none"><li>• Read daily bill introduction sheets.</li></ul>                         | January 2003 to June 2003      |
| <ul style="list-style-type: none"><li>• Develop draft report summarizing energy-related legislation.</li></ul> | February 2003                  |
| <ul style="list-style-type: none"><li>• Update legislative report to reflect additions and changes.</li></ul>  | Ongoing January 2003-June 2003 |
| <ul style="list-style-type: none"><li>• Publish final energy-related legislation report.</li></ul>             | July 2003                      |

*Performance Measurement*

Timely publication of a comprehensive, user-friendly report that will be valuable both to staff members and outside individuals looking for information about energy-related legislation in South Carolina.

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K. Sponsor and participate in Southeast Green Power Summit.

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*Description of Each Step*

- | <i>Description of Each Step</i>   | <i>Dates of Completion</i> |
|---|----------------------------|
| • Participate in planning meetings with regional Energy Offices and Department of Energy Atlanta Regional Office representatives. | October 2002-May 2003      |
| • Attend conference.  | May 2003                   |

*Performance Measurement*

Last year's conference was very successful and there was a lot of interest in building on that success to further increase interest and awareness in green power in the Southeast. The conference will increase the potential for renewable resource development by bringing together public and private sector groups to discuss issues surrounding green power, opportunities, and hurdles.