COASTAL
CONSERVATION
LEAGUE

November 17, 2008

The Honorable C. Thomas Alexander
Chairman
State Regulation of Public Utilities Review Committee
Post Office Box 142
Columbia, South Carolina 29202

Re: Comments on Energy and Energy Policies in South Carolina

Dear Senator Alexander,

The Coastal Conservation League respectfully offers written comments on energy and energy policies in South Carolina in response to your letter dated October 17, 2008. We are immediately committed to building consensus on the construction of new power plants, on the implementation of energy efficiency programs in the state, and on the development of sources of renewable energy. We believe that reaching consensus on these initiatives will pave the way for a progressive energy policy in South Carolina. We trust such a policy will serve as the foundation for creating new jobs and industry to South Carolina, sustained economic innovation and prosperity, and a cleaner and healthier future for our state. We look forward to further collaboration with the State Regulation of Public Utilities Review Committee in the belief that consensus on energy is our best hope to achieve a sustainable and prosperous future for South Carolina.

Our comments attempt to address the following questions, as identified by the State Regulation of Public Utilities Review Committee, to the best of our knowledge:

- What action do you anticipate from the U.S. Congress as to climate change legislation? What impact may this have on South Carolina?
- Does South Carolina have governmental resources available to study, plan, or act upon current or future energy policies? Are these resources sufficient? Are these resources appropriately empowered to act? Is there any overlapping of roles?
- How do we use electricity in South Carolina? How is our use different from other states, with respect to amount of use and type of use? What factors drive this usage? What can we do to better use our energy resources? What demographic or other factors prohibit or inhibit our ability to be more energy efficient?

- The heavy use of concrete and steel to construct coal and nuclear generating facilities in China, India, and other developing nations and the importation of fuel needed to create energy from those facilities has increased the price of these raw materials and commodities beyond most projections. Is this level of growth sustainable? Will prices continue to be driven by this global demand? How will South Carolina be affected by this global demand?
- How has the current economic situation affected the projections for energy use?
- What programs that promote energy efficiency exist in our state? Are these programs affordable to all South Carolinians? Should they be affordable to all South Carolinians? Are energy efficiency measures a cost-effective alternative to the construction and operation of generation facilities? How should energy efficiency incentives be designed?
- What types of renewable sources of energy are available in South Carolina? What is the expected cost to produce and transmit electricity from those resources?
- What types of non-native renewable resources are available to South Carolina? What is the expected cost to transmit electricity from those resources to South Carolina?

Climate Change

Following the release of the Fourth Intergovernmental Panel on Climate Change ("IPCC") Report in early February 2007, policymakers, businessmen and women, advocates, and other observers shifted their focus from whether climate change was occurring to what should be done about it. Since then European nations and most American states have moved to regulate greenhouse gas emissions. In most instances, these entities have adopted or are advocating economy-wide cap-and-trade systems. The President-elect, the nation's largest corporations, and the American public are all now substantially committed to wide-scale regulation of the pollution that is causing global warming. Estimates of the cost of such regulation are small, while estimates of the cost of not regulating are projected to be extremely high. In South Carolina, a recent analysis has confirmed that the cost of addressing climate change will be small.

The IPCC's "Climate Change 2007" report – a collaboration of 2500 scientific expert reviewers, 800 contributing authors, and 450 lead authors from 130 countries – concluded that:

- temperatures in the air and ocean are rising;
- eleven of the last twelve years have been the warmest on record;
- there are increasingly more hot periods and fewer cold periods;
- heat waves have become more frequent;
- permafrost is thawing;
- snow pack, glaciers, icecaps and sea ice are melting;
- sea level is rising;
- precipitation patterns across the globe are shifting;
- and storm events, including hurricanes, are increasingly becoming more severe.

It also concluded with 90% confidence that human activity is causing climate change and projected worsening climatic conditions if no action is taken to moderate anthropogenic greenhouse gas (GHG) emissions.[1] The essential conclusions of the IPCC are not disputed by any major scientific body in the world.[2]

The growing consensus on climate change policy in our nation, as well as abroad, is that mandatory reduction of greenhouse gas emissions is necessary to protect ourselves from global warming. Indeed, according to the world's climate scientists we must drop our emissions 80% by 2050 to avoid catastrophic climate change impacts.

In Europe nations have been striving for 10 years to meet mandatory GHG reduction targets set by the Kyoto Protocol, and emissions have decreased 8% since 1990. Europe is projected to meet its Kyoto commitments on time. Domestically, states and regions are moving to regulate GHG emissions. This year the Regional Greenhouse Gas Initiative (RGGI) began regulating emissions in Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, New Jersey, Rhode Island, and Vermont. RGGI covers electric generators only via a cap-and-trade framework. Pennsylvania and the District of Columbia are participating as observers.[3] In 2007 the Western Climate Initiative was created to "identify, evaluate, and implement collective and cooperative ways to reduce greenhouse gases in the region, focusing on a market-based cap-and-trade system." The WGI includes the states of Arizona, California, Montana, New Mexico, Oregon, Utah and Washington, as well as the Canadian providences of British Columbia, Manitoba, Ontario and Quebec. Alaska, Colorado, Idaho, Nevada and Wyoming are participating as observers.[4] Also in 2007, the states of Illinois, Iowa, Kansas, Michigan, Minnesota and Wisconsin have agreed to establish GHG reduction targets and develop a cap-and-trade system to meet those targets. Indiana, Ohio and South Dakota are participating in the development of the cap-and-trade system. In 2008, the Florida legislature enacted House Bill 7135, authorizing an electric utility cap-and-trade system. At this date, 179 nations and 34 American states are moving to limit GHG emissions. South Carolina is one of only 16 U.S. states not currently participating in some form of process to regulate GHG emissions.[5]

Given international and regional activity, it is highly likely that the federal government will act soon to regulate GHG emissions nationally, and by extension, in South Carolina. It is also likely that this regulation will take the form of an economy-wide cap-and-trade system since that is the model followed by the European Union, RGGI, WGI and the

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[1] IPCC. (2007). IPCC Fourth Assessment Report: Climate Change 2007. Retrieved November 13, 2008 from http://www.ipcc.ch/ipccreports/assessments-reports.htm

[2] Von Lehe, A. (2008). Climate Change and South Carolina's Economy. Southeastern Environmental Law Journal 16(2), pp. 362-4. Retrieved November 13, 2008 from: http://coastalconservationleague.org/NETCOMMUNITY/Document.Doc?id=155

[3] Williams, E. et. al. (2007). A Convenient Guide to Climate Change Policy and Technology. Durham, NC: Nicholas Institute for Environmental Policy Solutions, Duke University.

[4] Western Climate Initiative. (2008). Design Recommendations for the WCI Regional Cap-and-Trade Program. Retreived November 13, 2008 from http://westernclimateinitiative.org/WCI_Documents.cfm

[5] Pew Center on Global Climate Change. (2008). Regional Initiatives. Retrieved November 13, 2008 from http://www.pewclimate.org/what_s_being_done/in_the_states/regional_initiatives.cfm

Midwestern Regional GHG Reduction Accord. Indeed, ten economy-wide cap-and-trade proposals to regulate greenhouse gas emission were introduced in the 110th Congress.[6] Beyond Congress, the President-elect supports an economy-wide cap-and-trade program to reduce GHG emissions 80% by 2050.[7]

Business also expects such regulation. The nation's largest and most profitable corporations, including Duke Energy and General Electric, have petitioned the U.S. government for mandatory approaches to reducing the nation's GHG footprint through the U.S. Climate Action Partnership.[8] Politicians and business leaders, in turn, reflect the will of the American people. A poll conducted last year by Stanford University revealed that 70% of respondents believed the government should be doing more than it is doing now to deal with global warming and 62% believe power plants should be required to reduce emissions.

Mandatory greenhouse gas reductions will help, not hurt, American prosperity and the South Carolina economy. According to a recent study by McKinsey and Company, we could meet binding emissions targets at a relatively low cost. In the process the American economy would become more efficient, productive and competitive.[9] A recent meta-analysis of eight policy scenarios, including an economy-wide cap-and-trade system, concluded that the effect of such regulation on the U.S. economy would be small. The projected growth in the U.S. GDP (3%) is expected to slow by approximately 0.03%. For the average American family, GHG regulation would cost less than 1% of the household budget, with monthly energy bills rising only a few dollars. Employment would decrease by 0.05%. These impacts are small. However, they do not take into account the development of new industries associated with a low-carbon economy.[10] Numerous studies indicate that a national commitment to a low-carbon economy would create millions of new jobs, stimulate lucrative new industries, and expand GDP.

Not acting to address global warming will be tremendously expensive, particularly for coastal states like South Carolina. While estimates suggest the cost of regulating GHG emissions is low, estimates of the cost of doing nothing are very high. This spring Tufts University produced the first ever account of the cost of doing nothing to address climate change. Focusing on just four of the most devastating of expected impacts of global change -- increased storm activity, rising seas, elevated temperatures, and more frequent drought -- the study arrived at a price tag of $1.9 trillion. The study concluded that the Southeast United States is particularly vulnerable to the costs of doing nothing,

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[6] Pew Center on Global Climate Change. (2008). Economy-wide Cap-and-Trade Proposals in the 110th Congress. Retrieved November 13, 2008 from http://www.pewclimate.org/docUploads/110thCapTradeProposals10-15-08.pdf

[7] Obama, B. (2008) Barack Obama and Joe Biden: New Energy for Amercia. Retrieved November 13, 2008 from http://www.barackobama.com/pdf/factsheet_energy_speech_080308.pdf

[8] United States Climate Action Partnership. (2007). A Call for Action. Retrieved November 13, 2008 from http://www.us-cap.org/

[9] Creyts, J. et. al. (2007). Reducing U.S. Greenhouse Gas Emissions: How Much Will It Costs? New York: McKinsey & Co.

[10] Keohane, N. & Goldmark P. (2008). What Will it Cost to Protect Ourselves from Global Warming. New York: Environmental Defense Fund.

suggesting that state's like South Carolina would foot the lion's share of that trillion dollar bill should nothing be done to reduce emissions.[11]

Early last year Governor Mark Sanford signed an Executive Order establishing the Climate, Energy and Commerce Advisory Committee (CECAC) to investigate policies to reduce GHG emissions in South Carolina and estimate the cost to the state's economy. The Committee was comprised of 29 South Carolinians representing the state's manufacturing, power generation, agriculture, and pubic health sectors among others. On the one hand, the report reveals a challenge. South Carolina contributes disproportionately to the global problem of climate change. Over the period 1990 through 2005, South Carolina's greenhouse gas emissions increased at twice the national average. On a per capita basis, our state is falling even further behind – while the rest of the nation has reduced its per capita emissions, ours have increased by 15%. On the other hand, the report identifies an opportunity. The Committee has recommended 51 South Carolina-specific policy proposals that together would reduce GHG emissions by 30% in the year 2020, bringing the state's emissions below its level in 1990. The cost of each metric ton of GHG avoided was determined to be $5. The majority of the 51 recommendations could be implemented with no net cost to the state's economy, while nearly half of the quantified recommendations would result in a net savings to the state's economy.[12]

The results of the CECAC analysis are consistent with results from other states as well as nation-wide analyses, such as the McKinsey study discussed above. Greenhouse gas emissions can be effectively reduced substantially in South Carolina with little or no cost to the economy. This suggests that compliance with the most likely form of GHG regulation in South Carolina – a Federal, economy-wide cap-and-trade program – would not adversely affect the state's economy. Importantly, the CECAC process did not quantify the economic benefits of a low-carbon economy in the state. As discussed below, a series of studies have identified the potential for tens of thousands of new jobs in South Carolina as a result of an expanded commitment to energy efficiency and renewable energy resources.[13] Due to its comprehensive examination of the state's greenhouse gas emissions, its sources and trends, as well as options for reducing emissions, including policies that address energy supply and demand, the CECAC report should be the basis for any further study, plan, or act upon current or future climate or energy policies in South Carolina. It is important for the state and the General Assembly in particular to take rapid and decisive action within the state to reduce greenhouse gas

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[11] Ackerman, F. & Stanton, E. (2008). The Cost of Climate Change: What We'll Pay if Global Warming Continues Unchecked. Boston, MA: Tufts Unviersity.

[12] Center for Climate Strategies. (2008). South Carolina Climate, Energy and Commerce Advisory Committee. Columbia, SC: South Carolina Climate, Energy and Commerce Advisory Committee. Final Report. Retrieved November 12, 2008 from: http://www.scclimatechange.us/plenarygroup.cfm

[13] See Political Economy Research Institute. (2008). Green Economic Recovery Program: Impacts on South Carolina. Amherst, MA: University of Massachusetts. Retrieved November 12, 2008 from http://www.peri.umass.edu/fileadmin/pdf/other_publication_types/green_economics/south_carolina.pdf; Renewable Energy Policy Project. (2007). South Carolina's Road to Energy Independence. Washington, D.C.: Blue-Green Alliance. Retrieved November 12, 2008 from: http://www.repp.org/articles/static/1/binaries/SC_BG_Report.pdf; MRG & Associates. (2001). Clean Energy: Jobs for America's Future. New York, NY: World Wildlife Fund. Retrieved November 12, 2008 from: http://www.worldwildlife.org/climate/Publications/WWFBinaryitem4931.pdf

emissions – both to prepare for Federal regulation and to avoid the high costs of neglecting the projected effects of a warming climate.

Energy Usage in South Carolina

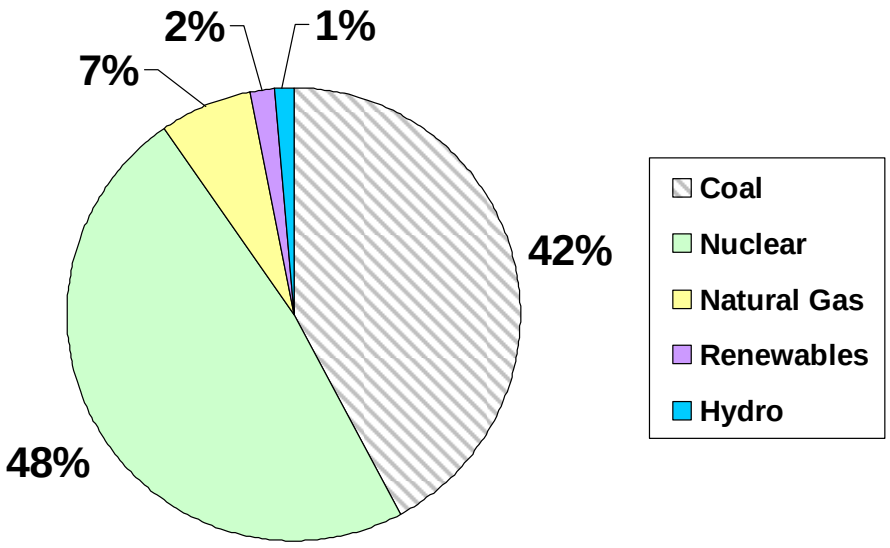
Energy generation and consumption is a leading source of the greenhouse gases that are driving climate change. Accordingly South Carolina faces critical choices today about energy. These choices will determine the economic and environmental future of our state over the coming century. To be successful, the state must adopt an energy agenda that will reliably meet the present and future energy needs of residents, businesses and government at a reasonable cost, in a timely fashion, with the least harm to the environment and public health. A successful energy policy will serve as the foundation for new jobs, sustained economic prosperity, and a cleaner future.

Currently, there is substantial disagreement about the proper path forward. Utilities are planning one new coal and two new nuclear plants that they argue are necessary to meet growing energy demands. Diverse groups oppose those plants and counter that demand can be met more safely and economically through a mix of energy efficiency measures, renewable sources of energy and other cleaner, less costly sources of capacity.

Presently South Carolina generates the majority of its electricity from nuclear and coal resources. As Figure 1 below indicates, domestic sources of energy represent less than 3% of the state's generation. As a consequence, the state annually spends over $1.5 billion importing coal, natural gas, petroleum and nuclear fuels for electricity generation.[14] By consumption South Carolina is disproportionately reliant on coal power, with approximately 70% of demand met by coal and 30% met by nuclear resources.

[14] Energy Information Administration. (2005). State Energy Data System. Retrieved November 13, 2008 from: http://www.eia.doe.gov/emeu/states/_seds.html

Figure 1: Electricity Generation by Source, 2008[15]



The likelihood of GHG regulation (discussed above), dramatic price increases in key commodities markets, and projected economic conditions over the near- to mid-term argue for a re-examination of the state's disproportionate reliance on coal to meet its power needs. Indeed, due its increasing financial risk, both to utilities and its ratepayers, as well as its prominent role in degrading the environment and the global climate system and its strong linkage to public health concerns, South Carolina should move away from coal as a fuel source as rapidly as possible without compromising the needs of South Carolina citizens and the economy of the state.

Capital costs for new electric generation resources have skyrocketed in recent years and for coal facilities in particular. Key commodities and construction materials have increased at rates of 10 to 60 percent over the past five years. These price increases have led to construction cost increases of 25 to 300 percent for coal plant construction projects across the nation. Cost increases have been attributed to worldwide competition and have not been projected to moderate in the near future.[16]

While capital costs rise, operating costs for coal facilities have also increased rapidly. The price for Appalachian coal, which supplies the majority of South Carolina's coal resources, has approximately tripled since early 2007.[17] The increase of the price of coal increases the cost of operating coal plants substantially. Coal is the single largest source of anthropogenic GHG emissions globally and in South Carolina. As a result, another

[15] Energy Information Administration. (2008). State Energy Profiles: South Carolina. Washington, DC: United States Department of Energy. Retrieved November 7, 2008 from: http://tonto.eia.doe.gov/state/state_energy_profiles.cfm?sid=SC

[16] Schlissel, D. (2008). Don't Get Burned: The Risk of Investing in New Coal-Fired Generating Facilities. Boston, MA: Synapse Energy Economics.

[17] Energy Information Administration. (2008). Coal News and Markets. Retrieved November 13, 2008 from http://www.eia.doe.gov/cneaf/coal/page/coalnews/coalmar.html

projected increase in operating costs will result from regulation of GHG emissions (discussed above) from coal. Estimates of the impact of GHG regulation on electricity generation from coal range from $5 to $100 per metric ton of carbon dioxide emitted in the near term and from $150 to $450 per metric ton by 2030. Typical coal plants emit millions of tons of carbon dioxide annually. As a result, GHG regulation can be expected to add tens to hundreds of millions of dollars to the operating costs of coal plants in the near future.[18] There is no viable method of capturing the GHG emission from coal facilities, and there is no expectation that any future technology would be viable in South Carolina. Thus, to the extent that the state remains dependant on coal, the operating costs of electricity generation from will increase over time.

As a result of these factors, the cost of coal – once considered the cheapest electricity generation resource – is now estimated to be one of the most expensive resources available. Figure 3 below compares the cost of coal to other electric generation options and indicates that a number of energy resources, including most renewables are now economically competitive with coal. Over time, coal will be become less and less competitive. Unlike other resource options, coal usage includes substantial "hidden social costs." These costs include environmental and health related costs to consumers and the state from the substantial pollution that comes from coal combustion. The Ontario Energy Ministry estimates that the cost of these "hidden" health and environmental costs can be as high as three times the financial cost of coal.[19] These costs are borne by the state's citizens in the form of higher health expenditures and diminished natural resources. In a state where agriculture and nature-based tourism are the main economic drivers, natural resource impairment is particularly expensive. Over the near and long term, the financial, social and environmental risks of coal will increase the cost of living for South Carolinians. Most recently, every South Carolina utility has announced rate increases of 5% to 35% due to the increasing costs of electric generation from coal resources. If South Carolina remains disproportionately dependent on coal, the price of electricity will continue to increase, placing an undue burden on the state and its citizens.

Current economic conditions could moderate competition for commodities, and thereby reduce inflationary pressures on the price of coal; however, the same conditions would also likely reduce the need for new coal generation assets. For instance, Duke Energy Carolinas recently reduced its annual growth projections by nearly 30% over the next 16 years, prompting delays in its capital projects.[20] Similar trends are likely to affect all other power providers in the state that are contemplating new electric generation projects, since demand growth assumptions are critical for planning and financing expensive capital projects. Moving forward with expensive capital projects during a time of slowing growth also puts undue pressure on rate payers – and nearly bankrupted many utilities in the 1980s.

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[18] Schlissel, D. (2008). Don't Get Burned: The Risk of Investing in New Coal-Fired Generating Facilities. Boston, MA: Synapse Energy Economics.

[19] DSS Management Consultants, Inc. et. al. (2005). Cost Benefit Analysis: Replacing Ontario's Coal-Fired Electricity Generation. Toronto, ON: Ontario Ministry of Energy.

[20] Downey, J. (2008, November 7). Duke Energy Taking Steps to Deal with Slowing Power Needs. Charlotte Business Journal.

As a result of these trends, all of South Carolina's investor-owned utilities are moving away from coal as a resource. SCE&G has publicly stated that coal is "off the table." Progress Energy has enacted a moratorium on new coal plant construction. Duke Energy has publicly vowed to never again build a coal plant in the Carolinas. The state should also recognize these trends and support reduction of the state's reliance on coal as rapidly as possible without compromising the needs of South Carolina citizens and the economy of the state.

In order to do so, the state should adopt a comprehensive and pragmatic vision for South Carolina's energy future that avoids ideological positions and evaluates options objectively and rigorously. No single technology or policy can, on its own, successfully address the climate and energy challenge. As a result, the state and its energy providers should at minimum evaluate the role energy efficiency, renewable energy, nuclear energy, and low-GHG fossil fuel technologies, including natural gas, can play in reducing the state's GHG emissions. In evaluating such resources, the goal should be to minimize the health and environmental impacts of energy generation, promote reliable and affordable energy services, and develop new industries and employment opportunities, among other factors. The question is not which one of these approaches will solve our energy problems, but instead, what is the proper mix that will serve our needs at the least cost economically, socially and environmentally, while providing the greatest opportunities for our state in the future. The recently completed Climate, Energy and Commerce Advisory committee provides a logical starting place for this work. Accordingly, the General Assembly's efforts to address the state's climate and energy challenges should prioritize the implementation of CECAC recommendations.

Presently domestic energy resources such as energy efficiency and renewable energy are under-represented in the state's energy mix. South Carolina is disproportionately reliant on coal imports to meet its energy needs. This over-dependence puts the state's economy at risk due the rising economic, social and environmental risks of coal combustion. South Carolina should move rapidly to develop a comprehensive energy policy that reduces its reliance on risky energy resources and increase its utilization of clean, home-grown, and affordable energy resources. For the reasons outlined in detail below, any comprehensive approach to energy in South Carolina should include ambitious efficiency and conservation programs. It also should promote renewable energy, in particular the state's bioenergy, small hydroelectric, wind and solar resources.

Energy efficiency

Energy efficiency is less expensive, yields larger economic benefits, results in greater social benefits, and promises superior environmental performance than any other energy resources available in the United States or in South Carolina. It is a resource that has been consistently demonstrated in the marketplace. This alternative can feasibly provide a large enough resource to meet the majority of the state's future energy needs; as such it should be the centerpiece of any comprehensive state energy policy. Accordingly, South Carolina's leaders should move immediately to ensure the acquisition of all cost-effective

energy efficiency resources. The energy efficiency recommendations of the recently completed Climate, Energy and Commerce Advisory Committee provide a starting point for South Carolina lawmakers to do this.

As indicated by Figure 3 below, energy efficiency represents the cheapest known way to meet energy needs, costing to 3 to 10 times less than all other resources, including renewables. This cost includes program administration, marketing, implementation, as well as any and all incentives designed to increase participation. In addition, energy efficiency programs benefit substantially from economies of scale. The cost of the resource can be substantially lower in programs that save more energy.[21] As a result of the ability of energy efficiency to lower the cost of delivering reliable energy services, and the potential for programs to lower participants' energy bills, energy efficiency should be viewed as a key tool to safeguard the economic health of the state.

Energy efficiency decreases or displaces demand, reducing or eliminating the need for new generation facilities and their associated expense. This lowers electricity prices, but it also encourages new markets and jobs.[22] A recent study in Florida projected that consumers would save 2.5 billion dollars through an investment in energy efficiency and renewable energy relative to investments in the construction of fossil fuel power plants. It would also create 14,000 new jobs over a 16 year period.[23] A similar study in Virginia projected a savings of 2.2 billion dollars and 9,820 jobs, growing the state's economy by $882 million dollars.[24]

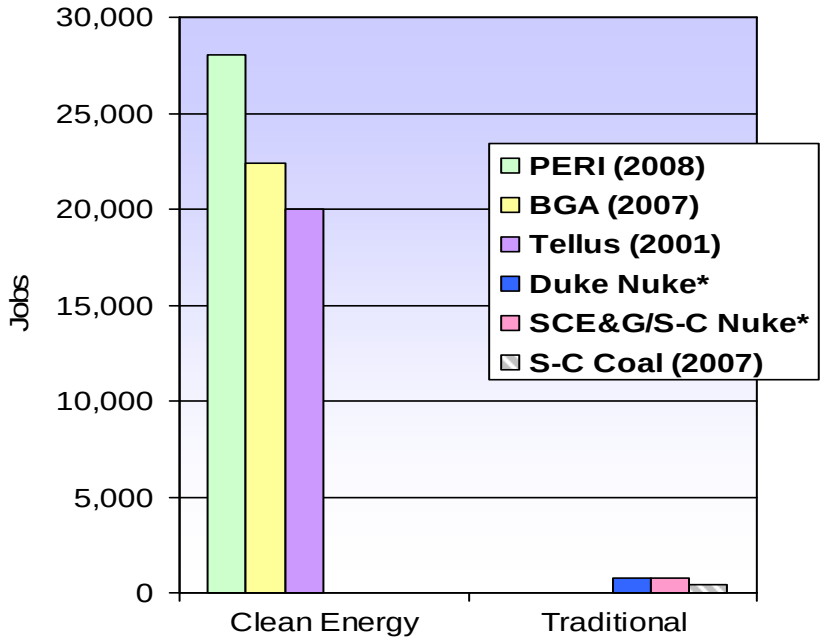
[21] Takahashi, K. (2008). The Sustainability and Costs of Increasing Efficiency Impacts: Evidence from Experience to Date. Washington, DC: The 2008 ACEEE Summer Conference. Retrieved November 12, 2008 from http://www.synapse-energy.com/Downloads/SynapsePresentation.2008-08.0.Sustainability-and-Costs-of-Efficiency-Impacts.S0051.pdf

[22] Energy Information Administration. (1999). Electric utility demand side management 1999. Retrieved October 8, 2006, from http://www.eia.doe.gov/cneaf/electricity/dsm99/dsm_sum99.html

[23] Elliot, et. al. (2007). Potential for Energy Efficiency and Renewable Energy to Meet Florida's Growing Energy Demands. Washington DC: American Council for an Energy Efficiency Economy.

[24] Eldridge, et. al. (2008). Energizing Virginia: Efficiency First. Washington, DC: American Council for an Energy Efficient Economy.

Figure 2: South Carolina Job Creation Potential from Energy Resources



*Internal utility estimate.

The potential for job creation in South Carolina has been examined by three recent studies.[25] The studies estimate a range of 20,000 to over 28,000 jobs created in South Carolina as a result of a commitment to energy efficiency and renewable energy. Figure 2 above compares these estimates to projected job impacts from three traditional energy projects in South Carolina.[26] As Figure 2 indicates, energy efficiency (and renewable energy) enjoys a substantial advantage over traditional sources of energy from an job-creation perspective. These studies suggest that energy efficiency should be viewed as a tremendous economic development opportunity for South Carolina.

Since energy efficiency displaces electricity generation from fossil fuel, it has significant social and environmental co-benefits in the areas of air quality and greenhouse gas emissions mitigation. The above-referenced Florida study estimates avoided emissions of

[25] Political Economy Research Institute. (2008). Green Economic Recovery Program: Impacts on South Carolina. Amherst, MA: University of Massachusetts. Retrieved November 12, 2008 from http://www.peri.umass.edu/fileadmin/pdf/other_publication_types/green_economics/south_carolina.pdf; Renewable Energy Policy Project. (2007). South Carolina's Road to Energy Independence. Washington, D.C.: Blue-Green Alliance. Retrieved November 12, 2008 from: http://www.repp.org/articles/static/1/binaries/SC_BG_Report.pdf; MRG & Associates. (2001). Clean Energy: Jobs for America's Future. New York, NY: World Wildlife Fund. Retrieved November 12, 2008 from: http://www.worldwildlife.org/climate/Publications/WWFBinaryitem4931.pdf

[26] Moore, Scott. (2007). Santee Cooper's Kingsburg Coal-Fired Energy Plant: Analysis of Labor, Material, and Construction Impacts. Charleston, SC: Moore Data, LLC. Retrieved November 12, 2008 from http://coastalconservationleague.org/NETCOMMUNITY/page.redir?target=http%3a%2f%2fcoastalconservationleague.org%2fNETCOMMUNITY%2fDocument.Doc%3fid%3d140&srcid=183&erid=0; Shakleford, Lynne. 2006, March 17. Cherokee Goes Nuclear. Spartanburg, SC: Spartanburg Herald-Journal; Crumbo, Chuck. 2008, September 21. Fairfield Sees Nuclear as Positive Force. Columbia, SC: The State.

16 thousand short tons of sulfur dioxide, 11 thousand short tons of oxides of nitrogen and 37 million metric tons of CO_2. Energy efficiency also has no impact on wetlands, waterways, wildlife or forests, or traffic. It has no significant waste stream relative to electricity generated from fossil fuels or fissionable materials. A greater commitment to energy efficiency will not only reduce GHG emissions, but help the state's cities maintain compliance with federal air quality standards.

The South Carolina Climate, Energy and Commerce Advisory Committee recently examined the potential contribution of energy efficiency to the state's economy.[27] It unanimously recommended the state require annual incremental energy savings in 2015 equivalent to 1.0% of total annual retail electricity sales in megawatt hours in the preceding year, and annual incremental energy savings in 2020 and each year thereafter equivalent to 1.5% of total annual retail electricity sales in megawatt hours in the preceding year. These standards would result in an approximate 10% decrease in total annual retail electricity sales by 2020, remove 43 million metric tons of carbon dioxide from the atmosphere and save the state's economy a net $2 billion.

In addition to many other energy efficiency recommendations, the CECAC also unanimously recommended modernizing the state's residential building codes to include the latest iteration of the International Energy Conservation Code. The committee's analysis determined that doing so would result in a $1.8 billion net benefit to the state's economy, while reducing greenhouse gas emissions by 35 million metric tons.

While state law presently establishes a policy whereby energy efficiency resources should be "maximize[d]" and "pursued wherever economically and environmentally practical," the state's utilities have dramatically underutilized energy efficiency as a resource.[28] For example, the United States Department of Energy's Energy Information Administration Form 861, file 3 collects data submitted by utilities on energy efficiency program performance. Table 1 below compiles data submitted by South Carolina's four largest utilities to the Department of Energy. As the table indicates, the state's utilities have reported essentially zero energy efficiency activity in 2006. Clearly, state regulation is not adequately promoting energy efficiency activity among its utilities.

Table 1: South Carolina Utility Energy Efficiency Program Performance, 2006

Utility	Incremental Energy Efficiency Effects (mWh)	Retail Sales (mWh)	Savings
Duke Energy Carolinas	0	76604364	0.00%
Progress Energy	1765	43291620	0.00%

[27] Center for Climate Strategies. (2008). South Carolina Climate, Energy and Commerce Advisory Committee. Columbia, SC: South Carolina Climate, Energy and Commerce Advisory Committee. Final Report. Retrieved November 12, 2008 from: http://www.scclimatechange.us/plenarygroup.cfm

[28] S.C. Code § 44-52-210.

South Carolina Electric and Gas	0	21580435	0.00%
South Carolina Public Service Authority	1791	11616626	0.02%
Total	**2556**	**76488681**	**0.00%**

Despite poor historical performance, national studies suggest that South Carolina has substantial potential to improve the efficiency of its energy use. Elsewhere, states and utilities have successfully implemented energy efficiency programs for over 20 years in the United States. Nationwide, the EIA estimates that in 2005 energy efficiency efforts reduced peak loads by 15,351 MW and resulted in energy savings of 58,891 gigawatt hours ("GWh").[29] The savings generally come at a substantially reduced cost relative to fossil fuel options, such as coal, typically on the order of $0.03 per GWh[30] as compared to $0.6 - $0.12 per GWh.

Past experience at the state level also demonstrates the effectiveness of energy efficiency. The State of Vermont estimates, for instance, that utility energy efficiency programs within the state reduced consumption by approximately 5% and reduced peak demand by 6% between 1991 and 1997.[31] In 2005, Austin Energy, a municipal utility in Austin, Texas, credited its energy efficiency programs with saving the equivalent of a large coal power plant.[32] These utilities are now sustaining annual incremental energy savings on the order of 1% a year. For instance, Xcel Energy in Colorado has agreed to achieve savings of 1.4% in 2013, which would offset 55% of forecast annual load growth.[33] Like many other states and utilities, Xcel Energy's commitment matches the benchmark set out in the National Action Plan for Energy Efficiency: "Well-designed energy efficiency programs are delivering annual energy savings on the order of 1 percent of electricity and natural gas sales."[34] Indeed statewide savings on this order are being achieved in at least ten states in every region of the country, except, notably, the Southeast.[35] At least two South Carolina utilities participated in the development the National Action Plan for Energy Efficiency and have explicitly endorsed its findings.[36]

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[29] Energy Information Administration. (2006b). Electric power annual. Retrieved October 18, 2006, from http://www.eia.doe.gov/cneaf/electricity/epa/epa_sum.html

[30] Gillingham, K., Newell, R. G., & Palmer, K. (2004). Retrospective examination of demand-side energy efficient policies (No. RFF DP 04-19 Rev). Washington, D.C.: Resources for the Future.

[31] Vermont Public Service Department. (1998). Vermont electric utility demand side management accomplishments: History and current trends. Technical report no. 41. Montpelier, VT from http://publicservice.vermont.gov/energy-efficiency/ee_files/dup/ee13.htm

[32] Austin Energy. (2005). DSM performance measures, FY 2005: Residential, commercial and green building. Austin, TX.

[33] Dan York and Martin Kushler. (2006). A Nationwide Assessment of Utility Sector Energy Efficiency Spending, Savings, and Integration with Utility System Resource Acquisition. American Council for An Energy-Efficient Economy.

[34] Munns, Diane and Jim Rogers. (2006). National Action Plan for Energy Efficiency, US Environmental Protection Agency and US Department of Energy, pp. ES-4.

[35] Prindle, Bill. (2007). Energy Efficiency: The First Fuel in the Race for Clean and Secure Energy. Raleigh, NC: North Carolina Sumitt on Energy Efficiency.

[36] The utilities are Duke Energy Carolinas and the South Carolina Public Services Administration ("Santee-Cooper")

Encouragingly, two recent studies have been conducted by South Carolina utilities on the energy savings potential of energy efficiency in their respective service territories. Duke Energy Carolinas evaluated the market potential for energy efficiency in its South Carolina service territory.[37] The draft study identifies a suite of energy efficiency programs and estimates an associated cost-effective potential of 3600 GWh of energy savings, or a 16% demand decrease, for this 14 county region in South Carolina's upstate by 2026. A study by Central Electric Cooperative, Inc estimates the market potential in the service territories of the 20 state electric cooperatives.[38] The findings pointed to a 20% demand decrease – 980 MW or 4000 GWh of energy savings over a ten year timeframe. These numbers are consistent with findings from other studies in the southeast.[39] In the near-term, it is essential to determine the potential for energy savings statewide, including the effect of identified opportunities on consumer savings and job creation, among other macroeconomic factors. As noted above, studies in neighboring states have indicated large savings potential, as well as large consumer savings and job creation opportunities.

Perhaps as a result of such studies, as well as its own investigations into the energy savings potential in its service territory, Duke Energy Carolinas recently indicated to the South Carolina Public Service Commission its willingness to achieve on-going annual electricity savings of at least 1 percent of its 2009 retail electricity sales by 2015, with savings each year over the 2009-2014 period ramping up to this 1% per year target.[40] Not only is this commitment consistent with the aforementioned National Action Plan on Energy Efficiency, it is also congruent with the recommendations of the South Carolina Climate, Energy and Commerce Advisory Committee.

South Carolina's energy efficiency resources economically outperform all energy resources today. From a social and environmental perspective, they are preferable to traditional resources. Recognizing these attributes, the CECAC unanimously recommended that the state require annual incremental energy savings in 2015 equivalent to 1.0% of total annual retail electricity sales in megawatt hours in the preceding year, and annual incremental energy savings in 2020 and each year thereafter equivalent to 1.5% of total annual retail electricity sales in megawatt hours in the preceding year. It also unanimously recommended modernizing the state's residential building codes to include the latest iteration of the International Energy Conservation Code, among other

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[37] Forefront Economics LLC et. al (2007). Duke Energy Carolinas DSM Action Plan: South Carolina Draft Report. Report prepared for Duke Energy Carolinas.

[38] GDS Associates, Inc. (2007). Electric Energy Efficiency Potential Study for Central Electric Cooperative, Inc. Retrieved 10/1/07 from http://www.ecsc.org/newsroom/EfficiencyStudy.ppt

[39] Beck et. al. (2001). Powering the South: A Clean and Affordable Energy Plan for the Southern United States. Washington, DC: Renewable Energy Policy Project.; La Capra Associates, Inc. et. al. (2006). Analysis of a Renewable Portfolio Standard for North Carolina, Prepared for the North Carolina Utilities Commission; Tiller, J. (2007). Energy Efficiency Opportunities for North Carolina Buildings and Industrial Facilities. Boone: Appalachian State University; Hedman, B. (2006).

[40] Duke Energy Carolinas. (2007, February 4). Duke Energy's Save A Watt Initiative: Joint Statement by the Alliance to Save Energy, American Council for an Energy Efficiency Economy, and the Energy Future Coalition. Retrieved from http://dms.psc.state.sc.us/attachments/9F7B4B9B-9E9B-F1D5-4397873C5BB50BDC.pdf

substantive energy efficiency recommendations. The CECAC's analysis indicated these energy efficiency recommendations could be implemented at a substantial benefit to the economy (on the order of billions of dollars), while substantially reducing the state's greenhouse gas emissions. While numerous states and utilities have already begun realizing such benefits, South Carolina utilities have lagged behind. Despite this, recent utility-commissioned studies of the total potential of energy efficiency in South Carolina suggest that 15% to 20% of the state's demand could be offset through energy efficiency programs. There are indications that some utilities in South Carolina recognize the potential of energy efficiency to improve their service and have publicly committed to energy savings targets equivalent to those called for by the CECAC. Accordingly, the state's law makers should prioritize implementation of the CECAC's recommendations with respect to energy efficiency.

Renewable energy

Renewable energy is now competitive with traditional electric generation resources economically and superior to traditional resources from both an environmental and social perspective. Renewable energy resources in South Carolina can feasibly generate enough power to meet the much of the demonstrated need in our state; as such renewable energy should feature prominently in any comprehensive state energy policy. As renewable energy resources represent home-grown resources, South Carolina's leaders should prioritize their acquisition. The renewable energy recommendations of the recently completed Climate, Energy and Commerce Advisory Committee provide a starting point for South Carolina lawmakers to do this.

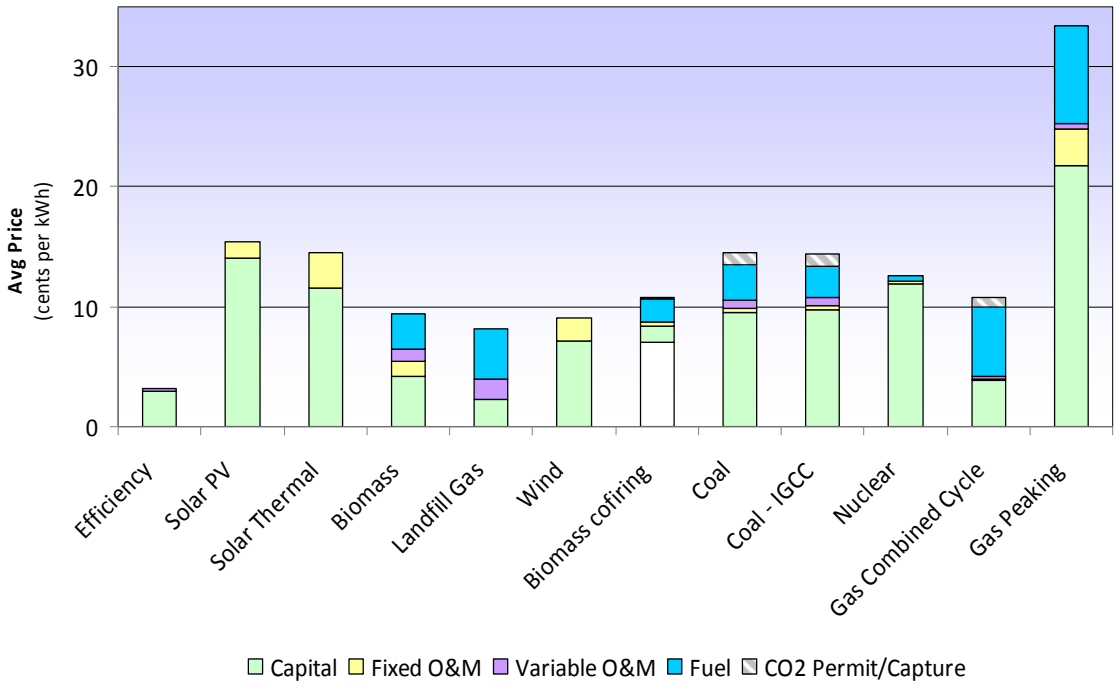
Renewable energy is derived from sources that are inexhaustible on a human timescale. Non-renewable energy, such as fossil fuels and fissionable materials, must be extracted from subterranean deposits formed millions of years ago. These energy sources only replenish themselves over the course of geologic timescales (i.e. millions of years), if they do at all. As a consequence renewable energy sources enjoy an economic supply advantage over fossil fuels over a long-term human time scale. Renewable resources include solar and wind energy, energy from biological sources, such as energy crops and landfill gas, hydrological energy, and energy from geothermal heat, among others. They do not include energy from fossil fuels or fissionable materials.

Over the near-term, renewable energy resources are economically competitive with non-renewable energy resources today and are likely to become more competitive over time for reasons stated above. As Figure 3 indicates, a recent comparison of the levelized cost of available electric generation resources conducted by Lazard, an international financial advisory firm, shows parity between renewable resources, on the one hand, and traditional resources such as coal, nuclear and natural gas, on the other.[41] Levelized cost represents the present value of the total cost of building and operating a generating plant

[41] Lazard. (2008). Levelized Cost of Energy Analysis: Version 2.0. Retrieved November 11, 2008 from http://www.narucmeetings.org/Presentations/2008%20EMP%20Levelized%20Cost%20of%20Energy%20-%20Master%20June%202008%20(2).pdf

over its economic life, converted to equal annual payments and adjusted for inflation. As such, it enables a direct comparison between energy resources with very different characteristics.

Figure 3: Levelized Cost of Energy Comparison



A further economic advantage of renewable energy is the vast number of jobs that can be created from development of this sector. Three recent studies have quantified the jobs implications of a commitment to renewable energy and energy efficiency in ours state.[42] The studies estimate a range of 20,000 to over 28,000 jobs created in South Carolina. Figure 2 above compares these estimates to projected job impacts from three traditional energy projects in South Carolina.[43] As Figure 2 indicates, renewable energy (and energy efficiency) enjoys a substantial advantage over traditional sources of energy from an job-creation perspective.

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[42] Political Economy Research Institute. (2008). Green Economic Recovery Program: Impacts on South Carolina. Amherst, MA: University of Massachusetts. Retrieved November 12, 2008 from http://www.peri.umass.edu/fileadmin/pdf/other_publication_types/green_economics/south_carolina.pdf; Renewable Energy Policy Project. (2007). South Carolina's Road to Energy Independence. Washington, D.C.: Blue-Green Alliance. Retrieved November 12, 2008 from: http://www.repp.org/articles/static/1/binaries/SC_BG_Report.pdf; MRG & Associates. (2001). Clean Energy: Jobs for America's Future. New York, NY: World Wildlife Fund. Retrieved November 12, 2008 from: http://www.worldwildlife.org/climate/Publications/WWFBinaryitem4931.pdf

[43] Moore, Scott. (2007). Santee Cooper's Kingsburg Coal-Fired Energy Plant: Analysis of Labor, Material, and Construction Impacts. Charleston, SC: Moore Data, LLC. Retrieved November 12, 2008 from http://coastalconservationleague.org/NETCOMMUNITY/page.redir?target=http%3a%2f%2fcoastalconservationleague.org%2fNETCOMMUNITY%2fDocument.Doc%3fid%3d140&srcid=183&erid=0; Shakleford, Lynne. 2006, March 17. Cherokee Goes Nuclear. Spartanburg, SC: Spartanburg Herald-Journal; Crumbo, Chuck. 2008, September 21. Fairfield Sees Nuclear as Positive Force. Columbia, SC: The State.

In addition, the majority of renewable energy sources entail nearly zero pollution during their operating lifetime. Solar, geothermal, wind, and hydroelectric energy are examples. Accordingly these fuels avoid nearly all the health impacts associated with burning fossil fuels. They also avoid much of the health risk associated with fissionable materials. Accordingly, renewable energy resources entail a substantial social benefit to the state, saving millions annually in avoided health care expenditures and providing a means to remain in compliance with federal air quality standards (violation of which is detrimental to regional economic development).

Finally, renewable energy resources have a distinct advantage with respect to the environmental impacts of energy generation. As a consequence of their sequestration beneath the earth's crust, fossil fuels are not involved in natural chemical cycles. Combustion of fossil fuels perturbs such cycles. For example, emissions of carbon dioxide ("CO_2") from fossil fuels artificially add CO_2 to the atmosphere, increasing the global concentration of this molecule and intensifying the greenhouse effect. Carbon dioxide emissions from combustion of a renewable like bioenergy, by distinction, do not have this effect, since the embodied CO_2 of such fuel is part of the natural carbon cycle. Solar, geothermal, wind and hydroelectric energy produce essentially zero greenhouse gas emissions. As a result, renewable energy resources are critical to reducing the amount of greenhouse gases emitted in South Carolina.

Recognizing these advantages, the South Carolina Climate Energy and Commerce Advisory Committee recently recommended by a super-majority that the state's utilities generate 5% of its customers' needs from renewable energy resources by 2020, or nearly 1750 megawatts.[44] A rigorous analysis of this recommendation's impact on the state's greenhouse gas emissions, the state's economy and the state's electric rates was conducted. Findings showed that such a commitment to renewable energy would reduce greenhouse gas emissions by over 25 million metric tons by 2020. Further, the analysis showed that, except for residential and commercial scale solar power, all renewable resources considered could be developed at a cost equal to or lower than traditional power resources, such as nuclear power and coal. The impact on rates was found to be 100 to 1000 times less than traditional resources like nuclear power. This analysis, which received the support of all of the state's power providers, indicates that renewable energy can contribute substantially to the state's energy needs in an affordable manner, while avoiding the negative social and environmental consequences of our traditional energy supply resources.

Beyond the work of the CECAC, the Public Utilities Review Commission should be aware of the following specific renewable resources available in South Carolina: (1) bioenergy; (2) wind; (3) small hydro; and (4) solar. Available data indicate that there are substantial renewable energy resources available in South Carolina as well as in neighboring states that are connected to the South Carolina grid.

[44] Center for Climate Strategies. (2008). South Carolina Climate, Energy and Commerce Advisory Committee. Columbia, SC: South Carolina Climate, Energy and Commerce Advisory Committee. Final Report. Retrieved November 12, 2008 from: http://www.scclimatechange.us/plenarygroup.cfm

South Carolina presently lags other states in its utilization and prioritization of renewable energy resources. As Figure 1 above indicates, less than 2% of the state's electric capacity is derived from renewable resources. The majority of states now require energy providers to provide renewable energy resources and to encourage generation of renewable energy in a distributed fashion (e.g. at the residential or commercial scale). South Carolina does not yet require either.

Despite a lack of attention to renewable energy resources in South Carolina, a recent study commissioned by the Central Electric Cooperative and conducted by La Capra Associates and GDS Associates[45] identifies a practical potential capacity of 785 MW, or 5,089 GWh in practical generation, using such resources (Table 2a). Considering additional data not considered in that study, the practical potential capacity is 1,049 MW, or 6,113 GWh in practical generation, using renewable resources (Table 2b). Including solar and wind resources, the state's resource potential could be much higher. Key differences between the two tables are discussed below.

Table 2a: Summary of Practical Renewable Energy Potential Considering La Capra Associates Study

Renewable Energy Source	Technical Potential (MW)	Practical Potential (MW)	Practical Generation (GWh)
Wood Biomass	1,599	423	3,148
Agricultural By-Products	362	68	504
Landfill Gas to Energy	90	70	518
Hydroelectric*	447	224	919
Onshore Wind	100	-	-
Total	**2,598**	**Up to 785**	**5,089**
Offshore Wind	*?*	*400*	*1,226*

* Originally presented in MWa by La Capra; capacity has been converted to MW using data from Idaho National Laboratory[46]. The total capacity estimates are summed to reflect the adjustment.

Table 2b: Summary of Practical Renewable Energy Potential Considering Additional Data

Renewable Energy Source	Technical Potential (MW)	Practical Potential (MW)	Practical Generation (GWh)
Wood Biomass	1,599	423	3,148
Agricultural By-Products	362	68	504
Landfill Gas to Energy	90	70	518
Hydroelectric*	2,242	455	1,856

[45] La Capra Associates, Inc. and GDS Associates, Inc. (2007). Analysis of Renewable Energy Potential in South Carolina. Prepared for Central Electric Power Cooperative Inc.

[46] Idaho National Laboratory. (2003). Estimation of Economic Parameters of U.S. Hydropower Resources, INEEL/EXT-03-00662.

Onshore Wind	240	33	75
Total	**4,533**	**1,049**	**6,101**
Offshore Wind	*68,117*	*15,323*	*51,090*
Solar	*18,077*	*9*	*12*

The data presented in Table 2a and 1b are identical for biomass potential, as the data used by La Capra Associates for wood, agricultural by-products and landfill gas are the most up-to-date and comprehensive available for South Carolina. For other renewable energy resources, however, other data indicate a greater potential than is recognized in the GDS analysis.

- La Capra Associates uses findings from the Idaho National Laboratory, which is the most authoritative source for hydroelectric potential.[47] However, the study does not provide any reason for excluding certain potential resources (unconventional systems and microhydro). These data are included in Table 1b.

- Solar data, specifically the lowest market potential estimate from a study of rooftop photovoltaic, are used in Table 1b.[48]

- Wind data available from the National Renewable Energy Laboratory are used in Table 1b. For onshore capacity, a 2006 study by Denholm is an authoritative source.[49] For offshore capacity, new data are available for the wind resource summary.[50] To calculate potential capacity and generation, Hagerman's methods are used to differentiate between technical potential and resources that are not excluded due to environmental or other considerations.[51,52] However, the market feasibility of offshore wind is uncertain because construction costs and permitting procedures are yet to be demonstrated. For this reason, offshore wind potential capacity and generation are excluded from the total.

The differences between Table 2a and 2b are modest, with the potential exception of solar and offshore wind. South Carolina has a considerable offshore wind resource, and relatively little effort has been made to pursue its commercial development. While the

[47] Idaho National Laboratory. (2006). Feasibility Assessment of the Water Energy Resources of the United States for New Low Power and Small Hydro Classes of Hydroelectric Plants, DOE-ID-11263. La Capra Associates also includes an additional and insignificant amount of "large hydro" based on its analysis of an older database.
[48] Chaudhari, M., L. Frantzis and T. Hoff, (2004). PV Grid Connected Market Potential under a Cost Breakthrough Scenario. Navigant Consulting.
[49] Denholm, Paul and Walter Short, (2006). Documentation of WinDS Base Case Data, National Renewable Energy Laboratory. Supplemented with clarifying data provided by Paul Denholm in July 2007 via personal communication.
[50] Heimiller, Donna and Steve Haymes, (2007). Offshore wind resource summary by state, wind power class, water depth and distance from shore, National Renewable Energy Laboratory, unpublished data.
[51] Hagerman, George. (2007). Virginia Tech Advanced Research Institute, personal communication, including data supplied by AWS Truewind.
[52] For example, this estimate assumes that wind resources within 3 nautical miles of shore will not be developed, that most offshore development will occur at least 10 nautical miles offshore, and that development will occur in "shallow" water less than 30 meters deep.

path to developing the state's solar resource is not well defined, the technical potential for solar is large and only modest efforts have been made to develop it.

There are evident reasons that offshore wind and solar are unlikely to be developed in the next 3-7 years in a manner that contributes significantly to South Carolina's energy supply. Nevertheless, beyond that time frame the enormous offshore wind resource described in Table 1b could feasibly offer thousands of megawatts of electricity to the state.[53] A smaller amount could be achieved from solar resources.

Renewable energy resources are economically competitive with traditional resources today. From a social and environmental perspective, they are preferable to traditional resources. Recognizing these attributes, the CECAC recommended that the state require South Carolina's utilities generate more electricity from renewable resources. Their analysis indicated that this could be done at a substantial benefit to the economy with little or no impact on electric rates. Recent utility-commissioned studies of the total potential of renewable energy in South Carolina over a ten year period add up to 785 MW. Incorporating additional sources into the analysis suggests a potential as large as 1,049 MW. Comparable, but larger potentials have been identified in North Carolina.[54] Additional capacity from offshore wind or solar power could also be substantial, as indicated. The large identified renewable resource in South Carolina remains largely untapped and should be the focus of directed state support. The renewable energy recommendations of the CECAC could be a starting point for immediate state and utility efforts to develop the state's native energy production resources. No comprehensive state energy policy would be complete without provisions to fully develop this resource in South Carolina.

Conclusion

The Coastal Conservation League appreciates the opportunity to submit written comments on energy and energy policies in South Carolina. We would welcome the opportunity to provide oral testimony at any upcoming public hearings of the State Regulation of Public Utilities Review Committee.

Climate change poses real threats to the state. However, the emerging consensus regarding regulation of greenhouse gases is a welcome solution to the nation's – and the state's – climate challenges. A number of cost-effective policies to reduce the state's contribution to climate change have been identified, and most of these address the state's energy usage. As a result, South Carolina faces critical choices today about energy. These choices will shape our future. The state's energy efficiency and renewable energy resources represent an opportunity to reduce the state's GHG emissions, while strengthening its financial, social and environmental foundations. We stand ready to

[53] Southern Company. (2007). Southern Winds: Summary Project Report 2007, A Study of Wind Power Generation Potential Off the Georgia Coast.
[54] La Capra Associates et. al. (2006). Analysis of a Renewable Portfolio Standards for the State of North Carolina. Prepared for the North Carolina Utilities Commission. Retrieved October 9, 2007 from http://www.ncuc.commerce.state.nc.us/rps/NC%20RPS%20Report%2012-06.pdf

assist the state, its lawmakers, it business men and women, and its citizens in forging a comprehensive and pragmatic approach to the state's energy and climate change opportunities.

We commend the Committee's interest in these issues, which are of fundamental importance to the sustained health and prosperity of South Carolina. We look forward to future opportunities to assist the Committee in its important work.

Respectfully submitted,

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