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Energy Supply Technical Work Group

Summary List of Pending Policy Options

Draft Option #	Draft Policy Option Name	Straw Proposal Volunteers	Possible Reference Policies
ES-1	A thorough study of energy options for portfolio standards including renewables, energy efficiency, nuclear power, waste to energy, landfill gas, offshore wind, and hydro	Ben Moore (L), John Clark, Mark Hollis, Mark Tye	AZ (ES-1), MT (ES-1), NC (ES-2), NM (ES-1)
ES-2	Technology Research and Development, including state funding	Joette Sonnenberg (L), Jerry Freck, Fred Humes, John Plodinec	CO (ES-9), WA (ES-4)
ES-3	Renewable Energy (full range) financing, tax incentives, loans	John Clark (L), Bob Fledderman, Ben Moore, Steve Smith	AZ (ES-3), CO (ES-1)
ES-4	Regulatory model to equalize utility returns on energy efficiency with returns on traditional power supply to allow investment in efficiency and renewables to be considered in parity with investment in new conventional capacity.	Steve Smith (L), Bob Fledderman, Emerson Gower/Mike Kennedy, Mark Hollis	NC (ES-5)
ES-5	New Nuclear Power, including reprocessing	Mark Hollis (L), Emerson Gower, Steve Smith, Mark Tye	CO (ES-12)

Draft Option #	Draft Policy Option Name	Straw Proposal Volunteers	Possible Reference Policies
ES-6	Green power purchases and marketing	C. Dukes Scott (L)/Anthony James, Henry Barton, John Clark, Ray Pinson	NC (ES-10)
ES-7	Attract renewable energy technology businesses to South Carolina	David Odell (L), John Clark, Jerry Freck	
ES-8	Distributed renewable energy incentives and/or barrier removal (Including Interconnection Rules)	John Tiencken (L), Ben Moore, David Odell	AZ (ES-3/RCI-7), WA (ES-2)

Note: The numbering used to denote the above policy options is for reference purpose only; it does not reflect prioritization among these policy options.

(L) = lead—responsible for coordinating group and delivering straw proposal to CCS

ES-1. Energy Options for Portfolio Standards

A thorough study of energy options for portfolio standards including renewables, energy efficiency, nuclear power, waste to energy, landfill gas, offshore wind, and hydro

Note: An alternative version of this proposalprovided by Mark Hollis appears below.

Lead Volunteer: Ben Moore

Policy Description

A renewable portfolio standard (RPS) is a requirement that utilities must supply a certain, generally fixed percentage of electricity from an eligible renewable energy source(s). An environmental portfolio standard (EPS) expands that notion to include energy efficiency, nuclear energy, or other GHG emissions-reducing technologies as an eligible resource. A RPS or EPS can help provide South Carolina with baseload, intermediate and peak electric generation from low GHG sources such as renewables, energy efficiency, and potentially nuclear power or other GHG emissions-reducing technologies.

The CECAC accepted this policy priority for analysis in order to identify and evaluate a comprehensive range of options for portfolio standard options, specifically to analyze the impact of including or not including nuclear resources as an eligible resource. Capture and combustion of methane gas from landfills and combustion of municipal solid waste are also to be considered.

Policy Design

Goals: A 20% renewable and energy efficiency portfolio standard by 2020, starting in 2010, with a minimum of 10% renewable generation by 2015. Renewable Energy Credit (REC) trading is allowed. Out of state resources can be used to meet goals, but are limited to 25% of the annual target.

- **Timing:** As noted above.
- **Parties Involved:** All electric power and distribution entities in South Carolina.
- **Other:** Analysis of this policy should explicitly value external costs associated with each energy resource evaluated, including but not limited to decommissioning costs, health impacts of lifecycle pollution, and implicit taxpayer subsidies such as government-assumed risks. Analysis of this policy should include the following options:
  - Renewables only;
  - Renewables and energy efficiency. A minimum of 75% of the goal must be met with renewable energy;
  - Renewables, municipal solid waste incineration, nuclear energy and energy efficiency. A minimum of 75% of the goal must be met with renewable energy or energy efficiency.

Renewables include but are not limited to solar PV and concentrating thermal; onshore and offshore wind power; micro-hydropower (< 20MW); ocean current, tidal and wave energy; fuel cells using renewable fuels; biomass and methane from animal waste, wastewater systems and municipal landfills. For the purposes of this definition, nuclear power is not a renewable energy.

Energy efficiency includes applications that provide measurable, verifiable, long-term savings to the retail customer compared with current technology in use, including but not limited to appliances, lighting, HVAC, building envelope and efficient motors.

Implementation Mechanisms

TBD – [CCS drafts based on TWG inputs; this can be developed as they go along, and can start early or late as they prefer; the level of detail can vary on TWG approval]

Related Policies/Programs in Place

SC Energy Efficiency Act, Title 48, Chapter 52.

Types(s) of GHG Reductions

TBD – [CCS to list GHG reductions with input / approval from TWG]

Estimated GHG Reductions and Net Costs or Cost Savings

TBD – [CCS should provide a worksheet and other reference material as needed for transparency]

- **Data Sources:** [TBD by CCS on TWG approval]
- **Quantification Methods:** [e.g. Full life-cycle analysis with supply/demand equilibrium adjustments on TWG approval]
- **Key Assumptions:** [TBD, as needed on TWG approval]

Key Uncertainties

TBD – [as needed and approved by the TWGs]

Additional Benefits and Costs

TBD – [as needed and approved by the TWGs]

Feasibility Issues

TBD – [as needed and approved by the TWGs]

Status of Group Approval

Pending – [until CECAC moves to final agreement at Meeting #5 or #6]

Level of Group Support

TBD – [blank until CECAC Meeting #5]

Barriers to Consensus

TBD – [blank until final vote by the CECAC]

ES-1 (Version 2). Clean Energy/Environmental Portfolio Standard, including renewables, energy efficiency, nuclear power, waste to energy, landfill gas, and hydro

Policy Description

A clean energy/environmental portfolio standard (CEPS) is a requirement that utilities supply a certain percentage of electricity to their customers from low greenhouse gas (GHG) emitting sources. EPA defines renewable power as electricity produced from solar, wind, geothermal, biogas, biomass, and low-impact small hydroelectric sources. The CEPS expands traditional renewable power sources to include energy efficiency and nuclear which are zero GHG-emitting energy alternatives. Nuclear power currently provides about 20% of U.S. electricity, comprises approximately 50% of South Carolina's electricity production, and is the largest single source of non-carbon emitting electric generation.

A CEPS can provide South Carolina with clean, low GHG-emitting baseload, intermediate, and peak electric generation from sources such as renewables, nuclear, and energy efficiency to address the state's increasing electricity demand, while also addressing the issue of GHG emissions.

The CECAC accepted this policy priority for analysis in order to identify and evaluate a comprehensive range of possible portfolio standard options. Specifically, nuclear energy is to be evaluated as an eligible clean energy resource. Capture and combustion of methane gas from landfills and combustion of municipal solid waste and biomass for energy generation is also to be considered.

This policy should align with the SC Energy Efficiency Act, Title 48, Chapter 52.

Policy Design

Goals:

To identify and analyze scenarios of future clean energy electric generation mixes in South Carolina. The CEPS should evaluate independent or combinations of renewable energy, nuclear energy, and energy efficiency that will address both the short and long term demand for electricity in this state, in conjunction with GHG emissions. A possible outcome may be a CEPS that outlines a certain percentage of generation mixes to be effective by a TBD date.

The CEPS will consider the following implementation parameters:

1.) Ensure that the short term and long term demand for electricity in this State is met without causing undue economic harm to its citizens;

2.) Protect and enhance the quality of the environment in South Carolina through increased use of renewables, energy efficiency, nuclear, and other low GHG-emitting sources;
3.) Encourage the development, construction, and operation of clean energy resources at those sites in this State that have the greatest economic potential.

- **Timing:** As noted above.
- **Parties Involved:** All electric power generation and distribution companies in South Carolina.
- **Other:** Analysis of this policy should include the following options:

  - Renewables only;
  - Renewables and energy efficiency;
  - Renewables, municipal solid waste incineration, nuclear energy, and energy efficiency.

  Renewables include, but are not limited to: solar PV and concentrating thermal; onshore and offshore wind power; micro-hydropower (< 20 MW/unit); ocean current, tidal and wave energy; fuel cells using renewable fuels; biomass, and methane from animal waste, wastewater systems and landfills.

  Energy efficiency includes applications that provide measurable, verifiable, long-term savings to the retail customer compared with current technology in use, including but not limited to appliances, lighting, HVAC, building envelope and efficient motors.

ES-2. Technology Research and Development

Technology Research and Development, including state funding

Lead Volunteer: Joette Sonnenberg

Policy Description

R&D funding can be targeted toward a particular technology or group of technologies as part of a state initiative to build or expand an industry or core technical competency around that technology in the state, and/or to set the stage for adoption of the technology for use in the state. (For example, part of the SC Hydrogen and Fuel Cell Alliance's mission is to help develop and deploy hydrogen technologies in the state). R&D funding can also be made available to any renewable or other advanced technology (including nuclear) through an open bidding procedure (i.e., driven by bids received rather than by a focused strategy to develop a particular technology). Funding can also be given for demonstration projects to help commercialize technologies that have already been developed, but which are not yet in widespread use. Finally,

funding could be targeted to increase collaboration among existing institutions in the state for R&D.

A number of energy technology research and development (R&D) programs are already underway at organizations and academic facilities throughout South Carolina, as noted below.

Policy Design

- Establish an energy technology roadmap for South Carolina to focus on those efforts that have the greatest potential for achieving reduced GHGs, economic development opportunities, national security and energy independence for the state. Include Department of Commerce, economic development organizations, utilities, as well as state technology providers in the process.
- Support and provide funding opportunities/incentives for developing and implementing new technologies for GHG reduction that encourage collaborations between R&D, government, academic and commercial sectors.

Goals:

- Additional state funding of $20M for R&D initiatives in clean energy
- Establish hydrogen infrastructures that are accessible to at least 80% of the population.
- Complete a least one high visibility research and development demonstration to showcase alternative energies.

- **Timing:** [TBD]
- **Parties Involved:** [TBD]
- **Other:** [As needed]

Implementation Mechanisms

- H. 3146- The Hydrogen Infrastructure Act-potential $5M in 2008 (proposed $15M total over 5 years) for in-state projects
- H. 3649- South Carolina Renewable Energy Infrastructure Development Fund
- Small Business Innovation Research /Tech Transfer Phase I Matching Grant Programs
- SCRA's Launch Program- $200M per entity available for entrepreneur assistance
- Research and Development Infrastructure and South Carolina Centers of Economic Excellence Endowed Professorship Program funded through SC state lottery

Related Policies/Programs in Place

- University of South Carolina's National Science Foundation Center for Fuel Cells and Clean Coal Center of Excellence
- Energy research conducted at the Savannah River National Laboratory and Center for Hydrogen Research
- Clemson's University Restoration Institute's research in bio-energy and wind
- International Center for Automotive Research (CU-ICAR) automotive system integration and material science program
- The Greater Columbia Fuel Cell Challenge -creating a plan to make the region a center for fuel cell use.
- South Carolina Research Authority's clean energy initiatives programs
- Non-profit organizations that promote researchers, entrepreneurs, and businesses preparing for the emerging technologies in energy, as such as EngenuitySC, Concurrent Technologies, New Carolina, FuelCellSouth, etc.
- State supported organizations that encourage R&D, such as SCBIO, South Carolina Hydrogen and Fuel Cell Alliance, South Carolina Biomass Council, South Carolina Institute for Energy Research, etc.

Types(s) of GHG Reductions

Non-quantifiable due to the uncertainty of selected research endeavors

Estimated GHG Reductions and Net Costs or Cost Savings

Non-quantifiable due to the uncertainty of selected research endeavors

- **Data Sources:**
- **Quantification Methods:**
- **Key Assumptions:**

Key Uncertainties

Additional Benefits and Costs

- Job creation within South Carolina from utilizing enhanced R&D to build an energy industry is an additional benefit. The state is poised through its strength in hydrogen research to become a national leader in the hydrogen economy. By 2020, it is estimated hydrogen could have potential for >40,000 jobs in SC and $10 B in capital investments.
- With its strong nuclear industry, SC has the potential to capitalize on the emerging renaissance, by establishing itself as a hub for nuclear expertise and training. The state is also in a position to benefit from the research and development focus on nuclear

production of hydrogen (as was recommended in the National Research Council's, *Review of DOE's Nuclear Energy Research and Development Program, October, 2007).*

- Additional benefits of reduced dependence on foreign oil and improved environmental conditions can be realized.

Feasibility Issues

Status of Group Approval

Pending – [until CECAC moves to final agreement at Meeting #5 or #6]

Level of Group Support

TBD – [blank until CECAC Meeting #5]

Barriers to Consensus

TBD – [blank until final vote by the CECAC]

ES-3. Renewable Energy Financing

Renewable Energy (full range) financing, tax incentives, loans

Lead Volunteer: John Clark (Policy sent by Ben Moore)

See comments from R. Fledderman, Gloria Flora below.

Policy Description

This policy option concerns financial incentives to encourage investment in the full range of renewable energy resources. Incentives to be considered include include:

(1) direct subsidies for purchasing/selling renewable technologies;

(2) tax credits or exemptions for purchasing renewable technologies;

(3) feed-in tariffs, which provide direct payments to renewable generators for each kWh of electricity generated from a qualifying renewable facility;

(4) government-sponsored or facilitated loan programs;

(5) tax credits for each kWh generated from a qualifying renewable facility; and

(6) regulatory policies that provide incentives and/or assurance of cost recovery for utilities that invest in central station renewable energy systems.

The intent of these financial incentives will be to help overcome barriers for renewable energy development. Institutional and market barriers include price distortions, failure of the market to value the public benefits of renewables and the social cost of fossil fuel technologies, inadequate information, institutional barriers to grid interconnection, high transaction costs because of small projects, high financing costs because of lender unfamiliarity and perceived risk. These can be overcome through a suite of financial and regulatory redresses as well as through information and public education campaigns.

Financial obstacles can also be addressed through property tax exemptions, exclusions, and credits; personal income tax credits or deductions to cover the expense of purchasing and installing renewable energy equipment; loan programs to aid in financing the purchase of renewable energy equipment; and grant programs designed for research and development or to help a project achieve commercialization.

In all instances, financial incentives should be structured in such a way as to promote feasible and desirable renewable energy development and minimize distortions to any existing markets involving renewable energy, or renewable energy feedstocks (e.g. biomass).

Policy Design

Definition: Renewables include solar PV and concentrating thermal; onshore and offshore wind power; micro-hydropower (< 20MW); ocean current, tidal and wave energy; fuel cells using renewable fuels; feasible and desirable biomass including non-woody energy crops, wood wastes, wood residues, wood thinnings, and agricultural waste; methane from animal waste, wastewater systems and municipal landfills."

Goals: The initial evaluation should include several different types of financial incentives to represent the range of opportunities.

(1) tax credits of $3,500 per kW-equivalent for small solar PV, solar and geothermal hot water systems, micro-hydro and small wind up to 50 kW grid-connected generation

(2) subsidy to renewable energy generators of 1 cent per kWh for electricity generated from a renewable resource on or directly connected to the South Carolina grid, unless that electricity is used to meet a federal, state or voluntary renewable energy standard

(3) feed-in tariffs for large-scale zero-pollution renewable generation projects, providing a guaranteed price for electricity or the market rate (if higher) by guaranteeing rate base recovery, as follows:

a. first 100 MW – 15 cents per kWh

b. second 100 MW – 14 cents per kWh

c. third 100 MW – 12 cents per kWh

d. fourth 100 MW – 10 cents per kWh

e. fifth 100 MW – 8 cents per kWh

(4) low-interest loans for feasible and desirable biomass generation that meets exemplary environmental performance standards with partial loan forgiveness for equipment that fails to perform to standard

- **Timing:** Tax credits and subsidies are available from 2009 through 2025; feed-in tariffs are guaranteed for the lifetime of a project, up to 25 years, for projects brought online between 2009 and 2015; loans available for projects brought online between 2009 and 2015
- **Parties Involved:** All power producers operating qualifying facilities for incentives other than tax credits, which would be available to any grid-connected customer
- **Other:**

Implementation Mechanisms

TBD – [CCS drafts based on TWG inputs; this can be developed as they go along, and can start early or late as they prefer; the level of detail can vary on TWG approval]

Related Policies/Programs in Place

See list of current and pending legislation posted by the SC Energy Office, at http://www.energy.sc.gov/index.aspx?m=1&t=67. [TWG volunteers to identify legislation which applies.]

Types(s) of GHG Reductions

TBD – [CCS to list GHG reductions with input / approval from TWG]

Estimated GHG Reductions and Net Costs or Cost Savings

TBD – [CCS should provide a worksheet and other reference material as needed for transparency]

- **Data Sources:** [TBD by CCS on TWG approval]
- **Quantification Methods:** [e.g. Full life-cycle analysis with supply/demand equilibrium adjustments on TWG approval]
- **Key Assumptions:** [TBD, as needed on TWG approval]

Key Uncertainties

TBD – [as needed and approved by the TWGs]

Additional Benefits and Costs

TBD – [as needed and approved by the TWGs]

Feasibility Issues

TBD – [as needed and approved by the TWGs]

Status of Group Approval

Pending – [until CECAC moves to final agreement at Meeting #5 or #6]

Level of Group Support

TBD – [blank until CECAC Meeting #5]

Barriers to Consensus

TBD – [blank until final vote by the CECAC]

Comments on ES-3 proposal from R. Fledderman:

Renewable Energy Finance

My understanding is that in the Southeast the most viable renewable energy resource might be woody biomass (trees). Woody biomass is different than many other forms of renewable energy. We need to be very thoughtful as we create mechanisms that would increase demands for this resource. Incentives to increase the use of woody biomass would impact other areas of our society such as the forest products industry, rural landowners, land use, and wildlife habitat. The corn to ethanol program is a good example of the challenges that may occur when government interferes with existing markets. The forest products industry has spend considerable effort over the last two decades, in conjunction with several environmental groups, developing mechanisms (certification programs, best management practices) to ensure the sustainable use of woody

biomass. Creating incentives to drastically increase pressure on the forest resources would likely upset the balance between conservation and utilization that currently exists in this sector.

That is not to say that there is not a place for woody biomass to make a significant contribution to supplying clean energy sources in South Carolina. Woody biomass to energy projects may also extend the forest resource by using waste material as well as provide another market for rural landowners. Small scale (less than 1 megawatt), distributed systems, especially those that would produce both heat and power (CHP) might be appropriate. These systems would be particularly useful for large commercial buildings (hospitals) and small manufacturing facilities (sawmills) that require heat/cooling as well as power. Small scale systems would likely procure woody biomass from nearby sources minimizing the main deterrent to using woody biomass (transport costs).

I would support financial incentives to increase research and development to create efficient small scale woody biomass systems. I would also support incentives to assist entities wanting to install these systems. I would not support incentives to offset the costs of operating these systems. Entities installing these systems should have to compete on equal terms with existing entities that are already using wood biomass either as feedstock or an energy source.

Closed-loop biomass systems (biomass crops planted specifically for energy/feedstock) are another issue. They would offer a new opportunity for our struggling agricultural sector. However, as was found with establishing pine plantations, land use, water quality and wildlife habitat issues need to be carefully considered.

Waste to energy is another area that should be explored. I'm don't believe the municipal waste stream is considered a renewable resource but it should be. Providing financial incentives for municipalities for improve their recycling programs and investing in waste to energy might provide reasonable opportunities for cost effective projects that accomplish multiple societal objectives (better recycling, landfill avoidance, energy production). After separating recyclables, the potential energy content in our waste stream could be tapped. It is a shame that we not only neglect the energy content of this resource but also all the energy that is expended to concentrate it in a few places.

From Gloria Flora (AFW co-facilitator):

Bob/Steve raise some very good points. Bear in mind though, the growth rates of forest biomass in the Southeast are some of the highest in the nation (under traditional climate patterns that is). There are the down sides to biomass. Diversion of food starches to energy are problematic as they tend to raise food prices and move product out of the food supply. Those new energy markets can also increase conversion of carbon sequestering perennial vegetation on undisturbed soils to churned up starch/cellulose factories. Likewise, cellulosic ag by-products diverted to energy supply when they normally were being chopped up and returned to the soil takes nutrients and important structural elements out of the soil. If centralized agro-cropping evolves from new policy then you have the problem of transportation costs/energy on moving the stuff around. Then there's the forestry sector, where rightly so, some are concerned that we'll go back to free-for-all logging under the guise of energy needs.

However, none of these are insurmountable obstacles. Some of the caveats I mentioned on the call would certainly apply here. For one, the key has to be sustainability of whatever systems or practices are

implemented. Soil mining, conversion of land, etc. aren't sustainable and should be countered by policies that restrict that from happening. For instance, a 'no net loss' policy option would prevent land conversion. However, with the rate of land conversion in SC, there are more (cat)fish to fry with trying to get such a policy option past the land developers rather than past conservationists.

If the policy options were structured to put emphasis on waste wood or slash (from logging activities, mills, manufacturing) than it becomes a lot more saleable and ecologically sustainable. Likewise, biomass for energy from urban tree and forest management wastes could be a better use than composting or burning. Limitations on the size of roundwood (if any is used) that can be diverted to energy would be important too. There should be nothing in policy that promotes significant increases in forest clearing – although again they have tremendous growth rates compared the rest of the nation. Forest thinning could be a different matter and should not be confused with clearing.

Avoiding incentives will allow market forces to work. But, for example, market forces may suggest that a higher and better use for woodchips is energy production vs. landscaping applications. So should woodchips for landscaping be subsidized so people can more easily afford to make their lawns look nice? That's what markets are about – assigning economic values. We manipulate values for social reasons by subsidizing or incentivizing.

Philosophically, I think we (and stakeholders) have to avoid falling into the trap of thinking these policies are only acceptable if they protect the traditional operations of developers, farmers and businesses. That may sound harsh but we are in fast-changing times. If we fall prey to only exploring policies that maintain the status quo, we're not going to miraculously reduce GHG emissions. We are in a vastly different world. People and operations which are not sustainable or produce excessive GHG along with their products are not going to be able to keep doing business the same way. That's sort of the point of the whole exercise. Change doesn't mean going out of business, it means altering the business.

Having said all that, the AFW TWG has a number of options all focusing on biomass. It seems to me that ES should shift the whole biomass question over to AFW since we are addressing the issue comprehensively – land use, waste reclamation, forest mgmt, CHP, protection of soils… Also, expanded use does not mean rampant or uncontrolled use.

AFW-1 Soil Carbon Management
AFW-2 On-Farm Energy Efficiency
AFW-3 On-Farm Waste Energy Recovery
AFW-4 Expanded Use of Local Agricultural Products
AFW-5 In-State Liquid Biofuels Production
AFW-6 Expanded Use of Biomass Feedstocks for Electricity, Heat, or Steam Production
AFW-7 Forest Management for Carbon Sequestration
AFW-8 Conservation and Restoration of Forest and Agriculture Lands for Enhanced Carbon Sequestration
AFW-9 Advanced Recycling and Composting
AFW-10 Waste-to-Energy Reclamation
AFW-11 Water and Wastewater Energy Efficiency Improvements

ES-4:

Return on Investments in Energy Efficiency

Regulatory model to equalize utility returns on energy efficiency with returns on traditional power supply to allow investment in efficiency and renewables to be considered in parity with investment in new conventional capacity.

Lead Volunteer: Steve Smith

Alternative proposal from Duke Energy shown below.

Policy Description

Traditionally, the revenues of utilities are determined by their volume of electricity sales. Because energy efficiency and distributed generation renewable energy sources decrease the volume of electricity that the utilities must produce using central generation, rate-based regulation creates a financial disincentive to utility support for energy efficiency and renewables.

In the short run (between rate cases) lost sales due to energy efficiency programs reduce revenue by the full tariffed rate, not just the short-term or calculated avoided cost. When this net lost revenue is taken into account, utilities will face profit losses for energy efficiency and distributed generation measures that cost far less than the avoided cost of generation.

This policy should *remove the disincentive* for lower sales volumes that utilities face between rate cases. Between rate cases, lost sales (for any reason) reduce utility revenues by the full tariffed rate, not just the short-term or calculated avoided cost. When this net lost revenue is taken into account, utility managers will face profit losses for energy efficiency measures that cost far less than avoided costs. By equalizing utility returns on demand-side management and energy efficiency programs with returns on traditional power supply, utilities will consider investment in energy efficiency in parity with investment in new conventional capacity.

Decoupling, often recommended on a per customer basis, is one strategy to resolve this problem. Decoupling is accomplished through automatic and regular “true-ups,” which are small rate adjustments that ensure that utility fixed-cost recovery is not held hostage to increasing sales volumes. This simple approach depends on a straightforward comparison of actual retail electricity sales to those anticipated when rates were set, with the difference either being refunded to customers or restored to the utility. Between rate cases, the initially authorized level of fixed cost recovery should be adjusted annually based on either an index of system wide economic growth or changes in the company's customer count (as a proxy for fluctuations in these costs over time).

Another alternative is lost margin recovery, which is a utility regulation strategy for classifying the net lost revenues (described above) as costs. However, this practice has fallen out of favor because of its complexity and the resulting litigation that has resulted in its abandonment in most or all states where it has been previously used.

Decoupling marginal revenues from sales levels does not by itself encourage superior performance in delivering efficiency services, but it removes a powerful disincentive and provides a level basis upon which an efficiency business plan can be developed. Thus, this

strategy will necessarily be coupled with energy efficiency strategies being evaluated in the Residential, Commercial and Industrial Technical Workgroup to achieve actual reductions in energy demand and thus greenhouse gas emissions.

In general, we contemplate that whatever state policies are selected to achieve energy efficiency, they should include a provision for timely recovery of costs and appropriate financial incentives. Furthermore, for customers with internal capacity to finance and implement energy efficiency measures (typically industrial and large commercial facilities), there should also be an opt-out provision so that they may negotiate for energy supplies on a least-cost basis without the additional complication of negotiating an energy efficiency services package that is truly unnecessary in particular circumstances.

Policy Design

Goals: Because parity in returns does not in itself guarantee any particular level of investment, the policy should be evaluated in a comparative framework. Assuming that all cost-effective energy efficiency is implemented, compare the level of energy efficiency achieved with and without decoupling – the benefit of this policy will be its marginal contribution to the availability of cost-effective energy efficiency. If a method for estimating all cost-effective energy efficiency is not available, then assume all energy efficiency up to 5 cents per kWh with and without the disincentive of net lost revenue.

- **Timing:** Decoupling implemented in 2008 and fully available in 2009.
- **Parties Involved:** South Carolina Public Service Commission to implement rule affecting all investor-owned utilities.
- **Other:**

Implementation Mechanisms

TBD – [CCS drafts based on TWG inputs; this can be developed as they go along, and can start early or late as they prefer; the level of detail can vary on TWG approval]

Related Policies/Programs in Place

TBD

Types(s) of GHG Reductions

TBD – [CCS to list GHG reductions with input / approval from TWG]

Estimated GHG Reductions and Net Costs or Cost Savings

TBD – [CCS should provide a worksheet and other reference material as needed for transparency]

- **Data Sources:** [TBD by CCS on TWG approval]
- **Quantification Methods:** [e.g. Full life-cycle analysis with supply/demand equilibrium adjustments on TWG approval]
- **Key Assumptions:** [TBD, as needed on TWG approval]

Key Uncertainties

TBD – [as needed and approved by the TWGs]

Additional Benefits and Costs

TBD – [as needed and approved by the TWGs]

Feasibility Issues

TBD – [as needed and approved by the TWGs]

Status of Group Approval

Pending – [until CECAC moves to final agreement at Meeting #5 or #6]

Level of Group Support

TBD – [blank until CECAC Meeting #5]

Barriers to Consensus

TBD – [blank until final vote by the CECAC]

ES-4 Alternative Proposal

Policy Description

Traditionally, the revenues of utilities are determined by their volume of electricity sales. Because energy efficiency programs decrease the volume of electricity sold and corresponding revenues, jeopardizing the ability of utilities to recover costs, utilities often have a financial disincentive to support energy efficiency. The goal of this initiative is to implement a regulatory model that will equalize utility returns on demand-side management and energy efficiency programs with returns on traditional power supply to allow investment in DSM and energy efficiency to be considered in parity with investment in new conventional capacity. Such a regulatory model would provide for annual utility customer bill adjustments that ensure utility cost recovery is not solely linked to electricity sales. Utilities should be allowed timely recovery of all costs associated with DSM and energy efficiency programs, including the recovery of lost revenues and an incentive, or recovery of the avoided new generation costs that directly correspond to the megawatts saved through the implementation of the energy efficiency and DSM programs. Utilities should also be allowed an equitable rate of return on the avoided new generation costs.

Policies to be considered include:

- ***Timely recovery of costs.*** Utilities should be provided timely recovery of all costs associated with the implementation of DSM and energy efficiency programs or recovery of avoided new construction costs that directly correspond to the megawatts avoided through efficiency and DSM programs. These costs would be recovered through an annual DSM/EE adjustment clause and rider.

- ***Recovery of Lost Revenues.*** Lost revenues experienced by the utility as a result of the implementation of DSM/EE programs should be included in the costs recovered through the annual DSM/EE rider.
- ***Financial Incentives.*** Utilities should be allowed to earn a financial incentive for the implementation of DSM/EE programs. Incentives may include sharing of savings achieved by the DSM/EE programs, or could be based on the capitalization of a percentage of avoided costs achieved by the programs.

Policy Design

Goals: Implement state regulatory policy(s) that encourage utilities to implement cost-effective demand-side management and energy efficiency programs to mitigate the increasing demand for new conventional electricity generation in South Carolina.. Pursuant to the S.C. Code of Laws, Section 58-37-20, the South Carolina Public Service Commission may adopt procedures that encourage utilities subject to the jurisdiction of the Public Service Commission to invest in cost-effective energy efficient technologies and energy conservation programs. If adopted, these procedures must: provide incentives and cost recovery for utilities who invest in energy supply and end-use technologies that are cost-effective, environmentally acceptable, and reduce energy consumption or demand; allow utilities to recover costs and obtain a reasonable rate of return on their investment in qualified demand-side management programs sufficient to make these programs at least as financially attractive as construction of new generating facilities; require the Public Service Commission to establish rates and charges that ensure that the net income of an electrical or gas utility regulated by the commission after implementation of specific cost-effective energy conservation measures is at least as high as the net income would have been if the energy conservation measures had not been implemented.

- **Timing:** Immediately
- **Parties Involved:** Public Service Commission, regulated electric utilities, Office of Regulatory Staff.
- **Other:** [As needed]

Implementation Mechanisms

SCPSC approvals in response to proposals by utilities pursuant to the S.C. Code of Laws, Section 58-37-20.

Related Policies/Programs in Place

S.C. Code of Laws, Section 58-37-20.

ES-5. New Nuclear Power

New Nuclear Power, including reprocessing

Lead Volunteer: Mark Hollis

Note from Mark:

Thank you all for your review of the draft of policy option ES-5 (New nuclear, including reprocessing) that I initially sent you Thursday October 25. From your comments, I have developed the attached version of ES-5. I realize that the attached version does not represent the consensus of our group, but does capture the majority of the comments I received from you all.

Please review the attached document and respond to me at your earliest convenience as to whether you can support this version. If not, then please provide your comments as to why you would not support this version. Again, thank you all for your input.

Policy Description

Nuclear power currently provides about 20% of U.S. electricity, and is the largest single source of non-carbon emitting generation. In South Carolina, nuclear power accounts for approximately 50 % of the electricity produced in the state. South Carolina currently has seven nuclear reactors, making it the state with the third highest total nuclear generating capacity. During operation, nuclear plants generate no greenhouse gases (GHGs), although there are GHG emissions associated with the mining, refining, and transport of nuclear fuel and the construction and decommissioning of plants.

The facts are clear: electricity generation and transportation are the two largest producers of GHG emissions in South Carolina. Electricity demand in South Carolina is increasing each year. Nuclear power is the only base load generating source, deployable on a large scale, that emits no greenhouse gases. Recently enacted federal energy legislation includes financial incentives for new nuclear plants in an effort to jump-start the nuclear power industry. Nuclear production costs (fuel, operations, and maintenance) are among the lowest of all electric generation sources, comparable to a similar MW output coal fired station's production costs.

Estimates are that it would take approximately 10 years to design, permit, and construct a new nuclear plant, therefore if South Carolina is serious about reducing future GHG emissions, it is imperative that actions be taken now to move forward with constructing new nuclear power plants. South Carolina electric utilities have an outstanding track record of operating nuclear power plants safely and reliably since the first S.C. nuclear unit went commercial nearly 40 years ago.

In the evaluation of policy options for reducing GHG emissions in South Carolina, policymakers should include new nuclear power in the mix of options, along with other low GHG emitting electric generating sources such as wind, solar, hydropower, and incentives that encourage

energy efficiency. The focus of this particular policy should be to recommend actions, e.g. state legislative and regulatory actions, that would support the construction of new nuclear power generating facilities in South Carolina, and to address the nuclear waste disposal issue by supporting the reprocessing and recycling of nuclear fuel.

Reprocessing spent nuclear fuel results in a significant reduction in the volume of high level radioactive waste. Through reprocessing, the recovered uranium and plutonium can be recycled into new fuel. Recycling involves the re-enrichment of the recovered uranium for use in light water reactor fuel assemblies and the conversion of the recovered plutonium into mixed oxide fuel assemblies, which also can be used in light water nuclear reactors. In year 2006, the Department of Energy initiated the Global Nuclear Energy Partnership (GNEP) for deployment of advanced nuclear fuel recycling technology. While we view the GNEP as too aggressive and commercially unrealistic; we do believe that is important to move forward with consideration of existing nuclear fuel recycling technologies that are currently deployed elsewhere in the world**.** These technologies have evolved significantly since the U.S. abandoned commercial recycling in the 1970s and can be deployed in a manner consistent with U.S. and international safety and nonproliferation standards. This approach offers the benefits of significantly reducing the inventories of commercial spent nuclear fuel and plutonium, as well as reducing the total volume of waste requiring geologic disposal. This approach also offers benefits in the areas of national energy security and carbon emissions reductions, as the existing inventory of spent fuel in the U.S., if recycled, represents the equivalent energy generation of about 8.4 billion barrels of oil.

Additional new nuclear power plants in South Carolina, as well as a nuclear fuel reprocessing-recycling plant, would contribute substantially to the South Carolina economy. Statistics show that the average nuclear plant employs 1400 to 1800 employees during construction, employs 600 or more people long-term at salaries higher than the average salary in the local area, creates economic activity that generates 400 to 700 new jobs locally, and provides annual state and local tax revenue of more than $20 million, benefiting schools, roads, and other local and state infrastructure.

Policy Design

Goals: The goals of this policy are: (1)(a) To quantify the costs and identify the benefits (to include avoidance of greenhouse gas emissions) associated with building new nuclear power plants in South Carolina; (1)(b) To evaluate the economic, environmental, waste reduction, national energy security, and other implications of nuclear waste reprocessing-recycling in the state of South Carolina (2) If new nuclear power is shown to be a viable option for new base load generation in South Carolina, expeditiously implement applicable regulatory and legislative actions to support the construction of new nuclear plants in South Carolina and to promote the reprocessing and recycling of spent nuclear fuel.

- **Timing**: This policy would become effective immediately upon approval by the S.C. General Assembly.
- **Parties Involved:** Electric utilities, environmental advocacy groups, state legislators, county government and economic development leaders, manufacturer- business advocacy groups, and energy users/energy ratepayer advocacy groups.
- **Other:** [As needed]

Implementation Mechanisms

TBD – [CCS drafts based on TWG inputs; this can be developed as they go along, and can start early or late as they prefer; the level of detail can vary on TWG approval]

Related Policies/Programs in Place

- SCE&G/Santee Cooper - new nuclear plant planned (plans are to apply for permits for two 1100 MW units.)
- Savannah River National Laboratory, which is partnered with the Economic Development Partnership of Aiken and Edgefield counties, and EnergySolutions will each receive a part of the $10 million in Global Nuclear Energy Partnership grants to allow for detailed studies of the proposed nuclear waste recycling plants.
- Savannah River National Lab is applying for the nuclear recycling program.
- Duke Energy – William S. Lee Nuclear Station (possibly two 1100 MW units) in Cherokee County

Types(s) of GHG Reductions

TBD – [CCS to list GHG reductions with input / approval from TWG]

Estimated GHG Reductions and Net Costs or Cost Savings

TBD – [CCS should provide a worksheet and other reference material as needed for transparency]

- **Data Sources:** [TBD by CCS on TWG approval]
- **Quantification Methods:** [e.g. Life-cycle analysis on TWG approval]
- **Key Assumptions:** [TBD, as needed on TWG approval]

Key Uncertainties

TBD – [as needed and approved by the TWGs]

Additional Benefits and Costs

TBD – [as needed and approved by the TWGs]

Feasibility Issues

TBD – [as needed and approved by the TWGs]

Status of Group Approval

Pending – [until CECAC moves to final agreement at Meeting #5 or #6]

Level of Group Support

TBD – [blank until CECAC Meeting #5]

Barriers to Consensus

TBD – [blank until final vote by the CECAC]

ES-6. Green power purchases and marketing

Lead Volunteer: C. Dukes Scott / James Anthony

Policy Description

Establish a voluntary green power program offering a green power option to consumers throughout the State. The green power purchases are comprised a variety of consumer-driven strategies to increase the production and delivery of low-GHG power sources.

Palmetto Clean Energy (PaCE) is an independent, nonprofit organization established in August 2007. The organization consists of representatives from the SC Office of Regulatory Staff, SC Energy Office, Duke Energy Carolinas, Progress Energy Carolinas and SCE&G. PaCE is a renewable energy program designed to encourage the development of renewable energy resources that improve the environment through reduced greenhouse gas emissions. Consumers can elect to fund Green Power purchases by South Carolina investor-owned electrical utilities. Contributions to the program help provide financial incentives for generators of electricity from renewable sources.

To supplement the activities of voluntary green power programs in SC (PaCE and Santee Cooper Green Power), this policy provides support for marketing green power to consumers and for the developers of renewable generation through state funded green power initiatives coordinated by the SC Energy Office.

Policy Design

Goal #1: Establish a Voluntary Green Power Utility Program

- **Palmetto Clean Energy (PaCE)**: An independent, nonprofit organization established in August 2007.
- **Green Power Definition:** A renewable energy resource includes solar; wind; hydroelectric (less than 10 kW); geothermal; ocean current or wave energy; biomass resource including agricultural waste, animal waste, wood waste, spent pulping liquors, combustible residues, combustible liquids, combustible gases, energy crops, or landfill methane; waste heat derived from a renewable energy resource and used to produce electricity; or hydrogen derived from a renewable energy resource.
- **Timing:** Operational by April 2008; 1% participation of retail customers by 2012.
- **Parties Involved:** SC Office of Regulatory Staff, SC Energy Office, Duke Energy Carolinas, Progress Energy Carolinas, SCE&G, Santee Cooper, Lockhart Power Company and the Public Service Commission of SC.
- **Other:** [As needed]

Goal #2: State Sponsored Green Power Initiatives

- To supplement the activities of voluntary green power programs in SC (PaCE and Santee Cooper Green Power), this policy also provides marketing and renewable resource development assistance through state funded green power initiatives coordinated by the SC Energy Office.

Table 1: Demand- and supply-side recommendations

Demand-Side Recommendations	Supply-Side Recommendations
Provide consumer education programs and green power promotional materials.	Support for R&D on new and developing renewable energy technologies.
Encourage state facilities to purchase a certain percentage of their power through voluntary green power programs.	Provide support for feasibility studies of various renewable energy technologies.
Provide incentives for new or expanding businesses to purchase power through voluntary green power programs.	Provide a mechanism for long-term contract guarantees for renewable energy producers.
Provide tax credits for companies purchasing from power through voluntary green power programs.	Provide support for renewable energy development projects, thereby leading to more options and sales tools.
Provide incentives for home builders to include one year of green energy through PaCE with the purchase of new homes.	Provide low or no interest loans for qualified developers of renewable energy projects.
Provide assistance and participation in consumer and business marketing programs.	

- **Timing:** Fully implemented by 2012.
- **Parties Involved:** SC Energy Office, Duke Energy Carolinas, Progress Energy Carolinas, SCE&G Santee Cooper, Lockhart Power Company, the Public Service Commission of SC and PaCE.
- **Other:** [As needed]

Implementation Mechanisms

TBD – [CCS drafts based on TWG inputs; this can be developed as they go along, and can start early or late as they prefer; the level of detail can vary on TWG approval]

Related Policies/Programs in Place

- Green Power program through Santee Cooper (landfill methane – 5 sites,) expanding into solar. Eighteen electric co-ops also participate in the green power program through Santee Cooper.
- Palmetto Clean Energy (PaCE)

Types(s) of GHG Reductions

TBD – [CCS to list GHG reductions with input / approval from TWG]

Estimated GHG Reductions and Net Costs or Cost Savings

TBD – [CCS should provide a worksheet and other reference material as needed for transparency]

- **Data Sources:** [TBD by CCS on TWG approval]
- **Quantification Methods:** [e.g. Full life-cycle analysis with supply/demand equilibrium adjustments on TWG approval]
- **Key Assumptions:** [TBD, as needed on TWG approval]

Key Uncertainties

TBD – [as needed and approved by the TWGs]

Additional Benefits and Costs

TBD – [as needed and approved by the TWGs]

Feasibility Issues

TBD – [as needed and approved by the TWGs]

Status of Group Approval

Pending – [until CECAC moves to final agreement at Meeting #5 or #6]

Level of Group Support

TBD – [blank until CECAC Meeting #5]

Barriers to Consensus

TBD – [blank until final vote by the CECAC]

ES-7 Renewable Energy Technology Businesses

Attract renewable energy technology businesses to South Carolina

Lead Volunteer: David Odell

Policy Description

Renewable energy has recently developed into an immediate and long term growth industry. To capitalize on this great economical potential it will be critical for South Carolina to aggressively attract companies that specialize in this industry. Besides the obvious value of direct corporate financial incentives, a policy of this nature will have to encompass a mechanism for which the entire state becomes an obvious destination point for renewable energy businesses.

Most of these incentives should be designed to create South Carolina as a partner in the renewable energy world. South Carolina needs to create a strong local market for renewables and will have to become a vocal advocate of these energy solutions. Luring these types of businesses has become a primary economic target for many states and competition will be tough.

The CECAC accepted this policy priority for analysis in order to capture a comprehensive range of options for attracting renewable energy technology businesses to South Carolina.

Policy Design

- **Goals:**

  1. South Carolina has a internationally respected renewable energy business cluster making it an obvious destination point for company facilities.

  2. South Carolina is a top-5 U.S. state for new renewable energy installations per year.

  3. South Carolina ranks as a leader in higher education and technical education for R&D and implementations of renewable technologies.

- **Timing:**

  1. January 2009: State legislators educated on magnitude of economic potential for renewable energies in South Carolina.

  2. July 2009: Incentives in place for promoting widespread adoption of renewable energy in South Carolina.

  3. December 2009: Plan in place for luring businesses to South Carolina. Info Packet, Materials, Policies, Marketing, etc.

  4. October 2010: Programs in place at universities, colleges, and technical schools for renewable energy programs (R&D, Training, Education).

5. January 2010: Renewable Energy cluster in place with 2 to 5 businesses signed on.
6. 2012: South Carolina cracks the top-5 list of states with new renewable energy installations.
7. 2015:

- **Parties Involved:** State and local governments, community and business leaders, citizens, education facilities, students, and visitors.
- **Other:** Potential elements of this policy could include the following policies and incentives:

1. Incentives for business operations:
    - Tax credits
    - Low-cost financing
    - Business energy tax credit
    - Alternative Energy Product Manufacturers Tax Credit (as in New Mexico)
2. Policies for promoting locations in South Carolina
    - Recruitment marketing plan (for developing a state renewable cluster)
    - Infrastructure improvement assistance
    - Work force and wage level availability
    - Reliable and reasonably priced power
    - Mothballed plants and analyzed or potential
    - Railways, roadway, transportation hubs identified and targeted
    - Trained workforce – quantify and develop
    - Increased incentives for projects utilizing in-state manufactured equipment
    - Cost of living – South Carolina positive – part of promotion
    - International presence in South Carolina – positive attraction
    - South Carolina is good location for manufacturing engineers
    - Job training plan
    - R&D plan
3. Market generating policies/incentives (overlap with other ES's)
    - Renewable Energy feed-in production incentive
    - Energy efficiency and renewable energy bond program
    - Sales and tax abatement on capital equipment
    - Statewide net metering

- Statewide interconnection standards
- RPS
- Tax credits

4. Other Policies and Incentives Include:
    - Educating Legislators on potential of renewables (world/state economic potential analysis)
    - Implementation of renewables on government owned facilities

Implementation Mechanisms

TBD – [CCS drafts based on TWG inputs; this can be developed as they go along, and can start early or late as they prefer; the level of detail can vary on TWG approval]

Related Policies/Programs in Place

None identified.

Types(s) of GHG Reductions

TBD – [CCS to list GHG reductions with input / approval from TWG]

Estimated GHG Reductions and Net Costs or Cost Savings

TBD – [CCS should provide a worksheet and other reference material as needed for transparency]

- **Data Sources:** [TBD by CCS on TWG approval]
- **Quantification Methods:** [e.g. Full life-cycle analysis with supply/demand equilibrium adjustments on TWG approval]
- **Key Assumptions:** [TBD, as needed on TWG approval]

Key Uncertainties

TBD – [as needed and approved by the TWGs]

Additional Benefits and Costs

TBD – [as needed and approved by the TWGs]

Feasibility Issues

TBD – [as needed and approved by the TWGs]

Status of Group Approval

Pending – [until CECAC moves to final agreement at Meeting #5 or #6]

Level of Group Support

TBD – [blank until CECAC Meeting #5]

Barriers to Consensus

TBD – [blank until final vote by the CECAC]

ES-8. Distributed renewable energy

Distributed renewable energy incentives and/or barrier removal (Including Interconnection Rules)
Lead Volunteer: John Tiencken

Policy Description

Distributed generation refers to the production of electricity at or near the sites of consumption. Distributed renewable energy[1] is energy specifically generated by naturally replenishing resources. The production of renewable energy results in few or no greenhouse gas emissions. Institutional and market barriers to distributed renewable energy include:

- Inadequate information
- Institutional barriers to grid interconnection
- Community barriers (e.g. local covenants and restrictions)
- Limited availability of qualified contractors
- High transaction costs
- High financing costs (e.g. due lender unfamiliarity and perceived risk).
- Interconnection rules (e.g. standby fees, exit fees)
- Ownership of Renewable Energy Credits (RECs)
- Pricing of net generation
- Failure of the market to value the public benefits of renewables and the social cost of fossil fuel technologies

These can be overcome through a suite of financial and regulatory redresses as well as through information and public education campaigns.

Benefits of distributed renewable energy accrue to owners of the resource, the public, utilities, and the economy. In particular, for distributed renewable energy resource owners benefits could include:

- Reduced utility costs
- Revenue from net generation
- Stabilized costs on portion of utility replaced renewably
- Revenue from selling RECs

[1] For the purpose of this policy description, please consider Solar Hot Water systems apart of distributed renewable energy.

For the public benefits include:

- Reduced air pollution
- Increased renewable energy awareness
- Increased energy security/reliability
- Technological innovation
- Reduction of exporting SC energy dollars

For utilities benefits include:

- Reduced peak demand and associated expenses
- Reduced system load (e.g. transmission)
- Avoided cost of new transmission and generation
- Reduced transmission and distribution losses
- Expanded resource investment opportunities

For the economy benefits include:

- Expansion of renewable energy markets (including Service Business Opportunities, SC Employment Opportunities, and Creating a marketplace where RE manufacturing businesses will want to locate.)
- Greater disposable income for consumers
- Reduction of exporting SC energy fuel dollars

Uncertainties and risks associated with distributed renewable generation and their increased adoption also exist. Could increased adoption of distributed renewable generation lead to increased costs for utilities? How would owners of distributed generation resources interface with wholesale electricity markets? How reliable will distributed renewable resources be? What will the capital investment requirements be in the future? How long will federal and other incentives for distributed renewable generation last? How will grid-connected distributed renewable energy affect system reliability?

This policy should identify all renewable energy sources that could lead to possible distributed generation options for residences, commercial, and industrial facilities as well as the uncertainties and risks associated with greater adoption of these resources. In addition, this policy should identify and examine current and potential barriers impeding current and interested participants. Finally, it should identify and propose specific incentives or policies that would eliminate or limit barriers and expand distributed generation in South Carolina. It should also quantify the impact of distributed renewable energy goals.

Policy Design

- **Definition:** Distributed renewables include solar PV and solar thermal; wind power; micro-hydropower (< 20MW); fuel cells using renewable fuels; biomass including non-woody

energy crops, wood wastes and agricultural waste; methane from animal waste; and geothermal.

- **Goals:**

  - __ MW per year of new distributed renewable generation.
  - Solar hot water systems installed in __ %of homes and suitable business by 2020.

- **Timing:** Beginning in 2009, __% per year of all South Carolina homes and suitable business facilities have solar hot water installed; new distributed renewable generation beginning at __ MW in 2009 increasing to __ MW per year by 2014 and thereafter.
- **Parties Involved:** Any industrial, commercial, or residential entity operating qualifying distributed renewable energy systems whether directly connected to the South Carolina grid or otherwise could participate.
- **Other:** Potential elements of this policy could include the following policies and incentives:
  - Adoption of Interstate Renewable Energy Council Model Interconnection Standards and Procedures for Small Generator Facilities Statewide.
  - Adoption of Interstate Renewable Energy Council Model Net-Metering Rules Statewide
  - Uniform permitting standards for large/industrial distributed renewable generation.
  - State licensing and/or training for distributed renewable generation installers/contractors.
  - Establish a Solar Hot Water metering standard used for the conversion of BTUs to KWH, thus allowing RECs to be used with Solar Hot Water systems.
  - Consideration of adoption by state regulatory authorities of rate designs (possibly incorporating into the rate design a value for offset CO_2 emissions), coupled with the necessary metering technology, that promote reduction in GHG emissions by encouraging consumers to install renewable distributed generation systems.
  - Financial incentives including:

    – Expand/Increase existing corporate tax credits to include all qualifying distributed renewable energy systems.
    – Expand/Increase existing personal tax credits to include all qualifying distributed renewable energy systems.
    – Expand state rebate program for solar thermal installations on EarthCraft homes to all qualifying distributed renewable energy systems and all homes.
    – Institute a sales tax exemption for distributed renewable energy systems
    – Institute a property tax exemption for distributed renewable energy systems.
    – Set distributed renewable energy procurement standards for state government.
    – Grants and incentive programs for schools and higher education institutions unable to benefit from state and federal tax incentives.