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MEETING SUMMARY
SOUTH CAROLINA CLIMATE, ENERGY AND COMMERCE ADVISORY
COMMITTEE

Energy Supply (ES) Technical Work Group (TWG)

Teleconference meeting #6, October 18, 2007 from 1:00 PM to 2:30 PM

Attendance:

1. Technical Work Group Members:

- Mark Tye (for Lonnie Carter – President and CEO, Santee Cooper)
- John Clark – Director, South Carolina Energy Office
- Bob Fledderman – Manager, Environment and Regulatory Assurance, MeadWestvaco
- Jerry Freck – Environmental Engineer, South Carolina Department of Health and Environmental Control
- Emerson Gower – Vice President, Southern Region, Progress Energy Carolinas
- Fred Humes – Chairman of the Board of Directors of the South Carolina Hydrogen and Fuel Cell Alliance
- Henry Barton (for Kevin Marsh – President, South Carolina Electric & Gas)
- Ben Moore – Coastal Conservation League
- David Odell – President, Sunstore Solar of Greenville, South Carolina
- Mark Hollis (for James E. Rogers – Chairman, President and CEO, Duke Energy Corporation)
- Steve Smith – Executive Director, Southern Alliance for Clean Energy
- Joette G. Sonnenberg – Associate Laboratory Director, Energy Security, Savannah River National Laboratory

2. Center for Climate Strategies (CCS) Staff:

- Ezra Hausman – Lead facilitator
- Alice Napoleon

3. South Carolina Department of Health and Environmental Control (DHEC):

- Michael Juras – SCDHEC; Agency Liaison

4. South Carolina Agency Observers

- Representative Ben Hagood, CECAC Chairman
- Yvonne Michel – SC Energy Office

5. Public Attendees:

- Glen Brannon – SCANA

- Bob Long – SCANA
- Joe Lynch – SCANA
- Jeannette McCain - Progress Energy
- Yvonne Michelle
- Ray Pinson - Santee Cooper
- Jack Preston – SCANA
- John Wilson – Southern Alliance for Clean Energy

6. Technical Work Group Members not attending:

- Robert Boyles – Deputy Director, Marine Resources Division, Department of Natural Resources
- Joan Bozzone – Physical Scientist, National Nuclear Security Administration
- Jeff Hinson – Utilities Manager, Clemson University
- Mark Lewis – Vice President, Westinghouse Electric
- John Plodinec – Savannah River National Lab
- Nick Rigas – Director, South Carolina Institute for Energy Studies
- C. Dukes Scott – Executive Director, Office of Regulatory Staff
- Coleman Smoak – General Manager, Piedmont Power
- John Tiencken – Former CEO, Santee Cooper

Background documents:

Posted at http://www.scclimatechange.us/Energy_Supply.cfm:

1. Meeting Notice and Agenda
2. Draft Summary of Meeting #4
3. Draft Summary of Meeting #5
4. PowerPoint for Teleconference
5. Priority Policy Option Templates
6. Revised Inventory and Forecast Comparison, including SC Utility Data

Discussion items and key issues:

This was the 6th meeting of the ES TWG.

1. CCS called the meeting to order, completed the roll call and reviewed the agenda and plans for the call.
2. There were no comments on the draft summary of Call #4. The summary is approved as final.
3. Mark Tye suggested changing the language in the draft summary of Call #5 from “the utility data do not add up” to “the utility data & SCEO forecast are not consistent with each other; there is a 20% difference between them.” With this change, the summary is approved as final.
4. The stepwise planning process was reviewed. During the initial stage of developing straw proposals, CCS will solicit volunteers to take the first crack at the goals, timing, coverage of parties, and description for the recommended policies for analysis. At the next ES TWG meeting, the TWG will review the draft straw proposals as a group. CCS will present the revised draft straw proposals to the CECAC for its consideration at the November 30 meeting. Later in the process, ancillary benefits will be considered (but not

quantified.) The primary goal is to generate cost per ton and emissions reductions, for the CECAC to provide to the legislature as a foundation for policy.

5. Ezra Hausman reviewed the CECAC-approved priorities for analysis. Ezra noted that there were technical difficulties with the phones during the last CECAC meeting. CCS has pieced together notes but would appreciate further explanation or corrections from those who were at the September 21 CECAC meeting.
 - a. ES-1 was redefined as “A thorough study of energy options for portfolio standards including renewables, energy efficiency, nuclear power, waste to energy, landfill gas, offshore wind, and hydro” [includes former ES9]
 - b. ES-3 was changed to “Renewable Energy (full range) financing, tax incentives, loans”. It is not clear what the CECAC intended by “(full range)”.
 - c. ES-4 was changed to include former ES-7: “Regulatory model to equalize utility returns on energy efficiency with returns on traditional power supply allow investment in efficiency and renewables to be considered in parity with investment in new conventional capacity” (with clarification provided by Mark Hollis)
 - d. ES-5 was changed to “New nuclear power, including reprocessing”
 - e. “Attract renewable energy technology businesses to South Carolina” was renumbered as ES-7 (originally ES-8)
 - f. ES-8 was changed to “Distributed renewable energy incentives and/or barrier removal (Including Interconnection Rules)”
6. Volunteers were solicited to participate in drafting straw proposals for each of the eight priority policy options that were moved forward by the CECAC. The volunteers are:

Draft Policy Option	Volunteers	Lead
ES-1	Ben Moore, John Clark, Mark Hollis, Mark Tye	Ben Moore
ES-2	Joette Sonnenberg, Jerry Freck, Fred Humes, John Plodinec	Joette Sonnenberg
ES-3	John Clark, Bob Fledderman, Ben Moore, Steve Smith	John Clark
ES-4	Steve Smith, Bob Fledderman, Emerson Gower/Mike Kennedy, Mark Hollis	Steve Smith
ES-5	Mark Hollis, Emerson Gower, Steve Smith, Mark Tye	Mark Hollis
ES-6	C. Dukes Scott/Anthony James, Henry Barton, John Clark, Ray Pinson	C. Dukes Scott /Anthony James
ES-7	David Odell, John Clark, Jerry Freck	David Odell
ES-8	John Tiencken, Ben Moore, David Odell	John Tiencken

TWG members and alternates who missed the call or didn’t get a chance to volunteer can sign up to participate in drafting one or more straw policy option(s) after this call by contacting Ezra, Alice, and the designated lead for the policy (or policies) of interest. Volunteers working on a straw proposal should organize themselves to work together. The straw proposals should be returned to ehausman@synapse-energy.com by October

31. It is the primary responsibility of the “lead” for each policy to make sure this happens.
7. Ezra encouraged the volunteers to review the policy recommendations from other states that have recently finished this process to get a sense of the different ways the policies can be structured. Volunteers are free to consult with outside experts or any other resources.
 8. Ezra reviewed the policy template. He noted that the sections are roughly in the order in which we will address them, but there will be jumping around. Volunteers should focus on developing the first two sections of the straw proposals (i.e., the Policy Description and Policy Design, which includes Goals, Timing, and Parties Involved) for now. The description should briefly describe the policy but also answer, why implement this policy in this state? Parties Involved might include utilities, regulators, and ratepayers, etc. Volunteers can also insert text under Implementation Mechanisms, Related Policies, Key Uncertainties, Additional Benefits & Costs, and Feasibility Issues, which may be helpful during later stages.
 9. Inventory and Forecast (I&F)
 - a. Table A2 data
 - i. Ezra reported that he had followed up with the utilities to confirm the data submitted prior to the last call. There was one error in natural gas generation. It was noted that an implied heat rate of 7700 seemed a lot more reasonable.
 - ii. Ezra noted that the column header still needs to be changed to metric tons of CO₂e, which is how the utilities reported the data.
 - iii. Jerry Freck had looked at the data from EPA Continuous Emission Monitoring System (CEMS), pursuant to the discussion on call #5. He noted that the database does not include nuclear power which does not produce emissions that produce acid rain. Also, generators are required to report gross, not net, generation. According to the EPA data, 2003 coal, gas & oil heat input for units in South Carolina was 402 billion btu, and their emissions are 40.59 short tons in 2003. It was noted that these numbers should be lower than the utility-provided Table A2 data, and they are. Jerry did not look at btu/kwh.
 - iv. John Wilson asked whether generation from IPPs (Independent Power Producers) and paper mills was included. The revised table still shows no generation for Other Renewables. Ezra indicated that it may make sense to add these data back in. John also asked about whether CHP is included. Would conventional IPPs be included in the EPA data? Jerry indicated that IPPs would mostly run on gas, and very few plants would be below 25 MW (plants less than 25 MW are not required to have CEMS units or report emissions to the EPA for the Acid Rain program). Therefore, IPPs would be included in the EPA data. However, generation and emissions are assigned to a plant’s primary fuel, not the mix it actually used. Some of the IPPs use oil in some hours.

b. Demand

- i. Ezra noted that he corrected an error on the 2nd page of the Revised Inventory and Forecast Comparison with SC Utility Data document. (He had used the wrong column from the I&F spreadsheets.)
- ii. Ezra asked whether the I&F should use the total energy demand from the Energy Office or data provided by the utilities (see the 2nd column of bottom table). A participant thought the TWG had agreed on using the utility data at the last meeting. John Wilson asked how disaggregation by sector would be done. Ezra suggested using the % breakdowns from the Energy Office modeling.
- iii. Following up from last meeting, Ezra asked whether the TWG had reviewed John Wilson's proposal for projecting renewables growth, circulated earlier. Currently, the I&F draws on EIA projections for the SERC region. (Details of John Wilson's proposal are provided as an amendment at the end of this meeting summary.) Ezra suggested that he, Bill Dougherty, Randy Strait, and John Wilson talk offline and form a proposal to bring back to the TWG. There were no objections to this suggestion.

- c. There were no updates on potential adjustments to the inventory and forecast for recent actions.

10. CCS solicited input from the public. No comments or questions were raised.

Next steps and agreements:

1. The next (7th) ES TWG meeting is scheduled to be held in-person on Thursday, November 15, from 1:30 PM – 4:00 PM in the Brown Building, at the corner of Pendleton and Sumter, behind the South Carolina State House in Columbia, South Carolina. Michael Juras will provide recommendations for parking to the TWG prior to the meeting.
2. Ezra will email the list of volunteers, links to materials from other states, and the straw proposal template in MS Word format to the TWG following the meeting.
3. Volunteers and leads should return the draft straw proposals to CCS by October 31. For this draft, volunteers should focus on developing the first two sections of the straw proposals (i.e., the Policy Description and Policy Design, which includes Goals, Timing, and Parties Involved).
4. CCS will compile and post the drafts one week prior to the November 15 TWG meeting. At that meeting, the TWG will take a look at the straw proposals as a group. CCS will then make the changes suggested by the TWG, clean up the documents, and post them one week prior to the CECAC meeting on November 30.

Amendment from November 15 TWG meeting

John Wilson's prior proposal is as follows:

Part 1) Growth rate assumptions

1. Hold nuclear steady as proposed (or allow for modest adjustment reflecting planned capacity variation at existing facilities as was done for North Carolina)
2. Hold hydroelectric and pumped storage steady as proposed
3. Allow for declining oil (petroleum) growth (or hold steady)
4. Uncertain how to handle "other gases" and "other"
5. Hold import/export balance steady either in GWh or as a share of overall generation depending on which assumption is best supported by 1990-2005 historical data
6. Either
 - a) uniform growth rate applied to coal, natural gas, and "other renewables" to make up the remaining growth needed to supply the projected growth in electricity sales; or
 - b) continue linear growth rate for "other renewables" (250 GWh) and allocate remaining growth uniformly to natural gas and coal; or
 - c) some similar forecast method supported by additional evidence

Part 2) T&D losses: Obtain SC-specific T&D losses from historic state-level utility-reported data and not use "electricity-related loss" from the EIA regional forecast. The electricity-related loss figure in EIA forecasts is a national average applied uniformly across the country and is not appropriate for state-level analysis.