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MEETING SUMMARY
SOUTH CAROLINA CLIMATE, ENERGY AND COMMERCE ADVISORY COMMITTEE
Energy Supply (ES) Technical Work Group (TWG)
In person meeting #3, July 25, 2007 from 1:00 PM to 4:30 PM

Attendance:

1. Technical Work Group Members:
   - Robert Boyles – Deputy Director, Marine Resources Division, Department of Natural Resources
   - R.M. Singleterry and 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
   - Mike Kennedy (for Emerson Gower – Vice President, Southern Region, Progress Energy Carolinas)
   - Jeff Hinson – Utilities Manager, Clemson University
   - Ben Moore – Coastal Conservation League
   - Mark Hollis (for James E. Rogers – Chairman, President and CEO, Duke Energy Corporation)
   - David Odell – President, Sunstore Solar of Greenville, South Carolina
   - John Plodinec – Savanah River National Lab
   - Nick Rigas – Director, South Carolina Institute for Energy Studies
   - C. Dukes Scott – Executive Director Office of Regulatory Staff
   - Steve Smith – Executive Director, Southern Alliance for Clean Energy
   - Coleman Smoak – General Manager, Piedmont Power
   - Joette G. Sonnenberg – Associate Laboratory Director, Energy Security, Savannah River National Laboratory
   - John Tiencken – Former CEO, Santee Cooper
2. Center for Climate Strategies (CCS) Staff:
   - Ezra Hausman – Lead facilitator
   - Alice Napoleon
   - Bill Dougherty
3. South Carolina Department of Health and Environmental Control (DHEC):
   - Michael Juras – SCDHEC; Agency Liaison

4. South Carolina Agency Observers
    - Leslie Coolidge – SCDHEC
    - Yvonne Michel – SC Energy Office
5. Public Attendees:
    - Anthony James – SC Office of Regulatory Staff
    - Marchet Cowet
6. Technical Work Group Members not attending:
    - Fred Humes – Chairman of the Board of Directors of the South Carolina Hydrogen and Fuel Cell Alliance
    - Mark Lewis – Vice President, Westinghouse Electric
    - Bill Timmerman – CEO, SCANA

Background documents:
(posted at http://www.scclimatechange.us/Energy_Supply.cfm)

1. Meeting Notice and Agenda
2. Draft Summary of Call #2
3. Powerpoint for Teleconference
4. ES Draft Catalog of State Actions

Discussion items and key issues:
This was the 3rd meeting of the ES TWG.

1. The first hour of the meeting was an open discussion of the inventory and forecast. Question and comments are summarized below.
    a. John Plodinec noted that the rate of annual growth of 14% for renewables seems high. Coal will be built to meet load. Also, how are imports & exports handled? Bill Dougherty responded that the basis is the AEO projections for the SERC region, which also shows growth (2%/yr).
    b. Mark Tye (Santee Cooper) asked, what are these data being applied to? E.g. if high is applied to high, that is OK. Mark noted that transmission and distribution (T&D) losses seem high, but he doesn't know for state as a whole. Bill Dougherty said that he extracted just the SC portion from databases maintained by the Energy Information Administration for state-level energy productions and consumption (EIA) for 1990 – 2003. Citations for these databases are included in the spreadsheets that were distributed to the TWG. Forecasts of T&D losses and on-site parasitic loads were assumed to be consistent with the non-Florida SERC region.
    c. There was some discussion about the large (14%) growth rate in renewable energy. Most of the growth in renewables is in wood & biomass, & occurs from 2005 – 2009. Bill Dougherty responded that the 14% is an output of NEMS, which is a complex model with numerous assumptions and inputs. John Wilson

has spoken with EIA about how it handles renewable energy and is not convinced their approach is applicable to SC, arguing that an 8-fold jump is not realistic.

d. Bill Dougherty asked whether the generation types other than renewables are realistic. Mark Hollis (Duke) thought that coal & gas look OK.

e. Mark Hollis questioned the residential sales growth rate. Duke projects 1.8-1.9%. Mark Tye said that Santee Cooper projects 2.9% over the forecast period (2020). John Tiencken indicated that the cooperatives predict more than 3% annually, based on a 5 year historical average

f. Joette Sonnenberg described the differences between utility modeling and the models the CCS forecast draws on. In general, we know there will be greater efficiencies, but we don't know when resources will be added, so our forecast is smooth. Utility forecasts are lumpy.

g. It was clarified that the forecast is to be used as a reference for the policy proposals.

h. Industrial demand growth was discussed. Mark Tye indicated that Santee Cooper's industrial growth is much lower than residential, at 0.2%/year. Duke forecasts 0.2% for industrial. It was noted that SCANA has big industrial customers, and a big residential sector—what are SCANA's numbers? Representative of the utilities agreed to provide projections for growth rates to adjust EIA data, in the form of annual residential, commercial, and industrial GWh sales for each utility.

i. John Wilson: follow NC model, stepwise, thinking through generation classes

j. Jerry Freck raised concern that the demand growth rates are too low. DHEC used 1990 – 2005 data to get growth rate, and checked its findings with a 2nd model. Both models show that the forecast underestimates growth—instead of 122, DHEC found 136 TWh in 2020.

k. Michael Juras asked that CCS circulate comments to the larger I&F group

2. For the second part of the meeting, CCS called the meeting to order, completed the roll call and reviewed the agenda and plans for the call.

3. There were no comments on the draft summary of Call 2. The summary is approved.

4. The stepwise planning process was reviewed. During meeting #3, the group is preparing to identify initial priorities for analysis. CCS provided approximate notional rankings (high, medium and low) as to the potential GHG emissions reductions and potential cost or cost savings for each policy option, as shown in the 3rd and 4th columns of the 7-25-07 version of the catalog. Ezra reviewed the definitions of the notional rankings, provided in the key on the first page of the catalog. He noted that these notional rankings reflect social costs; the distribution of costs is not reflected in the notional rankings or analysis. Feedback on these rough assessments was solicited and provided in the meeting.

5. Ezra reviewed the balloting process. Initial priorities for analysis are identified through a balloting process. Each TWG member can select ten options. CCS will compile and present the results of the balloting at the next TWG meeting on 8/16/07. These results

will also be presented to the CECAC, which may accept or reject the TWG's recommended priorities for analysis. Ballots will be distributed after this meeting via e-mail. TWG members are asked to return completed ballots by August 1 at the latest.

6. At the current meeting, the TWG has the opportunity to comment on catalog items and make proposals to bundle them. CCS noted that the TWG might want to consolidate policies if they are substantially similar, so as to not split the ballots between them. On the other hand, over-consolidating makes it difficult to analyze and quantify benefits.
7. CCS began the overview and discussion of the State Actions Catalog. Additions and modifications are noted below.
    a. ES-1
        i. 1.1 – change cost/ton to Unknown; note "allocation of permits a crucial issue" under externalities/feasibility issues; add note that "could be interpreted as support for a federal C&T approach"
        ii. 1.2 – change potential GHG reductions to "impact depends on level of the tax"; change cost/ton to Unknown; and note "Impact on low-income ratepayers" and "What happens if/when fed tax comes in?" under externalities/feasibility issues
        iii. 1.5 – change to include 6.4
        iv. 1.6 – change to include 2.8, 3.5, 5.4 and all of 5
    b. ES-2
        i. 2.2 – note that "zoning and siting (formerly 2.7) should be considered as a barrier." Change to include 2.7.
        ii. 2.3 – note that "zoning and siting (formerly 2.7) should be considered as a barrier." Change to include 2.7, 2.10b, and interconnection rules from 6.3.
        iii. 2.4 – note possible overlap with RCI.
        iv. 2.5 – note possible overlap with RCI. (John Wilson expressed preference that it be considered in ES.) Change potential GHG reductions to Unknown and cost/ton to L/M because natural gas is fueling more of it.
        v. 2.6 – note possible overlap with RCI. Change to include 2.10d.
        vi. 2.7 – merge into 2.2 & 2.3.
        vii. 2.8 – merge into 1.6.
        viii. 2.10b – merge into 2.3.
        ix. 2.10 - change to "Renewable Energy Financing: (i) Increase and improve renewable energy grants and loans program. (ii) increase and improve RE production cents/kWh incentive payment program. (iii) increase and improve tax incentives for RE production and use" and delete other components of Biomass Council recommendations, which are covered elsewhere in the catalog and by recent legislation. Change to include 6.5 & 6.6

x. 2.13 – change to include 6.5 & 6.6

xi. 2.16 (new option not yet considered by the CECAC: "Offshore Wind development") – change to High cost/ton

c. ES-3

i. 3.1 - change potential GHG reductions to Unknown. Change to include 3.1a.

ii. 3.1a – merge into 3.1

iii. 3.2 – note "what is the specific role of the state in this area?" as a feasibility issue

iv. 3.3 – delete "relicensing" from title. Change potential GHG reductions to Medium, as low hanging fruit has already been picked

v. 3.4 – note "Make sure highest efficiency resources are used."

vi. 3.5 – merge into 1.6

vii. 3.6 (new option not yet considered by the CECAC: "Recycle nuclear fuel") – note as possibly a federal issue

d. ES-4

i. 4.1, & 4.3-4.6 to be removed, because they are not relevant to South Carolina.

ii. 4.2 – change potential GHG reductions to Low and cost/ton to Low.

e. ES-5 (all) – merge into 1.6

f. ES-6

i. 6.3 – merge into 2.3

ii. 6.4 – merge into 1.5

iii. 6.5 – merge into 2.13

iv. 6.6 – merge into 2.13

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

Next steps and agreements:

1. Ballots will be distributed via e-mail following the meeting. Ballots must be returned by 8/1. CCS will compile and present the results of the balloting at the next TWG meeting on 8/16/07 and later, to the CECAC.
2. The date for the next ES TWG meeting is scheduled for August 16, from 3:30 PM – 5:00 PM.
3. On the next call, the TWG will review balloting results; discuss next steps in developing straw proposals; and discuss recommendations for revision of the South Carolina emissions inventory and forecast.

4. Ezra Hausman will email the group to request utility demand projections.