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MEETING SUMMARY
SOUTH CAROLINA CLIMATE, ENERGY AND COMMERCE ADVISORY
COMMITTEE

Energy Supply (ES) Technical Work Group (TWG)

Teleconference meeting #5, September 20, 2007 from 1:00 PM to 2:30 PM

Attendance:

1. Technical Work Group Members:

- Joan Bozzone – Physical Scientist, National Nuclear Security Administration
- 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
- Jeff Hinson – Utilities Manager, Clemson University
- 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)
- C. Dukes Scott – Executive Director Office of Regulatory Staff
- Steve Smith – Executive Director, Southern Alliance for Clean Energy
- John Tiencken – Former CEO, Santee Cooper
- Henry Barton (for Bill Timmerman – CEO, SCANA)

2. Center for Climate Strategies (CCS) Staff:

- Ezra Hausman – Lead facilitator
- Alice Napoleon
- Tom Peterson

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:

- None
6. Technical Work Group Members not attending:
- Robert Boyles – Deputy Director, Marine Resources Division, Department of Natural Resources
 - Fred Humes – Chairman of the Board of Directors of the South Carolina Hydrogen and Fuel Cell Alliance
 - Mark Lewis – Vice President, Westinghouse Electric
 - John Plodinec – Savannah River National Lab
 - Nick Rigas – Director, South Carolina Institute for Energy Studies
 - Coleman Smoak – General Manager, Piedmont Power
 - Joette G. Sonnenberg – Associate Laboratory Director, Energy Security, Savannah River National Laboratory

Background documents:

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

1. Meeting Notice and Agenda
2. Draft Summary of Meeting #4
3. Powerpoint for Teleconference
4. Spreadsheet for Emissions from Natural Gas and Oil Systems (posted September 14, 2007)
5. Spreadsheet for Energy Supply Inventory
6. Spreadsheet for Energy Supply Forecast
7. Integrated Spreadsheet for Energy Supply Inventory and Forecast

Posted at <http://www.scclimatechange.us/plenarygroup.cfm>:

8. Draft South Carolina Greenhouse Gas Inventory and Reference Case Projections 1990-2020
 - a. Electricity Use and Supply
 - b. Natural Gas Transmission and Distribution
 - c. Black Carbon

Discussion items and key issues:

This was the 5th 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. The stepwise planning process was reviewed. CCS noted that the CECAC hasn't gotten to the ES recommended priorities for analysis, but that the consideration of these options should be completed on the call the next day (September 21). The TWG can't start fleshing out the policy options until the CECAC has made changes to the recommended priorities for analysis. The TWG will go over the CECAC's changes at its next meeting (#6).
3. The goal for this meeting is primarily to review the inventory and forecast (I&F) and consider recent legislative actions to see if we have to modify the baseline.
 - a. Utility data projections were submitted to CCS following the last call. CCS received heat input data from Duke, Santee Cooper, SCANA, and Progress. For

demand projections, CCS received data from Duke, SCANA, Progress, Santee Cooper, and co-ops. Although the utility data might be more reliable than the demand projections from the Energy Office's modeling exercise, the utility data do not add up. It was clarified that the I&F spreadsheets and documentation still use the demand projections from the Energy Office's model.

- b. Ezra noted that there were some errors in Appendix A; an updated version of this document has been posted to the CECAC area of the website.
- c. Some counterintuitive results were noted on the Energy Outlook tab of the Forecast spreadsheet: cost (in cents/kwh, residential) goes down, peaks in 2005, and then declines to over 6 cents in 2025. Yvonne Michel clarified that CCS is using only demand projections from their model runs in the I&F; economic outputs are not used.
- d. Table A2 data
 - i. Ezra noted that the role of TWG is to come up with underlying assumptions to support the analysis.
 - ii. Ezra noted a correction in the table on slide 24: "% of total GWh" should be Duke – 40%, Santee Cooper – 24%, Progress Energy – 8%, SCANA – 27%. 2003 data had been requested from the utilities.
 - iii. It was observed that there appears to be a serious disconnect between utility data & original table A2 modeling on natural gas & petroleum (in terms of generation & heat input). This might have been a transcription error. It was suggested that the discrepancy might be because the EIA data (underlying the EO/Global Insights modeling) include non-retail generators; however, utility generation data are higher than the original table A2 data. A correction to gas generation might put the utility data back in line with the original I&F data.
 - iv. Ezra suggested using the Energy Office data for the inventory and maybe the utility data for the forecast. Mark Hollis noted that the 38.66 million tons of CO₂ from the utility data looks more realistic. Are coal heat rates generally over or under 10,000 Btu/kWh? Under 10,000 would be excellent performance, maybe by new plants; it's unlikely that all of the coal generation in the state would achieve that level of performance.
 - v. It was suggested that utilities may be reporting gross heat input vs. net heat input; Ezra thought that it would be electricity that would be reported as net, and the error would be working in the wrong direction.
 - vi. Could Continuous Emission Monitoring System (CEMS) data be collected on these plants? Ezra noted that only plants greater than 25 MW are required to have CEMS units. It was also noted that there's a positive bias in the CEMS data.
 - vii. Several participants suggested circling back with the utilities to confirm the data submitted; the TWG shouldn't just pick and choose numbers.

- viii. Oil would be peaking plants; the heat rate is high but perhaps in line. Gas is more important, as it has a major role in the forecast.
 - ix. John Wilson suggested looking at other renewables—why does the utility data come up with no generation? On-site generation & Independent Power Producers (IPPs) are doing Municipal Solid Waste. Also, the heat rate for “Other” in the original I&F data is 10,500 Btu/kWh, EIA’s standard assumption—is this reasonable? Ezra responded that he hasn’t checked the heat rates. Jerry Freck volunteered to look at the EPA data as a cross-check; he will note gas heat rates and missing data for IPPs & on-site generation.
 - x. Mark Hollis suggested checking with the utilities whether they provided short or metric tons.
- e. Demand forecast
- i. The utility energy data (slide 25) only came to 83% of the Energy Office forecast. Ezra noted that the utilities may have reported net demand. (See table A1, p. A-4 of the “DRAFT South Carolina GHG Inventory and Reference Case Projection.”) However, this may have been an error in pulling data from the forecast spreadsheet for this analysis. Ezra to confirm.
 - ii. There was a question about whether the data received from the utilities covers PMPA (Piedmont) or Lockhart. The other 11 munis are thought to be served by Duke & SCANA. No munis have their own generation.
 - iii. John Wilson recommended that CCS add up the Residential, Commercial, and Industrial growth rates to make sure they are consistent with the ES growth rate.
 - iv. John Wilson also noted that his proposal for estimating the generation mix going forward was supposed to have been circulated. Ezra responded that CCS will have something posted for the next TWG call.
4. Potential Adjustments to Inventory and Forecast for Recent Actions
- a. Recent legislation that may have bearing on our sector is shown on slide 32. This process should not take credit for other actions.
 - b. Ezra asked how S431 will change emissions in the state. John Clark thought the main effect of 431 is to facilitate planning & construction of nuclear—it allows recouping financing costs through rates, makes nuclear a possibility. Coal is excluded from financing.
 - c. H.3749 was broken up & put into other legislation. It applies to solar & biomass, and could apply to wind. Tax incentives for purchase of equipment to produce renewable energy, & incentives (1 cent/kwh & 9 cents/therm) for production from renewable sources.
 - d. H.3545 has been defeated and should not be considered here.

- e. The PUC asked the legislature to hold off & defer (on H.3395 & S.684), because it has a docket open on net metering. SCE&G will file a net metering tariff in next 30 days. Santee Cooper issued policies (net billing).
 - f. John Clark will send more information on these bills to CCS.
5. CCS solicited input from the public. No comments or questions were raised.

Next steps and agreements:

1. The next (6th) ES TWG teleconference meeting is tentatively scheduled for Thursday, October 9, from 3:30 PM – 5:00 PM. [NOTE: the 6th meeting was since rescheduled for October 18, from 1:00 to 3:30 PM.]
2. Follow-up tasks – please get data back to Ezra by the middle of next week:
 - a. Change % of total GWh - should be Duke 40%, Santee 24%, Progress 8%, SCANA 27%. (Ezra)
 - b. Utility data (Ezra to contact each utility representative individually):
 - i. Confirm that utilities reported 2003 data
 - ii. Confirm NG & petroleum generation and heat input numbers
 - iii. Confirm emissions were reported in metric tonnes, not short tons
 - iv. Confirm whether utilities are reporting gross or net electricity output
 - v. Check that non-retail generators & IPPs are included in utility data (John Wilson suggests it's not in there, because the Other Renewables shows zero for net generation & emissions)
 - vi. Confirm with Coleman Smoak that PMPA generation, fuel use, & energy projections have been included
 - vii. Get Lockhart data on generation, fuel use, & energy projections
 - c. Verify RCI growth trends are consistent with ES growth (Ezra)
 - d. Recirculate John Wilson's proposal on generation mix forecast, and prepare for discussion on next call (Ezra)
 - e. Check heat rate for 'Other' – is it realistic for SC? (Ezra)
 - f. Update on legislation from current session, including legislation that arose from H. 3749 (Energy Office/John Clark)
 - g. Information on net metering activities (Energy Office/John Clark)
 - h. Most recent historical energy demand data available as baseline for demand projections (Energy Office/John Clark)
 - i. Check EPA/CEMs data for comparison with Table A2 & utility emissions data for 2003 (Jerry Freck)

3. At the next meeting, the TWG will discuss next steps in developing straw proposals and discuss recommendations for revision of the South Carolina emissions inventory and forecast.
4. The meeting after next (7th) will probably be in-person.