MEETING SUMMARY
FLORIDA ENERGY and CLIMATE ACTION TEAM

Energy Supply & Demand (ESD) Technical Work Group (TWG)
Teleconference Meeting, Call #15
August 13, 2008
1:30 p.m. – 3:30 p.m. EDT

Attendance

ESD TWG Members: John Wilson, Ben Crisp, Alisa Coe for David Guest, Jack Glenn, Lonnie Noack, Katie Travis CDM for Reliant Energy, Eric Draper, Ann Stanton, Eric Silagy, Ken Baker for Angie Behhler, Stephen Smith, Jennifer Czaro, Charlie Beck, Pierce Jones, Jack Shreve, Tom Larson, Leon Jacobs, Tom Hernandez.

Members of the Public: Bob Krasowski

Center for Climate Strategies (CCS) Staff: Tom Peterson, Alison Bailie, David Von Hippel and Linda Schade.

Background documents

All posted at www.flclimatechange.us

Tom Peterson of CCS reviewed the agenda which included decisions from Action Team Meeting #5, discussion and decisions for the quantification of each ESD Policy Option and completing policy design for ESD-13 and ESD-14.

Review of prior call summary

Summaries for Calls #11 and #14 were posted for TWG review. The TWG was asked to submit final comments on those summaries by end of business on Thursday, August 14th, after which they would be considered final.

Decisions by Action Team

Tom Peterson updated the TWG on progress made at the Action Team meeting by all six Technical Working Groups (TWGs). Most TWGs had numerous of their policy options approved.

Regarding changes to ESD policy options, the Action Team moved ESD-7 IRP to Tier 1. As on the ESD TWG, there was Action Team discussion about cost per ton data of avoided GHG emissions for renewable energy systems, and a generic request that the TWG make efforts to use the best data available given that renewable cost structures are changing rapidly.

Review of Quantification Results

Tom Peterson revisited the TWG's progress in completing analysis of GHG reductions and costs/savings as part of the quantification process for some options, and in filling out related sections of the policy description template for those options, but noted that other sections of the template remain blank.

Alison Bailie of CCS confirmed that about half of the "Tier 1" ESD options are quantified, and the remainder should be done by the August 22 Action Team meeting. If time and resources are available, some Tier 2 options can be addressed.

CCS facilitators noted that goals of the meeting included getting final approval for all options at the September 17 and 18th Action Team Meeting. It was also noted as important that the TWG finalize recommendations on each of these options on the August 13th call, including issues of timing, level of effort, eligibility of technology and goals.

Similarly, for the analysis, it was noted that the TWG must make certain that the data and sources, the methods of analysis, and the key assumptions used are all appropriate.

Alison Bailie asked for TWG volunteers to participate in reviewing the cost of renewables and the establishing potential capacity. Eric Draper, Eric Silagy, Stephen Smith and John Wilson were recruited. Tom Larson promised to carry the request back to Stephen and John, who he predicted would be glad to participate. Jerry Karnas also will likely have valuable input.

Discussion of ESD-6 Nuclear

There were concerns that presenting negative numbers as savings would create confusion. Several TWG members felt that negative Net Present Value means a negative cost to the organization. It was agreed to make a note at the bottom of the table since this format/convention (negative NPV denotes a net benefit to the State) is common to all TWGs in the Action Team process.

Alison Bailie explained that the cost of generating power with a new nuclear plant is estimated and compared to what it would have cost to generate the power otherwise. Currently natural gas combined cycle plant costs and performance form the basis for calculation of costs avoided by nuclear and other types of generation, as well as by electricity energy efficiency programs.

Tom Peterson reminded the TWG of the general and the TWG-specific assumptions memos. Avoided costs are some of those assumptions covered. There will also be a set of assumptions specific to option.

FL-specific data were used for a number of parameters, with many data based on the draft I&F (Inventory and Forecast), which will be revised when and if the I&F is updated. Tom Peterson asked the TWG if anyone on the call was aware of additional Florida-specific data. No one responded.

ESD-7 Integrated Resource Planning

This has been pulled into Tier 1. It is not to be quantified, but TWG confirmation of the draft text is sought. Specific input from Leon Jacobs and Thomas Hernandez is pending.

ESD-9

On the last TWG call, members were asked for data relevant to analysis of this option. Alison Bailie again solicited data from the TWG, especially on utility efficiency improvements that have been implemented.

ESD-11

This policy is similar to AFW-4 and covers increased generation and emissions reduction from landfill gas capture. CCS will review the AFW policy, adopt its estimated reductions, and ensure there is consistency on assumptions.

TWG members were requested to do a careful reading of the text for all ESD options. Alison Bailie is going to send a set of renewable energy system assumptions out for TWG members to respond to by the end of Thursday, August 14th.

Final Review of Quantification Assumptions and Memo

Alison reviewed the cost assumptions on pages 3 to 6 in the POD. Several TWG members agreed that the $67 for levelized avoided costs now in use is within a reasonable the range for use in Florida.

The TWG moved to a review of the Table of Renewable Costs entitled: **Summary of the capital cost data on renewable energy power plants submitted to Florida Public Service Commission in its RPS workshop (2006$).**

Alison Bailie requested TWG feedback on current analytical assumptions used for modeling electricity generation from waste heat from sulfuric acid production and on potential new development of hydro power in Florida. Several TWG members agreed that there is not enough "head" (vertical drop of rivers) for new "run of river" hydroelectric generation.

Alison and the quantification team reviewed assumptions as to how costs of solar power are likely to change over time.

ESD-6 Nuclear Power

Based on TWG discussions, approximately 1100MW of nuclear generation capacity is planned to be added in Florida by Florida Power and Light in 2018, with another1100MW in 2020, while Progress Energy will add two similar-sized units in 2016 and 2017, respectively.

It was noted that a nuclear plant uprating at an existing plant in Florida in 2012 will effectively result in 400 MW of new nuclear capacity. This addition should be included in the baseline.

CCS facilitators noted that existing nuclear power sits at the bottom of the dispatch order, so avoided greenhouse gas emissions are estimated based on a blended emission reductions from fossil-fueled plants.

Questions were raised as to where assumptions offered during the call are coming from, including whether the mentioned 4400MW of capacity additions are moving forward, and on what information the utilities that will build the plants are using to estimate the costs of the new nuclear capacity.

Some TWG members felt that a goal for this option was to create a regulatory and political environment where development of new nuclear capacity is an option. It was suggested that the availability of federal funding would be part of the picture. From one utility's perspective, as expressed during the call, if there is a need for additional energy supply, they are interested pursuing the most cost- effective option –and in their view that is nuclear.

Alison asked what tools would be helpful to create nuclear capacity and it was suggested that the IRP process with renewables as part of that process is part of the solution.

A key assumption for this option is how much added nuclear capacity is incremental to the plants already in utility plans. The Action Team set a goal of 2200MW of new nuclear and to assume 2200 additional MW in the baseline..

It was suggested that even with the utility plans for implementing 4400 MW by 2020 (as noted above), in the period of 2020 to 2025, there remains opportunity to build additional nuclear units. The Governor's goal suggests nuclear will be sought.

At a PSC hearing on the topic, nuclear was compared to oil and coal, not to renewables.

To the extent that Florida is required to reduce carbon by a certain date, it was expressed that it may be possible to have additional nuclear capacity that comes online between 2020 and 2025, potentially developed by a consortium of companies.

TWG members noted that how the risk factors on nuclear are reduced is an important consideration. It was noted that risks are also great with fossil fueled generation, given the disarray and volatility of the fuel/carbon markets. **Add Risk management and mitigation to implementation mechanisms.**

The BAU forecast is under review. It was asked whether it is possible to capture economic slowdowns in the BAU forecast. Tom Peterson confirmed that yes, it may be possible to consider the impacts of the recent economic slowdown on the forecast to some degree.

Alison presented the current estimates of projected emissions reductions for nuclear, showing total avoided carbon emissions of 69 million metric tons, cumulative from 2009 to 2025. This value was calculated assuming replacement by some new plants coming on, and later in the time period there was an assumption that new fossil fuel plants are being avoided.

Alison asked the TWG to please provide any text changes, or cost assumptions for page 22. CCS will review the capacity assessments based on the reference case.

Discussion on installed cost per KW for ESD-6

There was significant skepticism about the listed installed cost of $5700 per kW for nuclear power. It was noted that Moody's has adjusted their estimate up and the $5700 figure seems very low, perhaps a reflecting costs as of 2005. Utility members of the TWG noted that they had provided a a range – $12 to $18 billion for costs to the PSC.

Costs reported by utilities to the PSC included $6400 per kW from Progress Energy (including related transmission investments) and $7000 per kW from FPL. They latter assumed $8300/kW for first unit on a site, and $5700 for the second unit.

Tom Peterson asked if there were any TWG objections to using utility numbers filed with the Florida PSC for nuclear plant cost assumptions for this analysis. There were none.

Alison will revisit the 'installed cost per KW' based on filings. The range of estimates can also be noted in the uncertainties section. There is also an externalities section for costs that are not considered direct costs.

ESD-12 DSM

Some TWG members questioned why the quantification did not follow the letter of the goals as written in the option, which call for 1% reduction from previous year electricity sales, increasing to 2 %/yr in later years. Alison noted that the policy was analyzed using the specified reductions relative to forecast sales, but also that total sales would continue to grow, based on underlying growth of electricity sales, on the order to 3% per year in the draft inventory. She noted that achieving absolute reductions that would be the equivalent of 4% or more annually (1% electricity savings plus avoidance of 3% growth) and noted concern that studies showing that level of annual savings from utility programs alone hadn't been found, and the unit costs of such a high level of annual savings might be uncertain.

TWG members called for analysis of the goal with absolute reductions, noting that utilities have achieved this and offering to send studies of utilities achieving these levels. Alison asked for TWG members to send information on cost of saved energy from these studies in particular.

TWG members noted that in Florida, there is low penetration of consumers putting DSM measures in place. Programs focused on demand (peak power) reductions, rather than energy reductions, have historically achieved savings in Florida.

Finalize Policy Design for ESD-13 & ESD-14

ESD-13

The assumption was that ESD-13 could be implemented in 4% of houses per year. A TWG member suggested that 4%/yr is optimistic. Alison has calculated estimates assuming participation of 4% of housing units per year, with each unit reducing energy consumption by 22% on average.

There was a suggestion to start at 1% annually and ramp up.

It was noted that the education component needs to be linked here.

It was noted that to get penetration rates that even approach 1% annually requires a concerted sustained effort, sometimes multi-million dollar ad campaigns in expensive media markets.

It was agreed to add the following to ESD-13b implementation mechanisms:

Tools for builders for new and cost effective technologies. Insulated concrete forms.

ESD-14

In response to a question on the baseline used for this option, it was clarified to be a 60% improvement relative to the 2007 code.

Public Comment

Bob Krasowski requested that the TWG evaluate geothermal. It is included in ESD-18. Why was nuclear only compared to oil and coal at the PSC. What was the lifespan of the facility that you are using? 40 years for the economic life. Whether or not there is a population increase in Fl, it seems the nukes will be in whether they are needed or not.

Next Steps

The date for TWG call #16 is Tuesday, September 2, 2008, from 1:30 p.m. to 3:30 p.m. EDT.