



Governor's Action Team on Energy and Climate Change

State of Florida

MEETING SUMMARY

FLORIDA ENERGY and CLIMATE ACTION TEAM

Energy Supply & Demand (ESD) Technical Work Group (TWG)

Teleconference Meeting, Call #14

July 29, 2008

1:30 p.m. – 3:30 p.m. EDT

Attendance

ESD TWG Members: Alisa Coe (on behalf of David Guest), Ben Crisp, Jack Shreve, Jack Glenn, Pierce Jones, Mark Kaplan, Maribel Nicholson-Choice, Leon Jacobs, Lonnie Noack (for Ted McCullough), Eric Silagy, Eric Draper, Thomas Hernandez, Dr. Anjane'yulu' Krothapalli, Ann Stanton, and Karen Webb (PSC, on behalf of Chairman Carter).

State of Florida: Jeremy Susac, Office of the Governor.

Members of the Public: Pam Keillor, Brady, Thomas, Yon & Clark; Miriam Mekcharge, CDM.

CCS Staff: Tom Peterson, Alison Baile and Linda Schade.

Background documents

All posted at www.flclimatechange.us

Review of prior call summary

ANN STANTON will send edits to the minutes to Call #13. Otherwise, the TWG had no changes.

Final review of Tier 1 & Tier 2 assignments

Final review of Tier 1 and 2 and focus on updates to quantification and setup on quantification.

Overview – Quantification Memo

Look at the proposed Tier 1 and Tier 2 assignments. Tier 1 items were to be big-ticket or easy to analyze in terms of greenhouse gas (GHG) emissions and economic impact and/or were items presented at the Governor's Climate Summit.

ESD-1. Technology Research and Development (R&D) with Commercial Opportunities

TOM PETERSON invited comments on the current Tier 1 & Tier 2.

In spite of tightened new housing standards, there are builders who are willing to go beyond standards. ESD-13b & C (new and master planned communities) were restored to Tier 2 combined as 13-b.

ALISON BAILIE stated the name of the restored ESD-13b policy: Incentives for New Residential Buildings and Master Planned Communities Achieving High Energy Performance Standards. Alison will touch base with Pierce Jones on this new option.

Discussion of ESD-9: Power Plant Efficiency Improvements

ALISON BAILIE restated that the criteria for Tier 1/Tier 2 assignments hinged on whether options were conducive to robust estimates. Publicly available studies are scarce, so that affected some assignments.

TOM HERNANDEZ was able to achieve a 20% reduction and more.

The ESD TWG policies still are not addressing a repowering and retooling of the existing generation system. There is untapped potential for improved energy efficiency for oil-burning plants.

In Florida specifically, with the fleet we have, there is significant reduction potential. Florida Power and Light has done four additional repowerings and those show a 50% reduction in carbon dioxide (CO₂) on a Florida Power Light fleet basis and 98% (increase in efficiency) with costs fully included.

TOM PETERSON asked the TWG if ESD-9 be moved up to Tier 1.

There was another view that ESD-9 does not belong in Tier 1—efficiency improvements are probably going to happen in individual industries. It may not require any policy changes or need any help for any number of reasons. This is a concern because to the degree that Florida uses existing capacity, it may make it harder for renewables to compete. In the future, we are going to end up having a bit of competition in terms of capacity (especially if we are looking at a renewable portfolio standard [RPS]), and it should create caution about repowering in terms of setting up competition.

If the definition is expanded that would satisfy both sides.

TOM PETERSON took a straw poll and concluded that CCS can make clear to the Action Team that there is a diversity of views. Alison, can you restate the technical views represented here.

ALISON BAILIE: The reason for moving ESD-9 to Tier 1 is the estimated large potential for reductions from plant efficiency improvements, and there are data from utilities. The concern is about whether this would create a counteraction to renewables and about whether there is actually a need for any policy support.

The greatest gain isn't in heat rate improvement; it's modification of existing plants.

ESD-9 will move to Tier 1, based on a 6-to-2 vote.

Notional Cost Curve

TOM PETERSON noted that the sources for the cost curve we looked at last time are now in the PowerPoint.

ALISON BAILIE did receive useful data from a TWG member on existing buildings.

TOM PETERSON: As we go through the quantification of options, we will bring before you the data sources and ask for your help in bringing in more and better data as they become available. The South Carolina slide is purely for demonstration. The real Florida cost curves will be a product of the decisions made in the TWG.

In response to a question about the negative numbers in the Notional Cost Curve: These numbers represent cost per ton. We look at what it would cost to save X number of megawatt-hours (MWh) of electricity, and a negative number represents energy efficiency (EE) and a savings.

Why are they in this particular order, going left to right? They get more expensive as they move to the right. Emissions saved across the y axis is cumulative.

Slide 7 is based on 2025 projected emissions in the draft Inventory and Forecast (I&F). If you had a different level of demand, would it change? Yes, it would change the amount of reductions.

Was the I&F methodology presented prior? Yes, the information is on the Action Team ESD TWG Web page.

TOM PETERSON: Each of the supply curves is a story about agreements about which policy actions were chosen and how each of the options was designed.

Quantification Memo

ALISON BAILIE presented the quantification memo which explains how cost-effectiveness, dollars per ton is reached for the options. The Memo covers details such as the financial approach we use. For each year out to 2025, we will compare what the reference business as usual (BAU) case would have been without each of the policies. The other major aspect is “what is the cost” with and without the policy? What is the cost of the EE policy vs. the cost of NOT having the EE policy? We compare these two costs and we get the net cost/savings of the policy.

The final calculation is —here is what it costs in each year, and here is what is saved—and we take those cumulative costs and cumulative reductions and come up with a cumulative cost per ton. The projection period is up to 2025. We have to put some limits on our quantification. For example, if a policy will have a large impact after 2025, we will make it a quantitative statement. When we estimate emissions for cost, we do it one policy at a time. Toward the end, we calculate what happens when we combine policies and we are careful to eliminate overlap.

Question: Regarding avoided costs for electricity, we are going to want to arrive at figures on this. Do we have those figures in the options? Or do we need to put together a table?

At this point, we are gathering data. Alison needs to talk to the Public Service Commission (PSC) about data. Each of these points under section D is “here is the number we used.” The table will be ready early next week.

Data Sources:

- Avoided costs associated with the most recent electric capacity expansion plans in Florida; This is what Alison is currently approaching the PSC about, and we'll want to obtain data for short-long and long-term avoided costs.
- New centralized renewable installation energy cost and performance assumptions.

A typical starting place for data is the Energy Information Administration (EIA) Renewable Outlook and the Annual Energy Outlook, but we would prefer something Florida-specific for renewables, fossil fuel and nuclear.

It was noted that renewable technology is very site-specific (e.g., Florida has very tight building codes and availability of sites, that is, wind in Florida works only on the coasts). Technology is changing so quickly that it's hard to see what kind of numbers would be reliable.

ALISON BAILIE agreed and emphasized the importance of being explicit about the assumptions used. One missing assumption—What is the cost of a ton of CO₂ going forward? We tend to use what the cost of avoiding it is.

TOM PETERSON explains: A carbon price could be set by a policy or not, but you draw the data and at some point it will intersect with the blue line. And in terms of the Action Team process, what is the situation with co-benefits?

Some technologies are going to have a greater impact on CO₂ emissions than others. So assumptions can either bring a technology to a negative or a positive in terms of cost.

- New centralized fossil power station cost and performance assumptions.

ALISON BAILIE invited people to share information on new power plants (someone offered to send some to her) and renewable energy cost estimates. So far, data are hard to find for renewables such as offshore wind, central solar, and biomass.

Expect a diversity of views on the TWG about low- and/or short-term viability.

Data are also needed on avoided cost of the electric system.

- Fossil fuel price forecasts to electricity generation through 2025 (i.e., distillate, residual oil, natural gas, coal, and biomass);
- Any studies that provide spatial and temporal (as appropriate) quantitative estimates of renewable resource potential in Florida (wind, solar, biomass, and animal wastes);
- Any studies that provide an indication of the technical and economic potential of combined heat and power systems in Florida (both commercial and industrial applications);
- Any studies that provide the costs associated with integrating large amounts of intermittent renewable technologies into the system (where integration costs are expected to increase with increasing amounts of intermittent capacity);

- Any studies that examine alternative electric sector expansion plans in Florida that have considered decoupling profits from sales, lost revenue adjustments, inverted block rates for residential consumers, and/or use of carbon adders; and
- Any studies that examine the installation and operating costs of integrated gasification combined cycle (IGCC) systems in Florida.

Discussion of ESD-3. Renewable Energy Incentives and Barrier Removal

Policy Design

Goals: Increase distributed and central grid-based renewable energy demand in Florida by 1% to 2% per year (two separate scenarios), relative to a baseline to be established. Establish a goal that goes beyond 20% RPS goal set by Executive Order 7-127.

ALISON BAILIE question: Do we have a goal for 2025 in terms of renewables?

30% by 2030. Mix of distributed vs. central station. 2020 is what the PSC is looking at, in terms of realizing the RPS.

Are the technologies specified?

If you look under ESD-5 [Renewable Portfolio Standard (RPS)], **Other:** Eligible classes of renewable energy would include solar, wind, waste heat recovery, waste biomass, and ocean energy (current, tidal, and wave) (TBD). Special emphasis should be given to ramping up biomass. Consistency should be maintained if it is going to be pushing past the 20% goal—and that is how TWG member David Montgomery understands the state of the issue.

Is nuclear included?

The state has clearly defined renewables—in state law section 366.91: Hydrogen, geothermal, solar hot water, and solar photovoltaics (PV). JEREMY SUSAC: Nuclear is not included in the 366.91 definition of electrical energy that uses one of the following fuel sources: other biomass, solar, wind, ocean and hydroelectric power, water, waste heat from sulfuric acid manufacturing.

(b) “Renewable energy” means electrical energy produced from a method that uses one or more of the following fuels or energy sources: hydrogen produced from sources other than fossil fuels, biomass, solar energy, geothermal energy, wind energy, ocean energy, and hydroelectric power. The term includes the alternative energy resource, waste heat, from sulfuric acid manufacturing operations. http://www.flsenate.gov/Statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=Ch0366/SEC91.HTM&Title=->2007->Ch0366->Section%2091#0366.91

TOM PETERSON: Is anyone uncomfortable with using the legislature’s definition for ESD-3 and ESD-5 as a starting place? This is fine as a starting point but note that biomass was not included as an example in the same piece of legislation.

Is there any preference for in-state resources? In Parties Involved, include ‘to consumers in Florida from producers in Florida.’

ALISON BAILIE confirmed with the TWG that growth in the RPS goal should be continued up to 2025. There was concern about whether that goal was achievable but it was acknowledged that progress will not be linear, and that in other cases these kinds of goals are quickly achieved and surpassed.

TOM PETERSON concluded discussion of ESD-3 and ESD-5 noting that these directions will be set up as review draft for the next call.

ESD-6. Nuclear Power

Referring to the Table in ESD-6, the fourth column should be renamed from Duval to Georgia.

ESD-8. Combined Heat and Power (CHP) Systems

Fertilizer manufacturing was included. Is cost information for CHP available from these processes? What are the processor costs/typical size? What is the potential of CHP at these locations?

KAREN WEBB of the Public Service Commission offered to check on CHP information.

ALISON BAILIE: Data sources are being sought for waste heat recovery from industrial sources. Are size limits envisioned for CHP units? LINDA SCHADE recalled that the Action Team requested that the full range of options be considered.

What are the fuel inputs for this, but also biomass or coal or – should we look only at liquefied natural gas (LNG) or more? The Action Team did want biomass considered in a number of contexts.

ESD-9. Power Plant Efficiency Improvements

Policy Design

Goals: To improve the heat rates of all existing power plants of the state-wide fleet by an average of 10% through improvements in efficiency, fuel switching, and/or repowering. The cost of HB 7135 is to be included in baseline.

Timing: Improvements begin in 2012, ramping up to a 10% improvement by 2020.

Parties Involved: All power plants in the state.

Other: TBD

ESD-12. Demand-Side Management (DSM)/Energy Efficiency Programs, Funds, or Goals for Electricity

ALISON BAILIE explained that the policy goals brought modest reductions in growth and then modest decreases and asked the TWG if that was the intention. It was noted that if you look at what's going on in terms of passing on costs to users, there may be a resulting decrease in demand.

Summary Discussion

ALISON BAILIE summarized: The quantitative analysis is underway. Primary information sources will be ready for the Action Team. We have information on costs and resource potentials and we hope the TWG can supplement those sources. We'll have some fuel price and other cost tables. There will be a Table of Data Sources and Common Assumptions and an update on the I&F.

Will that table be brought to the Action Team? Yes.

Public Comment

MIRIAM MEKCHARGE is with CDM, an environmental consulting group that has been attending quite a few of these calls. She asked if this was the only opportunity for input by clients?

TOM PETERSON explained that, in addition to these calls, there are also Public Comment periods during the Action Team meetings and for the draft Final Report. I'd be happy to look into the possibility for a public comment line.

Next Steps

The date for call #15 is Wednesday, August 13, 2008, from 1:30 p.m. to 3:30 p.m. EDT.