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**MEETING SUMMARY**  
**ARKANSAS GOVERNOR'S COMMISSION ON GLOBAL WARMING**  
**Energy Supply (ES) Technical Work Group (TWG)**  
**Call #11, August 8, 2008**  
**1:00 p.m.–3:00 p.m. Central Time**

**Attendees**

**GCGW:** Rob Fisher; Art Hobson, PhD.; Kevan Inboden; Robert McAfee, PhD; Hugh McDonald; Kevin Smith; Gary Voigt; Kathy Webb

**Governor's Office:** Jillian Hicks

**Advisory Body Members:** None in attendance

**Center for Climate Strategies (CCS):** Tom Peterson, Bill Dougherty, Joan O'Callaghan

**Background Documents** (All posted at [www.arclimatechange.us/ee.cfm](http://www.arclimatechange.us/ee.cfm))

1. Notice and Agenda
2. PowerPoint for Teleconference
3. Draft ES Policy Option Descriptions
4. Call #10 Meeting Summary

**Introductions and Review of Agenda**

Tom Peterson initiated the call, welcomed the participants, and completed a roll call of the members of the ES TWG, GCGW Advisory Body, and public. During Call #10, several of the assumptions and data sources were revised, so during Call #11, Bill Dougherty presented new numbers for developing the greenhouse gas (GHG) forecast and quantifying the ES policy options.

**Discussion of Analytical Framework**

Capacity Expansion

The overall framework for developing the GHG mitigation analysis assumes two reference case scenarios. Reference Scenario #1 includes all planned capacity additions/retirements (including the Plum Point plant) without the Hempstead plant. Reference Scenario #2 includes all planned capacity additions/retirements, along with the Hempstead plant. The TWG agreed to these two scenarios during the discussion of the analysis for option ES-7 during Call #9 on 8 July.

Based on the new set of data provided by the ES TWG, the previously used 9,002-megawatt (MW) figure for electric generating capacity in the state is now 14,674 MW. The coal plant capacities were assumed to be 665 MW for Plum Point and 600 MW for Hempstead, based on state docket materials.

In addition, natural gas combined cycle capacity (NGCCC) was added to each Reference Scenario in order to satisfy the TWG-established criterion that Arkansas be self-sufficient in meeting its forecasted electricity demand (i.e., no imports in any year from the SPP/SERC regions).

### Gross Generation Forecast

Bill Dougherty reviewed how the gross generation forecast was developed, as summarized below:

- Historical nameplate capacity and net generation values were obtained for the 2005 base year by fuel type;
- Annual planned retirement/deratings/additions were integrated into the capacity expansion plan for the 2006–2025 period;
- Year 2005 capacity factors for existing capacity by fuel type were assumed to prevail for the 2006–2025 period;
- NGCCC units were built in increments of 250 MW, operating at an annual capacity factor of 65%, as needed to eliminate the need for imports in the years 2005–2025

A TWG member expressed concern that the capacity factor assumption is not necessarily applicable to the Arkansas electric system. This is due to the fact that heat rates of power stations in Arkansas tend to be greater than those of power stations in the surrounding North American Electric Reliability Council (NERC) regions, placing them at a competitive disadvantage from a power pool dispatch perspective. Hence, they would most likely not be dispatched in years where export power would otherwise be available under the assumptions of constant capacity factor over the 2006–2025 period. To represent this constraint in the gross generation forecast, existing natural gas-fired units in Arkansas will be dispatched less to achieve zero net exports in every year in the planning period.

Depending on the year, Arkansas may export a small amount of excess capacity (2%–9%). The TWG agreed that the national weighted average of 0.9% is a plausible estimate for Arkansas, and the proposed gross and net generation figures appear to be in the ballpark.

After discussion, it was agreed by the TWG that the 75% average annual capacity factors for the Plum Point and Hempstead plants to produce the gross generation forecast should be increased to 80%.

### Primary Energy Forecast and Electricity Imports/Exports Forecast

There were no changes to these forecasts.

### GHG Emissions Forecast

Reference Scenario #1 shows a big jump in GHG emissions with the Plum Point plant coming on line in 2010. Instead of the 6,719 British thermal units per kilowatt-hour (Btu/kWh) heat rate

currently being used for new NGCCC units in the analysis, the TWG agreed that this assumption should be increased to 7,200 Btu/kWh used.

It was explained that exports decrease in Scenario #2 because the Turk plant will come on line in 2012 and will displace less efficient natural gas units. Dougherty said that in the planned regulatory environment, units might be dispatched less, which he can model. That will show a fluctuation in the annual capacity factor for NGCC so that imports and exports are zero. Gary Voight noted that the Arkansas Electric Cooperative Corporation buys cheaper energy from out of state and ends up with unused capacity.

### ES-3A: Renewable Energy Portfolio

The analysis assumes the Southwest Power Pool region best approximates the renewable resource base in Arkansas, because the Southeastern Reliability Council region covers more of the southeastern states, where biomass availability is higher than in Arkansas. The analysis also assumes a 35% capacity factor for wind, and in 2025, 15% of total in-state generation will come from renewable energy resources. The assumptions for NGCCC backup capacity are 12% for solar and wind and 100% for biomass.

It was agreed that the capital cost numbers for solar photovoltaic are conservative (i.e., high), and basically assume that costs for the technology, while assumed to decrease over time, may not decrease as rapidly and to the extent as some analysts have argued.

The TWG-recommended criterion that Arkansas be self-sufficient in meeting its electricity demand was questioned. Some members noted that power suppliers will look for the least-cost sources of energy, regardless of whether they're in state or out of state, and an in-state production requirement will create an artificial incentive to increase energy prices. One TWG supports keeping this criterion because it has the capacity to produce economic benefits, green jobs, etc., for Arkansas. He and another TWG member will consult with outside experts and look into how other states are handling this issue, and will bring more information back for the TWG's consideration regarding the pros and cons of establishing a self-sufficiency criterion. Dougherty will break out the costs of producing wind energy in state and out of state if TWG members provide the necessary data for the analysis (e.g., capital costs, operation and maintenance costs, variable capacity factors for in-state renewables), and the assumptions he uses can be adjusted as the TWG recommends. This issue will also be made explicit in the write-up of the policy option document.

### ES-3B: Renewable Energy Feed-in Tariffs (REFIT)

REFIT will focus on in-state production of renewable energy. A TWG member proposed two additional sensitivity analyses: (1) a limitation on the amount of money that can be raised from ratepayers (e.g., not more than 5%), and (2) an aspirational goal of 500 MW of wind (not all renewables) by 2015.

### **Dates and Times for Next GCGW Meetings**

- Meeting #9, Tuesday, September 9, 2008, 9:30 am – 4:30 pm CDT
- Meeting #10, Thursday, September 25, 2008, 9:30 am – 4:30 pm CDT

**Dates and Times for Next ES TWG Meetings**

- Meeting #12, Friday, August 22, 2008, 3:00 pm – 5:00 pm CDT
- Meeting #13, Thursday, August 28, 2008, 1:00 pm – 3:00 pm CDT
- Meeting #14, Tuesday, September 16, 2008, 9:00 am – 11:00 pm CDT
- Meeting #15, Monday, September 22, 2008, 2:00 pm – 4:00 pm CDT

During the next teleconference call, the TWG will discuss the remaining policy options.

**Public Input and Announcements**

None.