

MGA Renewable Electricity &
Advanced Coal with Carbon Capture and Storage
Advisory Group (REACCS)

Renewable Electricity & Transmission Initiative Subgroup: Implementation Update

**May 11th, 2009
Minneapolis**



Roadmap Discussion

- Need roughly 4 top priorities from each AG for the Roadmap's Executive Summary
- Will jobs in the Forio model output?
- Would tax credit be regional or a continuation of the federal tax credit?
- Should baseline include renewables tax credit or not?
- ANSWER: Don't include the tax credit in the baseline, and the policy recommendation should be a longer-term federal tax credit (7-10 yrs.)

Roadmap Discussion

Possible scenario runs:

- High/low federal role
- High/low energy and carbon prices
- Need numbers and precise policy recommendation language.

EnergyChoice Model discussion

- No federal RPS in the baseline; Policy recommendation would be for a federal RPS to help create the national market for Midwest renewables.
- How much does achieving X% GHG reduction cost with and without particular policy options (e.g., RPS or tax credit)?
- Once you get above 20% renewables on the grid, you need to either export power out of MISO market or have large-scale storage.
- Need more discussion on all the factors that influence cost of CCS because model may be dramatically off (huge sensitivity swings).
- Are there any policies REACCS wants to have modeled?

EnergyChoice Model discussion

- Coal w/CCS may not lend itself to modeling.
- Why is existing pulverized coal going up at the end of the time period? (where are the plant retirements?)
- Should add pulverized coal with CCS
- Why is wind so low? (where are RPSs in the baseline?)
- Use RGOS numbers for RPS numbers (in place of 70/20/10 split among wind, biomass and solar). Available from MISO (Tom Stanton to help get these).

EnergyChoice Model discussion

- CCS capture rates should be 90% in 2020.
- Why is the natural gas CO₂ number so high?
- Need to show ranges that demonstrate changes in technology. Conservative and “optimistic” technology assumptions.
- “runs” are not the issue.
- Biggest challenge is a credible source for technology change numbers.

EnergyChoice Model discussion

Next Steps:

- ID policy recommendations REACCS group wants modeled. **Within 2 or 3 weeks.**
- Further explore option of reflecting technology change in model. Come up with numbers for changes in generation costs (by energy type) if these are to be reflected in the model.
- How will the output of the model be used? (as communications tool or not?).
- Do we need 6 more months to refine the model, because the current one doesn't feel like it reflects reality.
- How will REMI modeling interface with Forio modeling? Could output from REMI provide inputs for Forio model to illuminate jobs impacts of complementary policies?
- Where do ICF models and Forio models differ and why?

Top Recommendations for Roadmap Executive Summary

1. Transmission
2. Supportive and stable regulatory & financing environment

Next Steps

1. Develop master list of possible priority recommendations
2. Host conference calls or Webinars to present draft outline & discuss and winnow list and distill REACCS portion of Roadmap
3. Identify top 4 action items for Exec. Summary