

## MWG Call Summary Mar. 2, 2011

**Attending:** Ryan K., Jim Calore, John B., Tyler R., Samir S., Flora F., Chris H., Ben D'Antonio (States), Jeff B., Doug K., Steve G., Erin H., Lisa D., John Warren, Mariam S., Wil B., Ralph L. (CRA), Catherine M. (Keystone)

NOTE: Action Items in **Bold**

1. Carbon Cap & Trade vs. Carbon Price – Ralph L. (CRA)
  - MRN interlaces with the macroeconomic (electricity sector) NEEM model – each Future will be run to equilibrate throughout the economy the fuel prices, inflation rate, etc. Therefore if you inject a carbon tax, it will impact electricity demand, prices of fuels and a lot of other things before it reaches equilibrium. NG price for instance will start at AEO 11 and will change based on assumptions in the Future such as a carbon tax. Each sensitivity would be conducted with the MRN frozen in place and changes will only be made to NEEM assumptions. Don't want the noise in the economy to affect the change in the outputs on NEEM and the electricity sector.
  - Planned to do a carbon tax in first MRN-NEEM run of the futures. Takes about one day to run. Expect this to impact gas prices, GDP, etc. and those changes will be frozen for Sensitivities of that Future.
  - **Carbon tax** is more straight forward; easier to track changes in the electricity sector. May not get precise reduction required by the target and will not necessarily get the same reduction under the sensitivities. May need to specify if certain sectors are excluded from an economy-wide carbon tax (e.g. agriculture); will have the CO2 emissions from the BAU case in advance so MWG can determine how much more reduction is needed. Two important drivers are the relative price of coal and gas, environmental regulations, and the demand growth. CRA recommended this approach initially and still feels carbon tax is the best way to go. Could use high and low carbon price sensitivity to modify reduction levels.
  - **Cap & Trade** takes more specification of inputs in both MRN and NEEM including the reductions for each sector, what gases are under cap, international offsets, banking allowed, supply curves for industries excluded from cap, cost containment provisions, what happens to allowance auction revenue (current assumption is revenue will be reinjected to household incomes), etc. Would have to equilibrate for each sensitivity; takes more time to run than carbon tax, may be 2 or 3 days for a complete MRN-NEEM run.
  - **SPWG (Flora F.)** 3 options for SPWG to consider: streamlined cap & trade; fully defined cap & trade, or carbon tax; CRA doesn't believe the streamlined cap & trade will save much work and prefers carbon tax.
  - **John B. & Erin H.** also reminded the group that the schedule and budget constraints have to be considered, given the other uncertainties, John said that it would be advisable not to use the extra time for cap & trade.
  - **Ralph agreed to provide what CRA needs from MWG to define "economy-wide application" of carbon tax.**
2. **Complication of multiple region definitions** (NEEM regions, MRN regions, intermittency regions, "Super" regions) – Ralph explained that the results will be presented by NEEM region; he does not believe that the differences in regions will not be a problem overall.
3. Erin requested raw data and/or templates on how the output could be shared. Ralph expects that they will be able to provide an exhaustive set of outputs and would like to wait to provide first

round of BAU outputs. The MWG then can determine what the standardized output looks like.

#### 4. Subteam reports

- New generation: (Doug K.) Randall J. forming a matrix of items that require more discussion. Erin will provide link to US hydro data from DOE assessment. Looking at reserve margin credit for wind and other renewables to determine if it should be increased in some of the Futures. Waiting for feedback from PAs. Super region approach to define regions for RPS. Next call Fri., 3PM ET.
- NEEM Regions: (Tyler R.)
  - Transmission cost adder issue under further investigation. At this point not proposing any changes from BAU but once it is well understood, ensure that the PAs take it into account in high-level transmission analysis;
  - Future 4 – agreed that shouldn't change transfer sensitivity but accommodate more regional resources through incentives; Super Regions could be subject to increase in preference charges (to distinguish from hurdle rates)
  - HQ & Maritimes modeling in BAU is appropriate for remaining Futures. Some sensitivities with increased hydro imports could be addressed with increased capacity factors of hard-wired flows; increase CF of pseudo generators beyond load following rates. Still under discussion along with reverse flows of hydro during high wind scenarios.
  - Also plan to discuss how DC lines will be modeled
  - Outstanding questions on the initial transfer limits from Roll-up WG that have been sent to Dave W. John B. will follow up to find status.
- Environmental policies – (Tyler) subteam has discussed:
  - carbon tax vs cap & trade
  - application of alternative compliance payment (ACP) where appropriate
  - should tax be different in future 2 & 3 or varied by region
  - options for modeling RPS regionally, e.g. must be met exclusively within region and if it can't be met should ACP be set and how
  - RPS in Future 8 (combined policies) will be similar to carbon in 2&3 and RPS in 4&5.
  - Preference for off-shore wind in Future 4 will require specific incentives;
  - externalities needs further clarification
  - SPWG is split on whether in Future 5 tax credits for renewable resources should be applied to Canadian resources. Flora recommended the issue be put to the SSC for resolution.
- Fuels and Emissions (King L.) Subteam talking Thurs. at 11 ET; Still gathering information on the appropriate price for CO<sub>2</sub>; need to review BAU results; other issues resolved
- DR/EE/Smart Grid (King L) – Future 4: focus is the cost of EE, Smart metering and the levels of DR from end users (FERC study of DR potential) clarified that DR and EE increase by 5% pts each not in aggregate.
- Existing Generation – no updates

#### 5. Approach for presenting Model inputs at 3/28-29 SSC meeting. Below is a starting proposal for the order and SSC decision points:

**Day 1** - Remaining BAU Sensitivities and Future 7 (Nuclear)

Futures 2&3 (Carbon Policy - National & Regional Implementation)

[CAUCUS BREAKOUT SESSION – SSC DECISION ON BAU, 2,3,7]

Future 4 (Aggressive EE/RE/DR/Smart Grid)

**Day 2** – Futures 5&6 (RPS – National and Regional Implementation)

Future 8 (Combined)

[CAUCUS BREAKOUT SESSION – SSC DECISION ON 4,5,6 & 8]

**Comments due on this approach by noon Thurs.**

- 6. John B. will provide an update on the schedule for the GE-MAPs modeling**
7. Mary Ellen P. is stepping down from co-chair of MWG to take a new position within National Grid. She will be replaced by Tyler as subteam lead and Erin will remain as chair of MWG.