



MEETING SUMMARY
MINNESOTA CLIMATE ACTION PLAN TECHNICAL WORK GROUP

Residential, Commercial and Industrial TWG Meeting #9 Summary
November 28, 2007, 3:00-5:00pm

Prepared by Bill Sierks and Bill Dougherty

The meeting was called to order by Bill Dougherty at approximately 3:00 pm.

In attendance were the following TWG Members:

- Sheldon Strom- Center for Energy and Env., UoM
- John Carmody-UofM
- Doug Peterson-Center Point Energy
- Chuck Dayton-MCEA
- Joe Steffel-Buffalo Public Utility
- Rick Carter – LBH
- Cindy McComas – MN Tech Assistance Program
- Gary Connett-GRE (called in)
- Bruno Zagar- FDL (called in)

From MN state staff, the following were in attendance:

- Bill Sierks- MPCA
- David Thornton- MPCA
- Janet Streff- Commerce

From the public, the following were in attendance:

- Public: Kyle MacLaury (CEE)

From CCS staff, the following were in attendance:

- Bill Dougherty

TWG members not in attendance were :

- James Volanski – US Steel
- Greg Miller – ACS
- Pat Perry – Target
- John Kelley – Ryan
- Mark Wolak – Mahtomedi
- Ann Glumac – Duluth
- Jeff Korsmo – Mayo

- Jonathan Holmes – Mittal
- John Brandl – UofM, Humphrey Institute
- KC Chermak – Pillar Homes
- Jeff Wilkes – FH
- Jeff Muffat-3M
- Cherie Shoquist-Minnesota Housing
- Mike Robertson-Commerce

The following background documents that were used as the basis for the discussions were posted on the website in advance of the meeting. These included the following documents:

- Meeting Notice and Agenda
- Summary of Call #8
- Powerpoint Presentation for meeting
- Analysis spreadsheets for each of the priority options (note: not posted; these spreadsheets have been distributed to TWG members individually)

The agenda for the meeting was as follows:

1. Call to order
2. Roll Call of TWG members and public
3. Review and approval of summary of TWG Meeting #8 (October 23, 2007)
4. Review of MN CCAG Process and Expected Next Steps
5. Discussion of revised catalog descriptions (Chuck Dayton)
6. Discussion of results of the analysis of RCI mitigation options
7. Proposed agenda, time and date for NEXT meeting
8. Public input and announcements

Bill Dougherty called the meeting to order and took the roll call (as summarized above) and indicated that the primary focus of the call was to review updates to the analysis of the RCI mitigation options. The meeting got underway with a review of the assumptions supporting the calculated greenhouse gas emission reductions and cost/benefits of implementing the various options.

DISCUSSION OF REVISED CATALOG DESCRIPTIONS

Sale Forecasts

- With respect to the recent NERC regional forecast report, the RCI-TWG discussed that the region was growing much more quickly than we expected. Average annual growth was between 0.5% to 1.7 – 1.8% annually, and the TWG initially chose 1.72% with an embedded 0.5% energy efficiency savings. This average 1.72% growth rate has been very consistent over 10 years, however, a higher growth rate forecast means that MN will need to reduce GHG emissions even further. The ES-TWG has considered this and reexamined 0.5% growth rate.

- The consensus of the RCI TWG was that there should be a good reason *not* to go with the historic trend line. It recommends to the ES-TWG stay with the 1.7% figure and deduct 1% or 0.9% to reflect the 1.5% energy savings legislative directive, which results in using about 0.7% growth as the factor. (Recommendation sent to ES-TWG)
- A separate question was whether to interpret the new CIP legislation as 1.5% minus the embedded energy savings. One interpretation argues that embedded energy savings has nothing to do with the new savings mandate and that utilities must cut 1% off of the 3-year sale. One member explained that 1.5% is not an absolute reduction in growth. (Recommendation to be communicated to the ES-TWG)

Avoided Cost:

- In discussing the capital cost of pulverized coal compared with IGCC and NGCC, the RCI TWG felt that the B&V's cost & performance assumptions were the most accurate while the EIA study is fairly low. The ES TWG adjusted number up 50% to have a 4%/yr real escalation increase, making their estimates even higher than the B&V calculations. Similarly, the RCI group agreed that they would respond on the viability of the capital costs (Slide 36).
- Shows estimated avoided costs of \$71/MWh. The higher the avoided cost, the more attractive energy efficiency looks economically. Bill emphasized that the \$71 avoided cost is before the 50% markup and does not include any carbon tax costs. MISO will eventually charge this rate to provide energy – this reflects cost in the future of new energy

DISCUSSION OF RESULTS OF THE ANALYSIS OF RCI MITIGATION OPTIONS

RCI-1: CIP

- MN will save \$30/ton of CO₂ avoided, and even more when the \$71 for new capacity increases to approximately \$90/MWh based on the revised assumptions earlier discussed.
- The levelized costs of \$15/MWh to achieve these savings should be compared to the \$71 for cost of new production. This is a very favorable for energy efficiency and conservation.
- TWG discussed a possible need to change the 0.7% savings on annual sales growth to 0.9% based on earlier discussion.

RCI 2: Building Codes

- The analysis currently assumes an increase in enforcement from 85% to 100%, some TWG members felt this was not realistic because 65% of new growth is occurring in the 15% area not subject to enforcement right now. Expanding coverage to statewide, however, will be more than increasing from 85% to 100%, especially since licensed general contractors would build to code even in the non-mandatory areas.
- Results using default assumptions are for electricity only (slide 65), and will remain as such unless Janet Streff provides better estimates for how much new construction in the 15% not covered by enforcement of code will be done by licensed general contractors.

RCI 3: Green Buildings

- The analysis assumes that new buildings will meet the then-existing code. If we quantify the number of buildings renovated between now and 2025 and assume how many square feet would be rehabilitated, the results could be added to RCI 2 and RCI 13.
- Some discussion around whether the analysis models only the buildings for which green building code is mandatory and why it has not included a reasonable percentage of buildings that would voluntarily retrofit. Since a number of voluntary buildings will be affected by incentives, the group decided to add a reasonable assumption for renovation, and will not assume that *all* new buildings will be included: 80% & 40% for new construction; 50% for rehabs.

RCI 4: CHP

Assumptions for natural gas, biomass and coal are okay for now thought they may be higher for biomass and lower for coal. The group discussed what a realistic growth capacity is for CHP and agreed that TWG should only go for 1,000 MW as realistic, which would result in roughly 35 million tons of avoided GHGs rather than the current analysis, which aims for 2,100 MW incremental installed capacity with 65.5 million tons of avoided GHGs cumulatively by 2025.

RCI 5: High GWP Emissions

Chuck Dayton discussed his edits that were circulated by email. Analysis of RCI 5 is still underway, with high GHG potential reductions although cumulative reductions are anticipated to be modest (less than 1 million tonnes cumulatively). A comment was that buildings were over 50% of the problem, and that we need to be about half of the solution.

RCI 6: Non-utility strategies

- The TWG discussed the relationship between technical assistance and visits to industry. Current assumptions: 10,000 visits to residential consumers, 1500 to commercial, and 300 to industrial annually. A high level of visits each year yields at 80 million tons of reductions at a large cost savings.
- Concern over whether TWG was double-counting the savings with the CIP, so it was proposed to limit this analysis to only 10% of the technical assistance visits originally proposed. This will reduce the GHG reduction and NPV costs substantially.

RCI 7: Conservation Improvement-type Program for Propane and fuel oil efficiency

The analysis of this options is still underway.

RCI 8 & 9 : Energy Performance Disclosure and Promote Technology-Specific Applications to Reduce GHG Emissions

For both these options, the group agreed not to quantify earlier. RCI 8 supports behavior modification, which is hard to quantify. The group agreed that the RCI-9's impact is quantified and embedded in RCI 3.

RCI 10: Appliance Standards

Even though market penetration and turnover are unknown, the group decided to quantify the federal and state standards that are quantifiable.

SCHEDULE:

The next ES TWG meeting is December 6th, from 3:00 to 5:00 PM following the December 5th MCCAG meeting.

PUBLIC COMMENTS:

There were no members public no comments.

ANNOUNCEMENTS

There were no announcements.