

MEMORANDUM

TO: Michigan Residential Commercial and Industrial (RCI) Technical Work Group (TWG)

FROM: Matthew Brown and Ken Colburn, Center for Climate Strategies

DATE: September 24, 2008

RE: Quantification issues and overlap among policies

There are several issues that we should address on Thursday related to quantification and the overlap among policies in the RCI and ES Technical Work Groups. Specifically:

- (1) There appears to be merit in consolidating or combining the following four policies: RCI-6, RCI-8, ES-12 and ES-1. The RCI TWG has had initial discussions on this topic with respect to the first three policies. The potential for including ES-1 is new, an idea that arose as we developed our plans for quantifying these options.
- (2) Given an apparent lack of data, we may need to consider revising the RCI-10 policy option to some degree.

Overlap and Conflict Among RCI-6, RCI-8, ES-1 and ES-12

Overview of the Four Policy Options

ES-1 (Renewable Portfolio Standard): Total annual sales of renewable energy target set at 10% by 2015, 20% by 2020, 25% by 2025 and 30% by 2030.

ES-12 (Distributed renewable energy incentives, barrier removal, and development issues including grid access): New distributed renewable energy to reach 1% of Michigan's peak load by 2015 and increase to 3% of peak load per year through 2025. Based on data for Michigan's 2006 peak load from the 21st Century Energy Plan of 23,756 MW, this goal would require approximately 240 MW[1] of new distributed renewable energy by 2015 increasing to reach 715 MW of new distributed renewable energy by 2025.

Small-scale renewable energy not connected to the grid and non-electric generating renewable resources such as geothermal heating and cooling and solar thermal domestic water heating systems should be encouraged. Incentive programs should be developed such that, by 2025, an additional 1% of Michigan households are making use of these systems.

RCI-6 (Incentives to Promote Renewable Energy Systems Implementation): Goal is to increase total annual electrical generation from small-scale customer-sited distributed renewable sources in Michigan to 1% of total annual MWh by 2010, then increasing by an additional 1% per year through 2025 (i.e., 5% in Year 2; 6% in Year 3, etc.); and

RCI-8 (Net Metering for Distributed Generation): Goal is 2% of statewide summer peak or approximately 475 MW.

Considerations and Comparisons

The four policies overlap in several respects, with the primary overlaps occurring between ES-12 and RCI-8 on the one hand and ES-1 and RCI-6 on the other. Specifically:

- The ES-12 policy specifies a *peak load distributed renewable energy goal* that will come from renewable energy technologies, and sets out a phased-in goal of 1% in 2015 to 3% in 2025. ES-12 suggests a variety of policy options to achieve the goal including net metering but also looking at variations of the Feed-In tariff.
- RCI-8 sets out a *peak load goal for distributed generation* but does not specify if it will be renewable technologies or fossil technologies. That goal is set at 2% of peak load in 2012, continuing at this percentage as demand grows. RCI-8 focuses on net metering as the way to achieve this goal.
- The ES-1 policy sets out a *goal for energy* (MWh) rather than peak and provides for both distributed and central station generation. Goal is 10% by 2015, increasing thereafter as noted above.
- RCI-6 sets out a *goal for energy* (MWh) rather than peak and focuses on distributed renewable energy. The goal is set at 1% of total generation by 2010, increasing by 1% each year through 2025. This would mean that 24% of Michigan's total load would be met by distributed renewable energy by 2025. That would put Michigan essentially among the top 3 or so states as far as a renewable energy goal -- except that the Michigan goal is only for distributed resources rather than central station. The closest comparable goal for solar DG is in Arizona at 4.5% by 2025, meaning Michigan's goal is 5 times greater than Arizona's -- although Arizona's solar resource is considerably better than Michigan's. It is unclear how this goal interacts with the ES-1 goal.

We have talked about whether to combine RCI-6 and RCI-8, and we have talked about whether to fold them into ES-12. We have not addressed the overlap between ES-1 and RCI-6.

Potential Resolution of Issue

Given the similarity of the ES-12 goals and the RCI-8 goals, we would suggest that the TWG give consideration to merging RCI-8 into ES-12. Further, given the similarity and overlap between ES-1 and RCI-6, we would suggest giving consideration to merging the two of those, perhaps with a DG carve-out within the RPS. Combining the goals in this way could avoid some fairly significant conflicts that appear to exist among the four policies.

RCI-10: Water Use and Management

The current POD states that the specific goals are:

- Improve the average energy efficiency of water utilities in the state (in terms of kWh used per gallon pumped) by 20% over the course of three years.
- Achieve a 10% overall water savings by 2025.

Matthew has spent some fairly significant amount of time attempting to derive a baseline level of energy use by water utilities in Michigan and have not been successful in identifying a source for this information. He has spoken to both water utilities and to the MDEQ staff responsible for the water utilities. Apparently data on energy consumption is not required to be reported and is not in most cases tracked or reported. In some cases water utilities do track this data, but if it is available, it apparently would require contacting each of the water utilities separately in order to find out.

Is anyone on the RCI TWG aware of good sources for this data? If not, the TWG may need to consider revising the goal to (1) require that utilities track and report energy usage and (2) conduct a study of potential for improvements in energy efficiency by water utilities. This could be accompanied by another, quantified, goal but without data it will difficult to provide a quantified estimate of GHG or energy savings.