

# Maryland Commission on Climate Change

## Mitigation Working Group

November 13, 2018

Webinar Notes

Attendance: Attendance: Stuart Clarke, Mike Powell, Tad Aburn, Audrey Lyke, Colby Ferguson, Lisa McNeilly, Tom Ballentine, Colleen Turner, Tom Weissinger, Drew Cobbs, Gerrit Knaap, Elliott Campbell, Brian Hug, Chris Hoagland, Mike Siers (RESI, presenter), Tory Clark (E3, presenter) Anne Lindner, Susanne Brogan, Marcus Koblitz (API), Dori Paster (Sierra Club), Elizabeth Bunn (Sierra Club), Lindsey Mendelson (Sierra Club), Ruth White (Sierra Club), Gary Greening (MDOT/Michael Baker), Jim Frazier (Michael Baker), John Mosheim (GHG Engineering), Dorothy Morrison (MDOT), Bihui Xu (MDP), David Costello (MD Climate Action Now), Donald Goldberg (Climate Law & Policy Project), Cecilia Moura (Union of Concerned Scientists), Gail B. Landy, David Jackson, Jessica Lincoln, Kate McCormick, Jess Herpel (MDE), Joe Lutz (MDE), Lisa Nissley (MDE), Luke Wisniewski (MDE), Hannah Brubach (MDE), Chris Beck (MDE), and 13 unidentified guests.

### 1. Welcome and Introductions

- Brian called the meeting to order and introduced the speakers and process.

### 2. Public Comment

- Cecilia Moura (Union of Concerned Scientists) - Announced a report from UCS and M.J. Bradley, regional analysis of a clean on-road transportation system, which can be found at UCS website. The study showed Maryland would get big returns on the investment, and see a significant reduction in emissions by 2050. She would propose the creation of a clean transportation investment fund and implementation of a market-based limit on transportation emissions.
- John Mosheim (GHG Engineering) - Encouraged consideration of electricity imports as part of the overall strategy, noting that this part of the inventory is not entirely clear given that PJM fuel mix is somewhat similar to Maryland's.

### 3. Overview of Modeling Results

Tory Clark presented for E3, and Mike Siers presented for RESI (presentations available on the MCCC website). Questions followed.

- Transportation: It was noted that a large portion of the emissions reductions seem to be coming from a decline in the transportation emissions lead by the transition to zero emission vehicles. The modeling included the ZEV programs that MDOT has in the works. They also accounted for in a stock rollover in the model, which avoids double-counting. There would be some additional impact due to investment of revenue from programs but there is uncertainty regarding how many vehicles could be funded from that money (how to translate revenue into vehicle sales).
- Transportation Impact on Industry: Clarification was requested regarding the apparent lack of impact on industrial sources, considering that a large percentage of industry costs are in transportation (trucking). Per the GGRA, the Plan cannot have a negative impact on the manufacturing sector. If there is a negative impact on trucking, and that affects industry, this impact must be accounted for.
  - These effects have been included in emissions modeling, but would be seen in the transportation sub-sectors. It is also included in the economic model, in accounting for the activity of the states in a region.
  - The current model results show a slight benefit for the manufacturing sector through 2030 and 2050. This increase comes in spite of the fact that much of the reduction in gas consumption has a negative impact on the gasoline/fuel manufacturing sector, as machines manufacturing will have a much higher gain in output.
- Some impacts of the existing emissions inventory on the modeling were clarified:
  - Industry emissions in the inventory are from direct combustion at industrial facilities. Since the carbon price would not be imposed on these facilities, they would not be impacted by it.
  - The non-combustion emissions from agriculture are captured more in the economic model rather than the emissions model, due to the way that emissions inventory is carved out.

- Regarding imported electricity:
  - The model assumed that as coal and oil are reduced, there is an increase in imports from PJM, and the imported power is still assumed to maintain the PJM energy mix.
  - The tax was imposed on imported electricity, so the tons associated with imported electricity do add to the carbon price revenue. However, since those apply to the utilities, it doesn't affect the cost of running those plants, and they're still seen as a lower-cost source. The tax doesn't make imported power more expensive. It also does not generally drive any additional renewable electricity imports for a similar reason.
- Regarding the competitiveness of various electricity fuel sources, it was clarified that constraints were placed on solar and wind in the model, based on PJM's determination that the grid can handle max 30% renewables.
- Regarding the cost of electricity for consumers, they consider the increase in revenue for electricity, but also that consumers are spending more on electricity (less on all other goods). Rate increases for the model are an output of PATHWAYS, which has both fuel rate changes and total amount/demand. Much of the increase in cost shown was the revenues paid by utilities that accrue to the State.
- Regarding the inclusion of purple line jobs, the initial spike in 2022 is due to the near-term infrastructure spending which includes but is not limited to the Purple Line (about 5k of the 15k). This is an increase in spending that would not have otherwise occurred (Federal money, not double-counting State money). Although the project is currently committed, at the time of the base case design, it was not official. Since it wasn't included in the reference case, it has to be included in policy scenarios.
- Concerns were expressed that the policy scenarios seem urban centric, and discount the impacts in the rural areas of the State, possibly underestimating impacts on agriculture (overestimating how much people would buy locally produced goods, related to changes in fuel price). As the #1 industry in the State, including so many secondary services/jobs tied to the industry, agriculture has a very large impact.
  - The modelers are actively working to include both urban and rural impacts, and are happy to discuss ways to improve the economic modeling. They are modeling job gains in Western MD and Eastern Shore, especially related to adaptation and resilience.
- Some basic clarifications were made regarding the model:
  - The reference case used 1.7% annual VMT growth.
  - The income is in real dollars.
  - The model does not retire power plants if/when they become uneconomic.
  - The renewable fuel standard was incorporated in the modeling, and the existing requirements are embedded in the reference case as well.
- Regarding job losses, it was clarified that, on average, none of the industry groups experience a large fail level. When you get more granular there are going to be changes but they were not sure off hand.

#### **4. New Business**

- No new business was brought forward. Brian ended the webinar.
- Brian reminded everyone of the Commission meeting on Thursday for the 2018 Report. He also noted that when new modeling becomes available for GGRA we will let everyone know.