

Cross-Sector Mitigation Subcommittee Meeting
June 15, 2023 – Minutes

Date/Time: Thursday June 15, 2023, 12:00 PM
Location: Virtual Meeting – The meeting was recorded and posted publicly.
Members Present: TJ Poor, Richard Cowart, Gina Campoli, Jared Duval, David Farnsworth, Bram Kleppner, Liz Miller, Johanna Miller, Adam Sherman, Andrea Wright, Peter Sterling, Megan O’Toole.

Minutes: The Minutes of May 18, 2023 were approved as presented, with the correction of one typo.

Agenda: The posted agenda was accepted without modification.

TJ Poor chaired the meeting, with minutes being taken by Richard Cowart.

Transitions: Peter Sterling was welcomed as a new Member, representing the clean energy sector. Kelly Klein has informed the Committee that she will need to resign as the Committee representative from the Just Transitions Committee due to her appointment to the Steering Committee

Presentation on Buildings/Thermal Energy Sector Emissions

David Hill (EFG) and Taylor Binnington (SEI) -- The modeling team presented their updates to the business as usual (BAU) baseline emission projections, taking into account changes since the modeling that was done for the CAP. This modeling work focused on the thermal/buildings sector, but also took into account updates in the transportation sector.

The presentation began with a summary of changes underway in both the thermal and transportation sectors. The presentation is posted here:

[https://outside.vermont.gov/agency/anr/climatecouncil/Shared%20Documents/x-sector%20and%20task%20group%20revised baseline results 6 15 2023.pdf](https://outside.vermont.gov/agency/anr/climatecouncil/Shared%20Documents/x-sector%20and%20task%20group%20revised%20baseline%20results%206%2015%202023.pdf)

The overall conclusion is that the new baseline for the thermal sector shows that Vermont can meet the 2025 GHG reduction mandate, but that there will be a growing gap in 2030. However, largely due to assumed increases in the baseline assumptions for heat pumps installed and the implementation of transportation regulations, the gap is significantly smaller than it was shown to be in the previous Pathways report.

Jared Duval pointed out that the percentage reductions required in each sector (sectoral shares) has changed over time, and that the common frame of reference should be the 2018 sectoral distribution of emissions. TJ Poor and the presenting team agreed and asked for EAN’s data on this point.

Taylor Binnington reported on the following assumptions and changes compared to earlier baselines:

1. Residential Heat Projections:
 - Projections on heat pump installations including increased adoption mainly based on VEIC/Efficiency Vermont forecasts as well as due to IRA funding
 - The share of heat load avoided by each HP is slightly reduced, but the number of HPs that would be deployed is increased. Over 200,000 units by 2030 and between 400,000 and 500,000 HPs expected by 2050.
 - Individual HPs on average would avoid about 25% of the heat load in a home, so many homes would need more than one.
 - Manufacturers now estimate that sales of HPs will increase by 6% per year due to the IRA.
 - A small number of advanced pellet boilers are added in single-family and multi-family homes. By 2030, ¼% of rural SF HH in rural areas are expected to convert to wood or pellet stoves each year.
2. Weatherization: increased the number of weatherization jobs expected, adding about 4800 additional retrofits between 2025-2030. The chart reveals a huge spike in weatherization jobs delivered during the IRA years, followed by a sharp drop off.
3. Residential water heating: by 2050 about 50% of H2O heat in SF homes expected to be met by HP water heating.
4. Commercial heat pumps: HPs expected to displace a substantial fraction of commercial fossil heat, particularly oil, but also gas and propane.
5. Transportation assumptions:
 - Advanced Clean Cars II and Advanced Clean Trucks policies are now assumed to be implemented. New passenger vehicles will be weighted heavily to battery electric vehicles (BEVs) and a small fraction of plug in hybrid electric vehicles (PHEVs)
 - New trucks will convert more slowly.
 - The on-road fleet will also convert more slowly, as pre-existing vehicles will continue to be in operation.
6. Revised Baseline GHG Results
 - The new model shows revisions to the BAU that will reduce about half of the 2030 “gap” between emissions and the GWSA targets that was previously calculated.
7. Public Comments:
 - Pike Porter – IMPLAN models can mischaracterize economic impacts of natural disasters, so we need to be very careful about relying on IMPLAN. The Subcommittee recognized that econometric modeling has limitations, and noted that the modeling reported here today was not based on IMPLAN modeling.
 - Ashley Adams – Stated that the inventories in New York and Massachusetts do not assume biomass combustion is GHG neutral, and urged that Vermont should follow

this approach to the use of biomass. The Subcommittee recognized that the Vermont inventory is being revised in other venues, and stated that the modeling here shows declines in net emission sequestration in the land use sector, where this effect and others, are reflected.

8. Final energy demand by end use sectors was shown.
9. Revised impacts on electricity demand projected:
 - Peak load impacts of electrification, if not managed, would raise Vermont's peak load to roughly 2000 MW, but much of this impact could be reduced through peak load management, keeping total peak loads relatively constant.

Discussion: Jared Duval asked about assumptions on population growth. The BAU model assumes only a small rate of growth in the number of households in Vermont by 2050. (Just going from 240,000 households to 248,000 households).

Transportation Strategy Task Group report

Johanna Miller reported on behalf of the Working Group, with additional input from Gina Campoli and Megan O'Toole

- The group is working from the baseline including the Clean Cars and Trucks policies, and the AOT Carbon Reduction Strategy policies.
- We will still need an overarching policy to ensure that Vermont will meet the GWSA goals. Options to consider include: Joining Western Climate Initiative, or a New York-based cap and trade program; or adopting a Low Carbon Fuel Standard for Vermont.
- Gina Campoli – agreed that the Task Group and the Committee need to examine these major issues in coming months.
- Megan O'Toole reported that New York is examining a statewide carbon cap program, and that they could report on their planning process, with a focus on the transportation sector for our next Committee meeting.
- Jared Duval asked for a report from New York that would include an overview of an economy-wide cap-and-invest program as well as a more in-depth look at how transportation fuels would be addressed in the NY program. Megan O'Toole stated that she would discuss this with the NY representatives who will speak with the Committee at our next meeting.

Public comments: There were no additional public comments

The meeting was adjourned at 2:01 pm.