

Clean Heat Standard Technical Advisory Group
May 2, 2024, Meeting Minutes

Attendees

- Members of the Technical Advisory Group present
 - Matt Cota, Meadow Hill Consulting
 - Luce Hillman, University of Vermont
 - Ken Jones, Individual
 - Michelle Keller, Fraktalas Energy
 - Casey Lamont, Burlington Electric Department
 - Sam Lehr, Coalition for Renewable Natural Gas
 - Emily Levin, Northeast States Coordinated Air Use Management
 - TJ Poor, Vermont Department of Public Service
 - Emily Roscoe, Efficiency Vermont
 - Jared Ulmer, Vermont Department of Health
 - Floyd Vergara, Clean Fuels Alliance America
 - Rick Weston, Individual
 - Patrick Wood, Ag Methane Advisors
 - Brian Woods, Vermont Agency of Natural Resources
- Facilitator
 - Catherine Morris, Consensus Building Institute
- Participating Vermont Public Utility Commission staff
 - Dominic Gatti
 - Tom Knauer
 - Deirdre Morris

Welcome & Review of agenda [Time Stamp 0:00:00]

- Initiate recording
- Request for AI transcript
- Instructions for Captions
- Clarification on public engagement opportunities

[Zoom is able to produce a transcript of these meetings. Unfortunately, we do not have the resources to review these transcripts for accuracy. As such, copies of this transcript would come with the disclaimer that they are not officially part of the record. Those who would like a copy of the Zoom-generated transcript, please email Catherine at: cmorris@cbi.org.]

Review and approval of [4/18/24](#) meeting minutes [Time Stamp 0:08:48]

[Matt Cota moved to approve the 4/18/24 minutes. Michelle Keller and Emily Levin abstained. None opposed. Minutes approved at 9:44 am.]

Updates from the PUC [Time Stamp 0:11:00]

- General updates
 - S305 update
 - Update on vacancy nominations
 - [Revised PUC revised work schedule](#)

[Deirdre will forward the TAG solicitation (for the open seat) to the group once it has been issued in the cases.]

Opinion Dynamics measure list (shared in advance) [Time Stamp 0:14:30]

[Opinion Dynamics largely looked to Act 18 to develop the specific measures that are included in the list; they also referenced the energy efficiency TRM, Tier III TRM, and NV5's potential study measure list.

[Discussions included topics around: assumptions of load shifting around utility-controlled electric water heaters; whether “grid electricity” meant the Vermont portfolio or short-term marginal emissions of the regional grid; how measures would be translated to fuel pathways, if a distinction was being made between biomethane and biogas; how prescriptive the TRM will be; and what constitutes advanced wood heating. Please see video recording for additional context.]

West Coast carbon reduction programs [Time Stamp 0:49:45]

- Lifecycle assessments and carbon intensity (CI)
- Setting CI targets
- Generating credits

[See presentation in TAG Meeting Materials.]

Break (move up) [Time Stamp 1:24:04]

Equity Advisory Group Report [Time Stamp 1:32:04]

- Efficiency VT LMI on low and middle income (LMI) definition & PUC compilation of state programs (*shared in advance*)
- Equity Framework (*shared in advance*)
- Other updates

[See EAG-transmitted materials in TAG Meeting Materials. Equity Framework is a work-in-progress, EAG will consider the suggestion to incorporate a priority ranking of the categories. Intended to be used as a broad decision-making tool.]

Breakout groups [Time Stamp 1:40:00]

- **Credit ownership**
- **Bioenergy** (*materials shared in advance*)
 - Consider the basic approach to be used for all forms of bioenergy
 - Discuss the role of the breakout group and TAG in communicating with the consultants
 - Review the GWPBio approach to addressing emissions from woody biomass
- **Pacing**
 - Review of Pacing Group's near-term goals
 - Key Elements of DPS Straw Proposal Phase I (latest revision, if applicable)
 - Latest Pacing information from ANR

Report back from Breakout sessions [Video cut off and did not record the remainder of the meeting]

Credit Ownership (provided by Rick Weston)

The break-out group continued its discussion, begun in the previous meeting, of the PUC staff's straw proposal on credit ownership. The four questions asked by the PUC staff provided the structure for the discussion. Although the group had not previously come to resolution of the several issues raised by staff's second question, it decided to move on to the third question given the absence from the meeting of a couple of the sub-group's participants.

The third question is "Should customers first evaluate and give informed consent to a deliverer-initiated use of a delivered clean heat measure, no matter the blend percentage?" The discussion focused on delivered fuels, both regulated (natural gas) and unregulated (fuel oil, propane, etc.). Points raised (but not necessarily agreed on) included the following:

Natural Gas. Vermont Gas Systems is the sole retail provider of natural gas in Vermont. Being regulated by the PUC, it will comply with whatever rules and requirements the PUC sets for it, with respect to both customer notice and the blending of natural gas with renewable natural gas (RNG). Credits associated with RNG that is procured by VGS, blended with its fossil gas, and distributed to all customers as the basic tariffed product will be owned by VGS. Credits created by voluntary purchases by customers (most likely to be large users such as UVM) will be owned by the customer, who, by means of contractual provisions, will sell them to VGS.

Unregulated Heating Fuels. Technical limitations of the burners of boilers and furnaces will constrain blending of biofuels with fuel oil to at most 20%. Greater proportions of biofuels will require changes to the burner tips. The blends vary. They are not always 20%, but can be lower at times. Credits created by fuel-purchase decisions (i.e., blends of 20% or less) made by the retailer to meet all or a part of its obligations under the clean heat program belong to the obligated party. No informed consent is required except where a customer has a choice of blends.

Practical Considerations. It's unlikely that we'll see a market for trading credits in which individual residential customers can participate anytime soon, if at all. The staff proposal assumes that there will be contractual provisions that enable the movement of credits to the obligated party in a fully transparent fashion. As for blended fuels, there should be assurances that they do not exceed a level (thought to be 20%) above which damage to boilers and burners can occur. The idea of burner tip inspections, analogous to fuel tank inspections, was floated. The intent would be to assure that a boiler or furnace is "burner-tip ready." It was noted that the big three furnace and boiler manufacturers have been, since 2023, producing only bio-fuel compatible burner tips.

The PUC has asked for TAG feedback on the staff proposal by May 17th. Rick Weston will prepare a document for the breakout group and then the TAG in full to discuss during the May 16th meeting. The document will detail the status of the TAG's thinking on credit ownership: where there is agreement, if any, and where points of contention lie. The aim is to send a TAG-approved statement to the PUC on the 17th.

Pacing (provided by Michelle Keller)

- *This group was unable to meet during the week of April 22-26, so started by picking up the discussion from the April 4th meeting and bringing all members up to date on goals and progress thus far.*
- *We thank Brian Woods for sharing, through TJ Poor, the Agency of Natural Resources (ANR) data to date on the GHG Inventory as of April 2023 and the working targets for the 2020 Global Warming Solutions Act, which are referenced in the Clean Heat Standard*
 - *These data are tracked by ANR by sector emissions, including Fossil Fuel Industry sector.*
 - *Noted a time lag in reporting, and the fact that this group and the TAG in general need to keep that in mind for our recommendations.*
- *The group confirmed its intent to utilize the DPS Pacing Straw Proposal (filed 16 Feb 24 <http://epuc.vermont.gov/?q=downloadfile/705161/190907>) as the initial framework for decision points, along with the other Pacing comment filings, the PUC February 23 workshop on the topic, and updated PUC Work Plan document that was filed on April 19 (<http://epuc.vermont.gov/?q=downloadfile/713944/190907>).*
- *The group noted the various considerations while proposing a trajectory (at this point, linear vs. a parabolic curve) for projected targets between 2025 and 2030, including program and workforce development over the first years, reconciling state's life-cycle emissions and GHG inventory data, and baseline assumptions.*
- *Input from other work – by full TAG, other breakout groups, consultants – will impact this Pacing group's recommendations.*
- *The group will meet again on Wed, May 8 in order to*
 - *define near term deliverables and timeline for this subgroup*
 - *propose an initial trajectory for clean heat credit retirement,*

- *identify key dependencies with other breakout groups, consultant efforts, or PUC and legislature decisions on the near- and long-term deliverables from Pacing subgroup.*

Bioenergy (provided by Ken Jones)

Both of the presentations prior to the breakout group (draft list of Clean Heat Measures and the experiences in the western states developing carbon intensities with GREET) provided a strong starting point for our discussion. From those presentations, the question arose as to the appropriate role of the breakout group to provide guidance (through the TAG, in its entirety) to the consultants that ultimately are going to have to provide detail for the assumptions behind their analysis that produces carbon intensity values for each fuel pathway.

One of our members drafted three key messages that could serve as the basis for communication to the consultants:

- 1. At a high level, analyze bioenergy consistent with science-based standards (IPCC, EPA, WRI, etc.)*
- 2. Consistent LCA model for all fuels (CA-GREET, ultimately modified "VT"-GREET)*
- 3. For inventory: Look at precedent in programs which are currently reconciling LCA-based programs with state-level inventory (CA, OR, WA)*

The first two of these received general agreement and the third needs a little more context.

For the past two meetings, we have discussed the need for reconciliation between LCA-based carbon intensity values and the values determined through the GHG inventory process. As the consultants progress on the LCA-based calculations (which the group agrees is the proper approach), the TAG should re-visit this third point to provide more detail as to an appropriate mechanism for the reconciliation.

Beyond the three points above, the group discussed the need to respond to the often mentioned criticisms of the use of the GREET model, in general. There is a common sentiment that GREET is nothing more than a spreadsheet-based accounting tool and it is the assumptions that different jurisdictions have used that are the basis for criticism. Several of the group members also note that most applications of GREET use well vetted assumptions resulting from dozens of research projects, many of which are peer-reviewed. But, still, we recognize that several members of the public (and some members of the TAG) are troubled by the use of some of those assumptions. Ignoring those criticisms will weaken the credibility of the TAG.

In response, the break out group will continue to work with the TAG to determine if there is a mechanism to formalize the inquiry into the most sensitive of the assumptions that the consultants will need to use to apply the GREET model. While it is possible that other models could be used, there seems to be the greatest experience with GREET and any other model use will benefit from a thorough review of its strengths and weaknesses.

Public Comments [See above, not captured]

Other Matters [See above, not captured]

- Agenda topics for next meeting – Thurs., May 16, 9:30 – 12:30

[Ideas include: CLF guest speaker (also setting expectations for inviting external experts); Opinion Dynamics' measure template; full group consideration of deliberation on PUC's straw proposal on credit ownership]

Close

Meeting adjourned at 12:38 PM.

Full-group recording:

https://www.youtube.com/watch?v=J97CWTOJ3Ko&list=PLm7FHMU9GY9R_zhQEp6UJf8imn92o7Srd&index=12&pp=iAQB

Pacing recording:

https://www.youtube.com/watch?v=lpk_F3qsgGQ&list=PLm7FHMU9GY9R_zhQEp6UJf8imn92o7Srd&index=14&pp=iAQB

Bioenergy recording:

https://www.youtube.com/watch?v=WpyC5Svv-Gs&list=PLm7FHMU9GY9R_zhQEp6UJf8imn92o7Srd&index=13&pp=iAQB

Credit ownership recording: awaiting recording; will be posted here:

https://www.youtube.com/playlist?list=PLm7FHMU9GY9R_zhQEp6UJf8imn92o7Srd