

STATE OF VERMONT  
PUBLIC UTILITY COMMISSION

CASE NUMBER 23-2221-INV

INVESTIGATION INTO THE CLEAN HEAT STANDARD DESIGN

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10 a.m.

Workshop held before the Vermont Public Utility  
Commission via Go To Meeting on February 23, 2024,  
beginning at 10 a.m.

P R E S E N T

STAFF MEMBERS:	Thomas Knauer
	Dominic Gatti
	Erin Hicks-Tibbles
	Tracy Myers

CAPITOL COURT REPORTERS, INC.  
P.O. BOX 329  
BURLINGTON, VERMONT 05402-0329  
(802/800) 863-6067  
E-mail: [info@capitolcourtreporters.com](mailto:info@capitolcourtreporters.com)

PARTICIPANTS

TJ Poor  
Ben Bolaski  
Henry Mauck  
Dylan Giambatista  
Annette Smith  
Jill Pfenning  
Greg Morse  
Dave Westman  
Thomas Weiss  
Matthew Bakerpoole  
Mary Bouchard  
Haley Roe  
Emily Roscoe  
Nick Persampieri  
Matt Cota  
Luce Hillman  
Ryan Vazza  
Ken Jones  
Rick Weston  
J. W. Hackett  
Emily Levin  
Jackie Pratt  
Emma Ardington  
Brian Woods  
Jackie Pratt  
Michael Lisorchek

1 HEARING OFFICER KNAUER: Good morning  
2 everyone. This is a workshop in Public Utility  
3 Commission Case Number 23-2220-RULE regarding the  
4 Commission's design of the potential clean heat  
5 standard rule. My name is Tom Knauer. I am the  
6 policy director at the Commission and I have been  
7 asked to lead today's workshop. Also in attendance  
8 from the Commission is Erin Hicks-Tibbles, Tracy  
9 Myers, and Dominic Gatti who is a clean energy fellow  
10 from the Department of Energy.

11 Let's begin with a few administrative  
12 preliminaries. First please know that I will not  
13 mute anyone's microphone during today's workshop.  
14 This means that you should keep yourself on mute  
15 unless you are speaking. That way we can minimize  
16 disruptive background noises.

17 Second, as we work through the workshop  
18 if you would like to speak, please raise your hand or  
19 use the raised hand function on Go To Meeting. If I  
20 miss you, please just feel free to interrupt me  
21 because I value everyone's participation in this  
22 workshop.

23 Third, today's workshop is being  
24 transcribed by a court reporter. A transcript of  
25 today's proceeding will be available in ePUC. In

1 order for us to establish a clear record please say  
2 your name each time that you speak and also please  
3 refrain from talking over one another.

4 Having covered those preliminaries I  
5 would like to begin by allowing attendees who intend  
6 to speak during the workshop to introduce themselves  
7 for the record. If anyone intends to record today's  
8 workshop, please say so when you introduce yourself.  
9 Ken Jones, yes I see your hand is raised, please go  
10 ahead.

11 MR. JONES: Yes I am Ken Jones. I'm on  
12 the Technical Advisory Group.

13 HEARING OFFICER KNAUER: All right.  
14 Good morning. So I will call on folks in the order  
15 that they appear in my screen and so no need to raise  
16 your hand for that purpose. Let's begin with Greg  
17 Morse, Vermont Gas. Dylan, I see that you are trying  
18 to speak, but we can't hear you right now.

19 MR. MORSE: Sorry about that. Sounds  
20 like we're having a little bit of technical  
21 difficulty here. I'll introduce our team. Greg  
22 Morse from Vermont Gas. We also have Jill Pfenning,  
23 Dylan Giambatista, and Mary Bouchard.

24 HEARING OFFICER KNAUER: Thank you and  
25 good morning to the Vermont Gas team. If there are

1 multiple people present from each agency or  
2 organization, please feel free to just introduce the  
3 whole team all at once. Next we will go to I think  
4 it's Jonathan Hackett from Global Partners.

5 MR. HACKETT: Jonathan Hackett from  
6 Global Partners. I do not intend to speak today.

7 HEARING OFFICER KNAUER: Okay. Great.  
8 Good morning. David Hillman.

9 MR. HILLMAN: Yes hi. David Hillman. I  
10 do not plan to speak today.

11 HEARING OFFICER KNAUER: All right.  
12 Thank you. Rick Weston.

13 MR. WESTON: Good morning folks. This  
14 is Rick Weston. I'm the Chair of the TAG. I'm not  
15 planning to speak, but that might change but for now  
16 I'm not. Good morning all.

17 HEARING OFFICER KNAUER: All right.  
18 Yeah thanks everyone. You know I said please  
19 introduce yourself if you plan to speak, but you know  
20 I don't know if you plan to speak or not so I'm just  
21 going to call on everyone give you a chance to say  
22 good morning and introduce yourself. Annette Smith.

23 MS. SMITH: Annette Smith, Vermonters  
24 For a Clean Environment. I do not know if I'm going  
25 to speak today and I am not recording today.

1 HEARING OFFICER KNAUER: All right.

2 Thomas Weiss.

3 MR. WEISS: This is Thomas Weiss. I  
4 probably will speak today and, if so, I'll let you  
5 know.

6 HEARING OFFICER KNAUER: Great. Matt  
7 Cota.

8 MR. COTA: Hi this is Matt Cota with  
9 Meadow Hill here on behalf of the Heating Contractors  
10 of Vermont and the Vermont Fuel Dealers Association.

11 HEARING OFFICER KNAUER: Haley Roe.

12 MS. ROE: Hi this is Haley Roe with  
13 Efficiency Vermont, and also with Efficiency Vermont  
14 today is Dave Westman who will be speaking and Emily  
15 Roscoe. Thanks.

16 HEARING OFFICER KNAUER: All right.  
17 Good morning to the Efficiency Vermont team. Nick  
18 Persampieri.

19 MR. PERSAMPIERI: Hi Nick Persampieri.  
20 I'm the Burlington resident. I don't know if I will  
21 speak or not today. Thank you.

22 HEARING OFFICER KNAUER: Luce Hillman.

23 MR. HILLMAN: Hi good morning. Luce  
24 Hillman. I'm with the Technical Advisory Group and  
25 I'm not sure if I will be speaking, but I will

1 definitely be listening. Thank you.

2 HEARING OFFICER KNAUER: Henry Mauck.

3 MR. MAUCK: Good morning. Henry Mauck  
4 with the Department of Public Service. Also with me  
5 from the Department is TJ Poor, Ben Bolaski, and  
6 Matthew Bakerpoole. Thanks.

7 HEARING OFFICER KNAUER: Good morning.  
8 Emily Levin.

9 MS. LEVIN: Hi everybody. Good morning.  
10 Emily Levin. I'm with Northeast States For  
11 Coordinated Area Management and I'm also vice chair  
12 of the TAG mostly here in listening mode.

13 HEARING OFFICER KNAUER: Jackie Pratt.

14 MS. PRATT: Jackie Pratt. I'm with  
15 Michael Lisorchek. We're with Stowe Electric. I  
16 don't believe we have any plans to speak today.  
17 We're just listening.

18 HEARING OFFICER KNAUER: Ryan Vazza.

19 MR. VAZZA: Ryan Vazza from Global here.  
20 I do not plan to speak today.

21 HEARING OFFICER KNAUER: Okay. Michelle  
22 Keller.

23 MS. KELLER: Good morning everyone.  
24 Also a member of the Technical Advisory Group. You  
25 can probably hear my stuffy nose. I'm staying off

1 camera today and plan to listen. Thanks.

2 HEARING OFFICER KNAUER: All right.

3 Feel better, Michelle. Brian Woods.

4 MR. WOODS: Good morning, Tom and  
5 everybody. Brian Woods, Vermont ANR Climate Action  
6 Office and I'm a member of the TAG.

7 HEARING OFFICER KNAUER: All right. I  
8 think that's everyone. So the purpose of today's  
9 workshop is to discuss the process by which the  
10 Commission will set and triennially update or  
11 consider updates to the ten year schedule of total  
12 annual credit retirement requirements, the  
13 information and input that should go into the ten  
14 year schedules, and the process for considering any  
15 good cause temporary adjustments. The Commission  
16 requested participants to file written comments on  
17 this topic by Friday. I'm not sure if it was Friday,  
18 anyway February 19th, and we received written  
19 comments from the Department of Public Service,  
20 Efficiency Vermont, Thomas Weiss, the Vermont Fuel  
21 Dealers Association, and Clean Fuels Alliance  
22 America, and Vermont Gas. So my plan for this  
23 workshop is to ask questions based on my review of  
24 these filings. I know that my colleagues at the  
25 Commission have additional questions as may the



1 workshop participants.

2 If I don't have questions on your  
3 filing, it doesn't mean that I didn't read it. I did  
4 read everyone's filing multiple times. It just is an  
5 indication that it was clear and I have no further  
6 questions. So before I begin with my first question  
7 first I want to specifically thank the Department and  
8 Thomas Weiss. You both put out, you know, kind of  
9 straw proposals and it's very helpful to organize our  
10 thinking, and I think, you know, basically the  
11 Department and Thomas your proposals are actually in  
12 pretty good alignment with a few differences as to  
13 inputs. So it's a good place to start. Any  
14 questions about the plan for today's workshop? TJ, I  
15 saw your camera went on there. Are you getting  
16 ready?

17 MR. POOR: Just preparing. I assumed  
18 you had some questions.

19 HEARING OFFICER KNAUER: Great and  
20 folks, you know, feel free to have your cameras on so  
21 I don't feel like it's just me and TJ having a  
22 conversation, but anyway I am going to start with  
23 questions for the Department's filing. So the  
24 Department provided a straw proposal for the steps  
25 that the Commission will need to take to set the

1 retirement pace for the program. So, TJ, do you want  
2 to walk through the proposal and I can ask questions  
3 as we go or do you want me to characterize what you  
4 put out there and I'm attributing to TJ, but I don't  
5 know if that's accurate or not.

6 MR. POOR: Well it's the Department's  
7 straw proposal. There's a lot of folks that worked  
8 on it so happy to do whatever makes sense for this  
9 workshop. If it's helpful to walk through it  
10 briefly, then I can do that.

11 HEARING OFFICER KNAUER: Yeah I would  
12 find it helpful. You don't have to read your filing  
13 but, you know, just give it a high level overview of  
14 each step and I will interrupt you to ask questions  
15 and invite others on today's workshop to also ask  
16 questions about each step.

17 MR. POOR: Yeah and again I think we put  
18 this forward as a -- characterize it intentionally as  
19 a straw proposal because there's likely improvements  
20 that could be made to this, and so happy to get all  
21 kinds of feedback today that can inform the  
22 subsequent comments and how the Commission moves  
23 forward.

24 I'll start with just an overview. We  
25 kind of separated this into two phases and the first

1 phase is really just I think is relatively -- they're  
2 objective relatively simpler steps that just need to  
3 be done, and that goes to how we really establish the  
4 amount of emissions reductions necessary from each  
5 obligated party, and really according to the Global  
6 Warming Solutions Act greenhouse gas inventory, and  
7 I'll just -- one of the reasons we wanted to lay this  
8 out is to really get on the table the differences  
9 between the required calculation of clean heat  
10 credits and which need to be done on a life cycle  
11 basis and the translation of those to emissions  
12 reductions requirements for obligated parties which  
13 need to be on an accounted for based on the  
14 greenhouse gas inventory pursuant to the Global  
15 Warming Solutions Act.

16 So to do that we start with the Global  
17 Warming Solutions Act requirements and we just really  
18 need to start with a reference here whether that's  
19 2022 before early action credits were started to be  
20 created or if it's a more recent year I think  
21 relatively soon or some time in 2024 we would have  
22 data for 2023, and so establishing that reference  
23 year to start from is just our starting place, and  
24 then we need to look at 2030 and see where we need to  
25 go for the thermal sector and that needs to be based

1 on the proportional requirements of the thermal  
2 sector to meet those overall GWSA requirements.

3 HEARING OFFICER KNAUER: Thanks TJ. I'm  
4 going to halt you right there. Let's start with the  
5 reference here. I know Ken Jones raised his hand and  
6 I also have some questions.

7 MR. JONES: My question is in regards to  
8 the use of the inventory and the use of Tax  
9 Department data. Again I don't know whether the PUC  
10 requests orders or whatever, but it's sort of a  
11 reconciliation of those two is going to be helpful  
12 because the inventory is always going to be delayed  
13 by a significant amount while the Tax Department data  
14 is available, you know, this year. We have the 2023  
15 data available now, and it may even be, and again  
16 this is what I look to the Climate Action Office to  
17 help with, it may even be a better number because it  
18 is indeed a census of consumption, and I'm not sure  
19 that EIA is able to accomplish a complete census, but  
20 again to -- one of the steps I think important is to  
21 sort of get a reconciliation so that we have a common  
22 hopefully timely set of data in which to review.  
23 I'll leave it there for now.

24 HEARING OFFICER KNAUER: Matt Cota.

25 MR. COTA: Couple things. One is there

1 is authorizing language pending still in the Senate  
2 Natural Resources Committee which would allow that  
3 information to transfer. Why -- it wasn't proposed  
4 by us. I'm not sure why it was proposed or who it  
5 was proposed or why the existing statute isn't enough  
6 to transfer that data, but it's there and would need  
7 to be passed.

8 The other comment I would make is the  
9 EIA data is a survey methodology. A lot of zeros at  
10 the end of those gallon numbers. So Ken is right.  
11 Ken is also right that the Tax Department has a lot  
12 of great information, but it doesn't have all of it  
13 and it's not complete with only since July 1st of  
14 2023 that the Tax Department in response to this law  
15 began collecting information specific to fuel types.  
16 Prior the fuel type was blended altogether. Whether  
17 you sold kerosene, heating oil, or propane on your  
18 fuel tax form it was one number. It wasn't  
19 differentiated by fuel type. That has changed and  
20 that's a good thing, but the other point to make is  
21 remember the fuel tax, the data collected on down to  
22 the gallon every 25th of the month you only have a  
23 half year supply of gallons, but you only have one  
24 point. You only have retail. The fuel tax is not  
25 assessed on -- it's a different universe of

1 providers. So to say that the -- when the registry  
2 comes in with the gallons that they will match up  
3 it's not going to happen because you have wholesalers  
4 do not have to pay the fuel tax. It's only  
5 retailers. The entity before it is consumed or sold  
6 to a consumer who ultimately burns that product. It  
7 also includes all products including biodiesel which  
8 is not part of the clean heat standard and also  
9 includes fuel that is used for non-thermal purposes;  
10 generators, cooking. So it is an important data  
11 point. If the law allows it then there will be some  
12 exchange of information, but it will not be a  
13 complete picture. Not at all. It will not trace  
14 that molecule, carbon molecule, as it crosses into  
15 Vermont bought and sold and bought and sold and  
16 bought and sold before it gets to a wholesaler -- or  
17 excuse me to a consumer. So I agree with Ken mostly,  
18 but it's not going to provide a complete picture and  
19 it's not going to match up. Even the entities that  
20 pay are not going to match up with those who  
21 register. Thank you.

22 MR. POOR: So I have a couple of  
23 questions actually that raise -- or thoughts. One is  
24 that one of the sentences that we put in our filing  
25 or one of the comments is we also need to be careful

1 to normalize for weather or extreme events. We don't  
2 want to just assume if we have like a super, super  
3 cold winter and there's higher demand we could  
4 incorrectly set an obligation pathway into 2030 that  
5 -- or vice versa if it's a really warm winter we may  
6 not set a high enough obligation. So we just need to  
7 take care.

8 I agree that the tax data is really  
9 useful input and I think I also agree that it's  
10 probably not the only input. My understanding and --  
11 is that the greenhouse gas inventory references or  
12 will reference the tax data that is now available  
13 based on Act 18 to ANR and the Public Service  
14 Department, but again may not -- may not only use  
15 that data source. I don't know -- I can't remember  
16 if ANR is on the line or if they are, if it's the  
17 right person to verify that or not.

18 MR. WOODS: They are and it's not the  
19 right person.

20 MR. POOR: Thanks Brian.

21 MR. WOODS: I'm happy to bring that  
22 information I guess back to the TAG is the most  
23 appropriate place to see what the methodology is, but  
24 the goal of course is to get the most timely and most  
25 accurate information that we can on an all fuels as

1 possible inventory. As you acknowledge there's still  
2 going to be a lag in preparing it.

3 HEARING OFFICER KNAUER: Yes so we  
4 haven't gone too far through the Department's  
5 proposal. If folks want to continue discussing or  
6 debating, you know, what's the source for  
7 establishing our reference year to begin this  
8 calculation, you know we can continue to have that  
9 discussion now or I would really like people to, if  
10 nothing else, really in your reply comments, you  
11 know, let us know what's -- what are the advantages  
12 and disadvantages of using either tax data or the  
13 inventory data.

14 MR. WEISS: This is Thomas Weiss.

15 HEARING OFFICER KNAUER: Please go  
16 ahead.

17 MR. WEISS: On the tax data I would  
18 suggest getting the tax data that even though it's --  
19 has fuels gathered together into larger categories as  
20 opposed to more individual fuels, to compare that  
21 data with the data from like the last five years in  
22 the greenhouse gas inventory. So that would be 2013  
23 through 2017, see how they compare as a basis for how  
24 good or not good use of the tax data might be,  
25 whether there's some kind of like a consistent



1 difference factor that could be applied or whether it  
2 looks more totally random, and make the decision on  
3 use of the tax data along those lines.

4 HEARING OFFICER KNAUER: Thank you for  
5 that suggestion, and I did want to point out, I  
6 noticed this in your written comments, Mr. Weiss, I  
7 think you were referring to maybe a dated inventory.  
8 When I was looking at this last night I was able to  
9 find a more recent greenhouse gas inventory that was  
10 released in 2023 I believe and that gives additional  
11 years of inventory relative to what you referenced.

12 MR. WEISS: The one I referenced is the  
13 last available on the DEC site listing all of the  
14 greenhouse gas inventories. One issued in 2021 going  
15 to 2017 is the last they had posted on it as of like  
16 two days ago. I'm not sure where you got yours, but  
17 it's not readily available with all the others.

18 HEARING OFFICER KNAUER: Yes. I ran  
19 into that as well and I believe I saw on that web  
20 site that the climate -- I don't know if it's the  
21 climate council web site now hosts the inventories  
22 and so I went there and was able to find a more  
23 recent one.

24 MR. WEISS: Thank you for that  
25 information.

1 HEARING OFFICER KNAUER: Go ahead,  
2 Brian.

3 MR. WOODS: So Tom is correct. I just  
4 posted in the chat the link to the climate office  
5 where the latest greenhouse gas inventory is, and my  
6 apologies to everybody who is referencing the other  
7 list, particularly you Mr. Weiss. I'm working with  
8 the group to try to get those sites to cross  
9 reference. So the one -- the old one at DEC does  
10 have all the historical reports, but it doesn't have  
11 the latest one and the one at the climate change site  
12 has the latest one but not the historical one, and we  
13 are working to correct that, but please pick up the  
14 link that's in the chat.

15 MR. WEISS: I'm the one who's calling on  
16 the telephone so I don't have access to the link on  
17 the chat.

18 HEARING OFFICER KNAUER: Mr. Weiss,  
19 we've got your contact info so outside --

20 MR. WEISS: Send me the link. You don't  
21 have to send me the document.

22 HEARING OFFICER KNAUER: We'll do that.

23 MR. WEISS: Thank you.

24 HEARING OFFICER KNAUER: You're welcome.  
25 Anyone have any comments on Mr. Weiss's suggestion to

1 kind of use tax data to kind of calibrate or cross  
2 check inventory data? Do you have any thoughts on  
3 that? Matt.

4 MR. COTA: While I have this platform at  
5 the risk of sounding -- repeating myself the data  
6 really only is good from the Tax Department starting  
7 July 1 when we segregate gallons. The good news  
8 that's what it's going to be going forward, but  
9 looking back prior to July 1, 2023 it's going to be a  
10 mess. It's going to include the biodiesel fuels  
11 which is for off road purposes. So July 1 going  
12 forward good data in terms of what we sold in Vermont  
13 propane, heating oil, kerosene. It's everything. We  
14 paid two cents a gallon on heating oil you sell to a  
15 municipality or kerosene that you sell to a farmer to  
16 propane you sell to a restaurant, but still at least  
17 you have that.

18 The second point I will make, and I'm  
19 going to make this in a filing too because I think  
20 critically important, when the registry numbers come  
21 in if it's lower than the Tax Department data, that's  
22 a problem, right. That's not accurate, but it should  
23 be many multitudes higher because remember that  
24 carbon gallon is sold many times. It's not -- in a  
25 system like a pipeline like Vermont Gas System they

1 are the importer and then they are the seller. It's  
2 very clean. It's very easy to track. It's a lot  
3 more complicated in that a gallon will be sold  
4 multiple times. It will be sold in Vermont but  
5 consumed outside of Vermont. It will be purchased  
6 outside of Vermont and sold in Vermont. So I just  
7 caution anyone who thinks that the tax data is going  
8 to be some sort of solve in creating some sort of  
9 compliance mechanism. It will be helpful, but it  
10 will not match up and people will be scratching their  
11 heads why doesn't this match up. There are very good  
12 explanations as to why.

13 The last thing I'll say is when we're  
14 talking about -- TJ brought up the weather  
15 correction. If I could wave a magic wand, I would  
16 change the registration date so it wasn't January in  
17 the middle of our busiest month, number one. Number  
18 two, I would change the compliance period so it's not  
19 a calendar year but a heating season July 1 to July  
20 30. That would make much more sense in accommodating  
21 or understanding the variations in weather. We --  
22 the weather is 18 percent warmer this winter than the  
23 normal. We all know this. We can look outside. Our  
24 gallons will be 18 percent roughly less than the  
25 normal winter. So having an ability, and I know you

1 don't have this ability but I'm just going to say it  
2 anyways, having the ability to look at our progress  
3 not on a fiscal year -- or, excuse me, a calendar  
4 year but a heating season July 1 through June 30  
5 would make eminently more sense in terms of  
6 understanding how this program works in ensuring  
7 compliance. Okay rant is over.

8 HEARING OFFICER KNAUER: Thank you. I  
9 don't consider it a rant. I consider it helpful  
10 information to know. Brian, I see your hand is  
11 raised. Is that current or is that an old hand?

12 MR. WOODS: I'll take it down.

13 HEARING OFFICER KNAUER: So I did want  
14 to move on to the concept of kind of weather  
15 normalizing. So, TJ, do you have a proposal about  
16 how we would do that? What's the calculation?  
17 What's the information that we would use to perform  
18 that weather normalization?

19 MR. POOR: So there could probably be a  
20 couple of ways and have not thought this through in  
21 detail, but using the amount of heating degree days  
22 could be a way to normalize. The other option I  
23 suppose would be to use kind of a -- not necessarily  
24 a reference year, but a reference value that was the  
25 average of several years, you know the last five

1 years or something like that, and that may not be  
2 perfect, but it could get closer, and the others  
3 there's going to be a need on this to just blend --  
4 there's a need for simplicity in setting this and  
5 getting close enough, but also recognizing, you know,  
6 we don't want to be starting 18 percent off in a  
7 extreme case scenario. So just taking a look. I  
8 don't want to over complicate the establishment of  
9 that, but be aware of complications.

10 HEARING OFFICER KNAUER: Thank you.  
11 Does anyone -- do any workshop participants disagree  
12 with the suggestion that some normalization happen  
13 when setting the reference year?

14 MR. COTA: Can I go back in time and ask  
15 for a clarification, Tom? We're talking about  
16 setting the reference here. Are we talking strictly  
17 about greenhouse gas inventory or are we talking  
18 broadly about the obligations of those obligated  
19 entities?

20 HEARING OFFICER KNAUER: I think we're  
21 talking about where are we starting from as we set a  
22 ten year trajectory for reductions.

23 MR. COTA: Okay. So that's on  
24 greenhouse gas emissions. That's not -- we're not  
25 talking about the payments or the credit requirements

1 of the obligated parties referenced to prior year  
2 because I have a whole lot of thoughts about that,  
3 but less about ten year greenhouse gas inventories.

4 MR. POOR: Not yet. The straw proposal  
5 gets into credit values and setting the actual clean  
6 heat credit obligation so I think we would get there  
7 in this conversation in a few minutes, Matt, but  
8 right now I think we've been talking about just the  
9 greenhouse gas inventory.

10 MR. COTA: Okay.

11 HEARING OFFICER KNAUER: Michelle Keller  
12 and then Dave Westman.

13 MS. KELLER: Thank you, Tom. With  
14 respect to either reference I may have missed this  
15 somewhere, but are we planning to leverage any more  
16 being done by either the technical consultant or the  
17 folks doing the potential study for what their  
18 assumptions are?

19 HEARING OFFICER KNAUER: That's a great  
20 question and I think this is a good time for me to  
21 speak to the PUC's consultant. I don't know their  
22 scope of work. If everyone remembers what Act 18  
23 directs the Commission to do, it is to hire a  
24 technical consultant to do measure characterizations,  
25 clean heat measure characterizations, and really want

1 to kind of highlight, underscore this, that it's not  
2 a technical consultant to solve all of the problems  
3 in the clean heat standard rulemaking. Their scope  
4 of work is limited to clean heat measure  
5 characterizations.

6 So I would say that's a no, Michelle.  
7 They are not working on kind of setting the pace or  
8 the trajectory. So that's only, you know, for -- you  
9 asked about both of the consultants so that's the  
10 answer from the PUC.

11 MS. KELLER: Okay. So my question was  
12 more they won't have a definition of heat. That's my  
13 question. It was more a followup in response to  
14 Tom's -- to Tom's comment that neither of the  
15 consultants currently on board are looking at  
16 defining this reference here the weather year against  
17 which the pacing will be set. Does that help? The  
18 second was a followup not so much a question.

19 HEARING OFFICER KNAUER: Yes I could  
20 hear you that time, Michelle. Does anyone from the  
21 Department want to answer whether that is within the  
22 scope of work for their potential study consultant?

23 MR. POOR: So Matthew may be able to  
24 answer this better than I. The potential study will  
25 -- and we'll talk about this in a little bit -- it's



1 doing measure characterizations, so how much savings  
2 we get from each individual measure on a carbon  
3 basis. So that part does not need a reference here  
4 necessarily. It's just a measure what we're saving,  
5 and then it will be, though, creating an estimate of  
6 the technical potential. Again this is how much we  
7 can save which starts from -- it's going to start  
8 from our thermal use.

9 So I think there will be a projection of  
10 our kind of baseline thermal use so we can see how  
11 much the technical -- each measure will save and then  
12 it will break it down further to program potential,  
13 you know, given market barriers, et cetera. There  
14 are other pieces, economics being another one.  
15 Matthew, does that sound right? Did I go off base  
16 anywhere?

17 MR. BAKERPOOLE: No that sounds right to  
18 me. That's a question we can take back to the  
19 contractor and ask how they are going to normalize  
20 for predicted weather changes. I'm sure they are  
21 going to do that. I just haven't thought to ask what  
22 method they are going to use. So we can get that  
23 information and include it in our reply comment.

24 HEARING OFFICER KNAUER: Thank you.  
25 Dave Westman, thanks for your patience. You're up.

1                   MR. WESTMAN: Thanks. No problem. It's  
2                   a good discussion. I guess this is a good time for  
3                   us to weigh in by reflecting that EEU's comments on  
4                   this particular topic were that we understand the  
5                   need for some clarity and these workshops are helpful  
6                   in providing that clarity, but that fundamentally  
7                   some of these technical matters should not become a  
8                   or perceived as being a policy derived -- you know  
9                   multiple parties can sort of have technical  
10                  disagreements and you know having this live out very  
11                  long in the regulatory workshop process makes it feel  
12                  like we're having technical discussions in a venue  
13                  that's more suited for debate over -- substantive  
14                  debate over policies and rules.

15                 So our general comment was technical  
16                 issues like this need to be developed by the  
17                 Commission's third party technical contractor and  
18                 then reviewed by the TAG. I see the TAG as being  
19                 primarily a good venue for these types of technical  
20                 discussions. So that's my first comment, and then my  
21                 second comment is more of a question directed perhaps  
22                 at people who know more about these things than me  
23                 which is in the reading of Act 18 the clean heat  
24                 standard sets a target for the thermal sector to be  
25                 in a proportional reduction equivalent to -- probably

1 not saying that right -- but a proportional reduction  
2 that is at pace with the other greenhouse gas  
3 reduction requirements established in the Global  
4 Warming Solutions Act. It's a bit of a mouthful, but  
5 as a point of reference do we know what those numbers  
6 are as a state? Do we know if we achieve a  
7 greenhouse gas inventory of a certain amount that we  
8 can claim success for that, and then I guess the next  
9 question would be is if we know that number, which  
10 seems like it should be relatively straightforward  
11 and I'm sure our friends at ANR and other divisions  
12 have figured out what that number would be, have we  
13 done that work to sort of identify what the  
14 proportional thermal equivalent would be; and so I  
15 guess what I'm saying is that we're spending a lot of  
16 time talking about what the credit amount of  
17 reductions would be, but it seems like starting at  
18 the sort of basis point or the sort of base level of  
19 understanding of Act 18 would be to say what is the  
20 desirable emissions, you know, as seen by the  
21 inventory in the thermal sector. So sorry if that's  
22 a little bit of a bigger picture question, but anyone  
23 wants to respond or provide clarity for me that would  
24 be helpful. Thanks.

25 HEARING OFFICER KNAUER: Yeah, Dave, I

1 think you just referenced kind of the next step in  
2 the Department's straw proposal which is going from  
3 reference year that's been normalized to what is the  
4 thermal sector share of that inventory, and I see,  
5 TJ, you raised your hand right away so I'm going to  
6 go to you.

7 MR. POOR: Yeah I think that is exactly  
8 what I was going to say is the next step is to  
9 establish that value. I do think that the climate  
10 council -- actually I'm reminded that they  
11 established a reference year actually of 2018 and  
12 that is another option in that to get proportional  
13 reductions from each sector using that year as a  
14 basis. We know the overall target for the state and  
15 then climate council used 2018 as a basis to split  
16 that up by sector and that may be -- I had suggested  
17 2022 earlier, but perhaps 2018 is a good reference  
18 year if that's what the climate council is doing.

19 HEARING OFFICER KNAUER: Dylan, go  
20 ahead.

21 MR. GIAMBATISTA: Dylan Giambatista from  
22 Vermont Gas. I think 2018 to the extent that it  
23 aligns with the assumptions of the climate council  
24 and the data and science that they have considered  
25 relative to achieving the 2025 reduction, 2030

1 reduction, and the 2050 reduction could be a good  
2 starting point, and of course we know that for this  
3 law it's 2030 and 2050 and that the Global Warming  
4 Solutions Act is based upon the 1990 levels for those  
5 two years, but 2018 is where that inventory was  
6 locked which we assumed would constitute a baseline  
7 for analysis.

8 HEARING OFFICER KNAUER: Dylan, just to  
9 make sure I understand what you're saying what I  
10 heard TJ say is 2018 was used to divide up the pie  
11 saying thermal sector is -- we're going to say  
12 thermal sector is x amount of total emissions so it's  
13 used for the sector allocation. Is that also what  
14 you're saying, Dylan?

15 MR. GIAMBATISTA: Correct.

16 HEARING OFFICER KNAUER: Great. Thank  
17 you. Ken Jones.

18 MR. JONES: Yeah I have some numbers in  
19 front of me and it wraps in with the earlier  
20 discussion. 2018 was 5 percent colder than 2022.  
21 So, you know, this whole concept of baseline year I  
22 know it's important, but really what we want is, and  
23 I think Mr. Weiss did a good job because he provided  
24 a visual representation, is the full trajectory from  
25 any starting point year but through the period that

1       this process needs to establish targets. So sure you  
2       can use 2018, but the fact is we know a great deal of  
3       what happened between 2018 and 2022 and so the clean  
4       heat standard kicks in in 2023, and so to me it's  
5       very important to represent the trajectory from 2022  
6       as a starting point pre-clean heat standard to 2030,  
7       and I also want to provide a little bit of a  
8       cautionary piece with regards to the use of the work  
9       done for the climate council. Their business as  
10      usual scenario includes a great deal of creditable  
11      activity so we can't presume that the clean heat  
12      standard builds on business as usual. It really  
13      relies on a great deal of activity within business as  
14      usual. So for those folks who looked at that work  
15      and see oh yeah we're going to see a great deal of  
16      progress we only need to do a small increment to get  
17      to 2030 it's only because the business as usual  
18      scenario includes a great deal of large, large, large  
19      amount of creditable activity.

20                   HEARING OFFICER KNAUER: TJ.

21                   MR. POOR: So first I just want to  
22      caution there was a comment about the climate council  
23      using science and data to create their proportional  
24      share. That didn't happen. It created a  
25      proportional share, but it was not -- as far as I

1 know it was not based on specific data or science,  
2 but regardless it did pick a value and I think that's  
3 the relevant piece here, and I think to Ken's point I  
4 think I agree with Ken also and I think it's a yes  
5 and. I think they are both right. So we need the  
6 2023 target, right, can be developed based on this  
7 proportional share according to the climate council  
8 said we need to get this much from each sector, but  
9 then the reference year for setting obligations could  
10 start with a much more recent year if that makes  
11 sense. So set the 2030 -- 2030 is the kind of the  
12 first relevant year needing a target standard maybe  
13 designed to get to that. So using the proportional  
14 methodology of the council to get to that number  
15 could be a process and then say okay how are we  
16 getting from here to there. Well when we say what is  
17 here we're actually at 2022 in terms of what each  
18 obligated party has -- what their baseline is.

19 HEARING OFFICER KNAUER: I'm not seeing  
20 any hands. Just kind of want to recap. It would be  
21 great to have folks in their written filings talk  
22 about what information to use to establish the  
23 reference year, talk about whether we need to  
24 normalize that reference year, and, if so, how and  
25 what information would be used for that

1       normalization, and then what process and what sources  
2       of information would be used to establish the thermal  
3       sector's proportional share. So imagine that we're  
4       writing a rule which we're actually going to do. You  
5       know we want to try to bake all these factors in.

6               I believe the next step of the  
7       Department's process would be to establish the  
8       emissions reduction requirements for each obligated  
9       party based on the previous steps and the  
10       Department's proposal is to use the annual  
11       registration data to assign each obligated party its  
12       proportional share of the total thermal sector  
13       emissions. TJ, do I have that right?

14              MR. POOR: Well yeah that's what we said  
15       in the filing. What Matt said earlier makes me worry  
16       that using the annual registration data might not be  
17       the right value. I don't know what it is, but it  
18       sounded like that registration data is going to be,  
19       you know, if a gallon gets sold several times for  
20       instance and that's all in all the registration data,  
21       that could create a challenge for just using the  
22       registration data. I guess I'm not sure and would  
23       like Matt or others to comment on that.

24              MR. COTA: The registration data will  
25       first determine who is obligated in a situation where



1 a fuel retailer purchases a hundred percent of their  
2 gallons from a Vermont wholesaler, then they have to  
3 report their gallons, they have to register, but they  
4 would not be obligated under the law, and then that's  
5 the easy -- that would be the easy one, but that's a  
6 small minority of registries. Most registries will  
7 purchase some, if not all, of their gallons from  
8 Quebec, New Hampshire, New York, or Massachusetts,  
9 and then it becomes a map equation to determine what  
10 gallons were brought into the state by what entity  
11 and whether those gallons were ultimately consumed in  
12 Vermont or they were brought out of state as often  
13 happens, and that I assume would fall on the PUC to  
14 determine that. The tax can provide the information,  
15 ANR can analyze it for greenhouse gas emissions, but  
16 I think it's ultimately on to PUC staff to determine  
17 which gallons are obligated and which entities -- or,  
18 excuse me, which entities are obligated based on that  
19 data, and the other thing I would point out is buying  
20 patterns change. We don't have a pipe coming from  
21 Quebec that was put there 50 years ago that will be  
22 there for another 50 years. We got trucks and we got  
23 trains and they come from all over and what you --  
24 where you purchase your fuel in 2024 might be  
25 completely different in 2025, and as we think about

1       how to assign obligation to gallons we also know that  
2       there will be changes in buying patterns because of  
3       this law, but even without this law because it  
4       happens every year depending on price and  
5       availability.

6                   HEARING OFFICER KNAUER: Thank you,  
7       Matt. Ken Jones, you raised your hand and then TJ.

8                   MR. JONES: I think Matt's last point  
9       was really important because I know the way the  
10      legislation is crafted and I think all of our  
11      assumptions is that the obligation is going to be  
12      based on a past sale pattern, and if indeed that  
13      changes, and I throw it back at Matt because I  
14      wouldn't know how to go about kind of solving this,  
15      but is there a way for the obligated parties to make  
16      an adjustment -- you know the obligated party, if  
17      it's established on prior year sales and yet they  
18      changed markedly from the next year, is there a way  
19      for those obligated parties to work internally to  
20      transfer the responsibility. I wouldn't know how to  
21      do that, but I think that is going to be very  
22      important because if you establish an obligated party  
23      to a specific credit requirement and yet they don't  
24      carry out many sales during the next year through  
25      this process of assigning sale, I can see that being

1 really problematic, but again I hope that Matt's  
2 clients can help us establish a mechanism so that  
3 it's less problematic.

4 MR. COTA: We are at cross purposes here  
5 because in some respects having a simple system in  
6 which you pay on the 25th of the month for the prior  
7 month of sales makes a lot of sense. That's how we  
8 do our fuel taxes and that's how we do our fuel taxes  
9 on heating oil and that's how we do our gas taxes on  
10 gasoline and diesel fuel yet at the same time heating  
11 fuel is purchased differently. Heating oil in some  
12 cases, not all, but some cases is purchased 18 months  
13 in advance. That's the benefit of having prebuys or  
14 guaranteed price programs. That's part of our  
15 filing. I know Tom will get to that, but if he's  
16 going to ask it which is we would like to know what  
17 the obligation is 18 months prior to when it is due  
18 because that will influence the contracts that we  
19 purchase and the contracts that we sell to our  
20 downstream customers, and I don't know how to solve  
21 this riddle, but I'm not giving up. I'm just saying  
22 it's a challenge because they appear to be at cross  
23 purposes.

24 HEARING OFFICER KNAUER: TJ.

25 MR. POOR: I was just going to ask, you

1 know, just focusing in on -- well two things. I  
2 guess I'll respond to the latter point. You know  
3 there could be a process where you know the default  
4 is that the obligation is set based on past sales,  
5 but if the obligated party says, you know, petitions  
6 and say hey we're doing this completely -- we're  
7 purchasing completely differently and please change  
8 our obligation because things have changed, then that  
9 may be a process that opens the door there.

10 Again I'm a little confused because I  
11 feel like if it's a fuel gallon purchase from New  
12 York versus a fuel oil gallon purchased from Quebec  
13 it still has the same emissions impact. So I'm  
14 confused there, but we can work through that.

15 The other thing I was just going to ask  
16 Matt is the registration data the right source though  
17 to set obligations for the obligated parties or is  
18 there a different way to set that? In our proposal  
19 we said use registration data and then I still am not  
20 sure if that is going to be sufficient or if it's  
21 used a bunch of different sources or if it's a  
22 different source altogether.

23 MR. COTA: It is my understanding that  
24 it has to be the source. That this is the hybrid  
25 model that the Legislature Act 18 provides which is

1       they wanted to move -- they wanted to -- fuel taxes  
2       on retail. We deliver it to your house, goes into  
3       your tank, you burn it, the fuel company pays it,  
4       they collect it from the consumer, but in the effort  
5       to move the obligation upstream they realized that it  
6       couldn't go beyond the borders because of federal law  
7       and taxing an out of state provider, but they could  
8       tax at the point of import. That's how it happens  
9       with gasoline. So we have this odd situation where a  
10      small dealer who just purchases a couple hundred  
11      gallons from Walpole, New Hampshire is obligated and  
12      has to buy credit as is the largest wholesale  
13      provider in Burlington with tens of millions of  
14      gallons. So they are the same regulatory suit which  
15      is what makes it confusing. Now that small dealer  
16      may then choose to buy from a Vermont based  
17      distributor to avoid that obligation, but at what  
18      point does that obligation hit that they have to pay  
19      so they can price their product correctly, and if  
20      they don't price their product correctly, there is no  
21      rescue plan for them or their customers who depend on  
22      this essential commodity for heat and hot water. So  
23      it's really important that we get this right.

24                   MR. POOR: Right. I agree. I did hear  
25      you say that the registration data is the primary

1 source, though, and I just -- I'm honing in on that  
2 because that, as Tom said, we got to make a rule and  
3 say what do we use.

4 MR. COTA: But it's how do you do it  
5 because if you have to put it on -- so there's the  
6 effort to move it upstream. Let me explain it --  
7 clarify it. When you move it upstream as the  
8 legislation requires so it's not all on the little  
9 dealers, it's mostly on the little dealers but it's  
10 also on large wholesalers, in-state wholesalers, they  
11 don't pay the fuel tax. Zero. Because of that you  
12 can't have it on the tax data -- fuel tax data under  
13 the law which says no it's got to move upstream for  
14 in-state wholesalers. So we have a disconnect here  
15 in terms of the legislation requires it to be on the  
16 entity that brings it into Vermont not the final  
17 point of sale. Final point of sale would be a larger  
18 number of obligated entities, but that's not what the  
19 law says, and I think they did that purposely so that  
20 they would ensure it's not all on the little guy.  
21 It's only a little bit. It's only somewhat on the  
22 little guy, but the result of the matter is we have  
23 no collection mechanism in law other than the  
24 registry in order to establish obligation. So I'm  
25 circling around your question which is, is that the

1 best way to use it. It's the only one we've got and  
2 we don't even have it yet. By my calculations we  
3 have 30 percent compliance with the registry. That  
4 will change on Thursday, but once we have that and  
5 once we are close to a hundred percent compliance  
6 that will not only be the appropriate law, but it  
7 will be the only one until the law changes.

8 HEARING OFFICER KNAUER: Thanks.

9 MR. POOR: Thanks. That was really  
10 helpful.

11 HEARING OFFICER KNAUER: All right. So  
12 barring any other discussion I think we're ready to  
13 move on to step two of the Department's proposal  
14 which is translating the emissions reduction  
15 requirements into clean heat credit retirement  
16 requirements. So someone from the Department want to  
17 walk us through the first part of that?

18 MR. POOR: Sure. So it's step one is to  
19 establish clean heat credit values. Those are in  
20 life cycle terms -- step one of phase two. Those are  
21 in life cycle terms and so we need a life cycle value  
22 for fuels; all fuels, propane, electricity, fuel oil,  
23 probably electricity based on your service provider  
24 maybe that we should talk about that for biofuels and  
25 natural gas, different values from different

1 feedstocks, and then in that -- I don't think we --  
2 well I think we referenced it that those should be  
3 done basically by contractors and as reviewed by the  
4 technical advisor, and then within that next step  
5 there's also the value -- the measure  
6 characterization of each clean heat measure needs to  
7 be identified. So what is the impact of installing a  
8 heat pump or, you know, replacing a therm of natural  
9 gas with one of renewable natural gas and have that  
10 be the measure characterization. The Department's  
11 potential study consultant and the Commission's  
12 technical consultant are -- both include measure  
13 characterization in their scope of work. I think  
14 they will be coordinated and it will be important for  
15 them to be coordinated and then have the Technical  
16 Advisory Group -- this is one of the TAG's primary  
17 roles in our mind -- is to review the measure  
18 characterizations and develop the value of certain  
19 measures. A lot of those are going to be  
20 prescriptive. Just to be clear to everybody we're  
21 not going to have a -- I wouldn't imagine I should  
22 say, it's not decided, but I wouldn't imagine it  
23 would be workable to have a heat pump installed in my  
24 home in Montpelier that has a wood stove and fuel oil  
25 as the current primary heating sources and have that



1 have a different value than one that doesn't have  
2 wood or doesn't use -- uses propane. You probably  
3 need statewide averages making that a prescriptive  
4 value.

5 There would also need to be a process  
6 for creating custom credit values so if there's a big  
7 unique commercial project, for example, that is  
8 saving a lot of fossil fuel and a lot of greenhouse  
9 gas emissions there will need to be a process to --  
10 for obligated entities to claim that and for the  
11 Public Service Department to verify those claims.

12 So that was a lot of words, but measure  
13 life cycle emissions value of each fuel and leading  
14 into measure characterization in order to create  
15 clean heat credit value.

16 HEARING OFFICER KNAUER: Thank you, TJ,  
17 and I appreciate you bringing up the point about  
18 prescriptive measures as well as custom measures. I  
19 don't want today's workshop to go down the rabbit  
20 hole of what are the details of measure  
21 characterizations. That's a very important topic and  
22 we will get to that in this proceeding, but that's --  
23 let's not focus on the miniate of that in today's  
24 workshop. Ken Jones, you raised your hand.

25 MR. JONES: Yeah I want to kind of

1 highlight what I think is a significant policy issue  
2 here. I agree that the -- for the traditional fossil  
3 fuels; natural gas, propane, heating oil there is a  
4 life cycle analysis that's a fairly constant increase  
5 although it's different. I mean the natural gas has  
6 a greater proportion increase at least in the draft  
7 life cycle analysis that I reviewed than does propane  
8 than does heating oil, but it's fairly constant over  
9 time. It's not going to change a whole lot. I think  
10 where the real issues are going to come into play are  
11 the -- call them the biologically derived fuels, all  
12 the renewable fuels, because the inventory treats  
13 them significantly different. As we know wood is  
14 treated as a zero emission fuel and we know that  
15 there are people very, very interested in that topic  
16 that will say no but it's not a zero emission fuel,  
17 and that is what's going to be a very significant  
18 difference therefore in inventory derived credit  
19 amounts and life cycle analysis credit amounts more  
20 so I think than the call it a fairly simple  
21 mathematical exercise of converting an inventory  
22 based fossil fuel utilization and reduction credit,  
23 and anyway so that is a highlight that yeah again  
24 we're not going to resolve today, but I think really  
25 needs to have a particular focus because again when

1 we take the various entities, groups that are  
2 interested in this proceeding have vastly different  
3 perspectives on that, and they are going to need to  
4 be addressed and it's going to fit right here with  
5 that sort of when you put in advanced wood heat it  
6 may give you inventory based credit, but it may not  
7 give anywhere near the amount of credit when  
8 considering the life cycle analysis.

9 MR. POOR: So in general agreement with  
10 you. The step that we're -- I was outlining here was  
11 specifically for clean heat credit values and those  
12 are only based on life cycle emissions. So the next  
13 step is to translate those between life cycle and  
14 inventory, but I think, you know, we can talk about  
15 that in a second, but I want to just focus on one  
16 thing that you said is I think just saying what the  
17 value is, is a relatively I won't say simple, but  
18 it's a straight -- more straightforward process of  
19 this is a life cycle value, and that seems like a  
20 Technical Advisory Group issue of this is a life  
21 cycle value of biomass depending on the feedstock and  
22 this is a life cycle value of renewable natural gas  
23 depending on the feedstock, and then in the measure  
24 characterization it's, you know, all we're doing to  
25 create the clean heat credit value is we saved these

1 life cycle emissions from fuel oil and then we caused  
2 life cycle emissions from the replacement biomass and  
3 so the difference is the clean heat credit value, and  
4 then we can talk about in a minute how we translate  
5 that to an obligation which is based on the  
6 inventory, but I tried to be clear, but it's about as  
7 clear as mud when we get into this issue.

8 HEARING OFFICER KNAUER: Dave Westman.

9 MR. WESTMAN: Thanks. I guess as a  
10 point of clarification I may -- I may have a  
11 substantive disagreement with how this is being  
12 characterized or thought about, and so this is  
13 therefore helpful and illuminating for understanding  
14 how this rule should be written because I'm trying to  
15 think what the -- what good rule language would be  
16 helpful for -- and without asking the Commission  
17 exactly what they want to include in this rule right  
18 now I'm thinking along the lines of a sort of  
19 standard -- a standard assumption like a line at  
20 which point everyone can sort of understand we are  
21 talking about. So if the Commission is responsible  
22 for issuing the number of credits that are  
23 proportionate to meeting the state's greenhouse gas  
24 reduction goals, and Act 18 alludes to this that a  
25 credit is proportional to the greenhouse gas

1 reduction that it results in, so therefore a clean  
2 heat measure creates clean heat credits.

3 My suggestion is that on that basis we  
4 should look at the number of credits that are needed  
5 as one clean heat credit equals one ton of greenhouse  
6 gas reduction as measured by the inventory because  
7 the Global Warming Solutions Act is the sort of basis  
8 point and the inventory point. So there may be  
9 technical reasons that -- I see TJ just raised his  
10 hand so he wants to respond which is great. My  
11 suggestion is that if you set a credit value equal to  
12 one ton, then individual projects don't get whole  
13 credit values, they get partial credit values, and  
14 those credit values are assigned based on technical  
15 evaluation and fuel use, and so I know that  
16 complexifies the project accounting, but I think  
17 creates a more understandable rule for how to  
18 structure this. So if one credit equals one ton,  
19 then you're going to have, you know, smaller, you  
20 know, less than -- less than interger credits  
21 essentially created in a project and I know that's  
22 complex, but I don't know to me it seems like the  
23 only sort of streamlined way out of this complex  
24 issue of measuring the lifetime credits. Thank you.

25 MR. POOR: So I agree with your

1 sentiment there and that would be the ideal I think  
2 of what you're proposing. I just don't think it's  
3 allowed by the law. So a clean heat credit must be  
4 based on the life cycle emissions and so it cannot be  
5 based on the greenhouse gas inventory emissions in  
6 GWSA requirements so we have to come up with a way to  
7 translate those two, and so unless I misunderstood  
8 you I think your proposal is the logical one, but it  
9 also is not allowed.

10 HEARING OFFICER KNAUER: Matt Cota, do  
11 you want to say something?

12 MR. COTA: Well logical -- I don't have  
13 a specific comment on that, but the logical is the  
14 preferable, the more workable. I always say that,  
15 but I really want to understand Dave's point which is  
16 you generate credits based on actual reductions or  
17 based on anticipated reductions due to standards set  
18 in the TAG? Did I understand you correctly if we  
19 perform a measure, it reduces consumption of fossil  
20 fuels thereby reducing greenhouse gas emissions, we  
21 could prove that happened, then a credit is achieved  
22 or is it a measure receives credits when it is  
23 installed? In other words, we install a heat pump  
24 today we get the credits today and we don't have to  
25 prove that it reduces fossil fuel consumption later.

1 Am I making sense? I'm just trying to figure out  
2 what path we're heading down.

3 MR. WESTMAN: Matt, that's a great  
4 question and I can tell you that the experience from  
5 the efficiency utility is that you make assumptions  
6 about how a measure will reduce fuel use or increase  
7 efficiency depending on how you are measuring it. So  
8 you make assumptions about that measure and how  
9 frequently it gets used in a standard methodology  
10 based on a sort of average consumption profile then  
11 gets recorded in the technical resource manual, and  
12 that sort of becomes the de facto assumption that you  
13 know one heat pump installed results in this much  
14 fuel switching for tier three and this much electric  
15 efficiency for electric savings, and then you just  
16 sort of move that going forward and you don't go back  
17 to every single home where that -- where a heat pump  
18 was installed and verify with certainty that that  
19 savings occurred. You make assumptions, make  
20 assumptions, and you go back and do a statistical  
21 analysis after a number of years to confirm a sample  
22 set of those units performed in the way you expect,  
23 and then based on the result of that you update your  
24 numbers. So it's kind of like a rolling process  
25 where those --

1                   MR. COTA: That all makes sense to me  
2                   and that's where I assumed we were going. Is that  
3                   the general understanding? I'm sorry.

4                   MR. WESTMAN: I would certainly  
5                   recommend that.

6                   MR. WEISS: This is Thomas Weiss if I  
7                   may.

8                   HEARING OFFICER KNAUER: Yes please go  
9                   ahead.

10                  MR. WEISS: As an engineer whose done  
11                  some of these types of projects in individual  
12                  locations I have been under the impression that the  
13                  installer would make estimates for each individual  
14                  installation and it would be that a heat pump will  
15                  create a certain -- use a certain amount of  
16                  electricity and a certain amount of whatever. Other  
17                  fuels are being used in the house to get the delta.  
18                  So I am thinking that it's going to be a more  
19                  individually project location specific basis for the  
20                  credits that are earned rather than some kind of a  
21                  broad general this is what a heat pump does  
22                  particularly because we are working on buildings of  
23                  all categories. We're working on small houses, big  
24                  houses, commercial buildings, factories. End of  
25                  comment.



1 HEARING OFFICER KNAUER: Thank you, Mr.  
2 Weiss. Brian Woods, I see your hand is up and folks  
3 I don't want to discount the importance of this, this  
4 is a very important discussion and you know  
5 fundamental element of the program, but again today  
6 the workshop is focused on process for setting the  
7 pace and the trajectory. So we've got limited time  
8 today so to the extent that we can let's avoid going  
9 off into other equally important, very interesting  
10 topics. Let's save those for when those come up in  
11 the schedule. So with that go ahead, Brian.

12 MR. WOODS: I can yield to refocus the  
13 discussion. So let's move on.

14 HEARING OFFICER KNAUER: Okay. Great.  
15 Thank you. TJ, the floor is yours to take us to the  
16 next step of your proposed process.

17 MR. POOR: Okay. So we have now the  
18 value of clean heat credits, the value of measures  
19 that installed measures receive a certain amount of  
20 clean heat credits on a life cycle basis. So now we  
21 need to estimate a measure mix like the combination  
22 of different types of clean heat credits that  
23 obligated parties might pursue that would be  
24 sufficient to meet the 2030 targets. Again 2030 is  
25 the first -- the real requirement in the GWSA, the

1 near term one anyway -- well the second near term  
2 one, and so we need to do that in order to understand  
3 how clean heat measures that create those clean heat  
4 credits impact the progress towards emissions  
5 reduction requirements as measured by the greenhouse  
6 gas inventory, and so this is going to be something  
7 that's, you know, a challenge to predict, and the  
8 only thing we know about the prediction is that it's  
9 going to be wrong that -- but it would actually, you  
10 know, predicted measure mix will allow the Commission  
11 to then estimate the actual emissions reductions from  
12 each clean heat credit as accounted for by the  
13 inventory. Remember there are inventories life cycle  
14 -- I'm sorry. Clean heat credit values or life cycle  
15 inventory is just I'm going to use the word burner  
16 tip for lack of a better word, but kind of at the  
17 site emissions. The Department's potential study,  
18 which is due September 1, will offer kind of a first  
19 example of what's achievable given assumed measure  
20 characterizations, clean heat credit values, and in  
21 terms of a measure mix based on assumed policy and  
22 program constraints, the next Technical Advisory  
23 Group meeting will review the initial assumptions  
24 proposed by the methodology proposed by our  
25 consultant, and that can give kind of a basis for

1 saying okay here's how we translate clean heat credit  
2 values in life cycle terms and how many of those  
3 clean heat credits will be necessary to actually meet  
4 the greenhouse gas inventory reduction requirements.

5 I'm going to carry on for a little bit  
6 because it's listed as a next step but it's really  
7 part of the same thing is that we need -- as we do  
8 that need to ensure that policy goals and  
9 requirements of the clean heat standard of the  
10 affordable clean heat act are reflected. The low  
11 moderate income requirements, the requirements  
12 associated with installed measures versus fuel  
13 related measures need to be reflected, and then I'll  
14 also note that the Technical Advisory Group will need  
15 to play a significant role in the shaping of the  
16 measure mix to help evaluate those policy priorities.

17 HEARING OFFICER KNAUER: TJ, can I jump  
18 in?

19 MR. POOR: Let me say one more thing  
20 because it's part of the same thought and then I can  
21 stop I think is that then we can -- using that  
22 measure mix as basis and then the policy overlay  
23 that's when the Commission needs -- can set a  
24 reasonable trajectory for the emission reductions,  
25 reasonable trajectory of necessary clean heat credits

1 sector wide, and so that could say hey we want to do  
2 more in the first year and less in the later years or  
3 vice versa, but that really can help inform that  
4 trajectory.

5 HEARING OFFICER KNAUER: Thank you. So  
6 I was trying to think about why do we need to know a  
7 hypothetical measure mix and so I'm going to tell you  
8 what I'm understanding and you can correct me if I'm  
9 wrong. Basically the phase one of the proposal  
10 essentially gets us a theoretical mathematical type  
11 trajectory, and then if we're trying to put some  
12 constraints on that theoretical trajectory to reflect  
13 the policy requirements of the law as well as what's  
14 actually kind of a program achievable amount, is that  
15 what the measure mix does is essentially, you know,  
16 says this is what is likely to be achievable given  
17 real world scenarios?

18 MR. POOR: I think that's part of it.  
19 That's a primary function of it, but the other thing  
20 it does is it helps -- well one it helps frame up any  
21 work that may be necessary for a DDA, default  
22 delivery agent, but if we just put the policy  
23 constraints on the trajectory, we're not going to  
24 necessarily know if we meet or if we're headed to  
25 actually meeting the GWSA requirements if we don't

1 have kind of some assumed measure mix, and because  
2 you know meeting all of the requirements except for  
3 -- except for those that are -- with those installed  
4 measure requirements required by the affordable heat  
5 act if we meet all of those a hundred percent of the  
6 remainder with biofuels, whatever is eligible, well  
7 we could actually meet the targets that way, but then  
8 there's over time some restrictions on carbon  
9 intensities of those fuels and we might actually not  
10 put ourselves on a trajectory to meet those 2030  
11 targets, and so I think it's important to ensure that  
12 we're on the correct trajectory and then to translate  
13 because there's a different -- you know if we're --  
14 if we assume those requirements are all met by  
15 biofuels, then that has -- you know that's a  
16 different number of clean heat credits and a  
17 different number of actual emissions reductions than  
18 might be achieved by half biofuels and half installed  
19 measures, and so we really need -- and we're still  
20 trying to set the obligation and we need to know what  
21 the actual impact is for the inventory in order to  
22 set each individual fuel provider's obligation. I  
23 don't feel like I explained that very well, but  
24 hopefully Ken's question or somebody's questions can  
25 help illuminate.

1                   MR. JONES: I hope so too. I certainly  
2                   agree with this approach and it's a necessary  
3                   approach. I guess I just want to throw out that the  
4                   need for it to be incredibly precise and accurate in  
5                   the early stages of implementation in the clean heat  
6                   standard process I don't want to put too much of an  
7                   emphasis on that because as you know one of the great  
8                   variables that I don't believe that the capacity work  
9                   can accomplish is just as you identified to what  
10                  extent are the fuel oil dealers going to be able to  
11                  access renewable diesel, renewable heating oil, and  
12                  that is going to have a very significant impact on  
13                  the measure mix which then has an impact on the  
14                  resulting difference between an inventory calculation  
15                  and a life cycle calculation, but I don't want that  
16                  to paralyze us. That we will learn over time how the  
17                  fuel dealers respond to their requirement, part they  
18                  have to provide a planning document to give us a  
19                  heads up, but also there's kind of actual experience  
20                  of moving forward is going to give us that, and the  
21                  other thing I want to note in there is we do -- and  
22                  I'm sure that the consultants are working on this,  
23                  but we do have significant experience on measure mix.  
24                  We know how many heat pumps have been installed the  
25                  last few years. We know how much weatherization has

1       been accomplished, and that is probably a very good  
2       starting point for the early years, and we may  
3       identify yeah we're going to need to accelerate, okay  
4       which ones can be accelerated more clearly, but again  
5       my comment here -- because I have seen it in a lot of  
6       the -- a lot of the submissions is we have to wait  
7       until September 1 for an awful lot of calculation,  
8       and I want to push back on that. I really want to  
9       get the understanding of magnitude of credits going  
10      before that because it will help the fuel oil dealers  
11      recognize what their responsibility is. I hear what  
12      Matt says he wants an 18-month lead time. Well in  
13      order to give them that we need to get started giving  
14      at least those early approximations and it may need  
15      to happen before we get some of the real detailed  
16      analysis provided by September 1.

17               MR. POOR: Yeah just real quickly I want  
18      to just appreciate that what you're saying about we  
19      are going to have a precise value and we're going to  
20      have a value that is not accurate, and I definitely  
21      go back and forth between agonizing over how -- how  
22      good this kind of translation is going to be, and so  
23      I appreciate that like we need to get started and get  
24      moving and set some kind of -- give some early  
25      estimates. I'm not -- I don't know how much earlier

1       than September 1 we'll be able to do, but I hear you  
2       there.

3                   The other thing that worries me about  
4       that is we do have 2030 requirements and to the  
5       extent we get it wrong then what we have is a -- one  
6       potential outcome is too low of a trajectory in '26,  
7       '27, 2028, and then we realize that we're not going  
8       to meet our 2030 requirements as we have to jack up  
9       that trajectory for the last year and that comes at  
10      significant cost, or we just don't meet the  
11      requirements and that latter one is not an option  
12      that I want to plan for, and so we have -- there are  
13      some offerings in the legislation although they are  
14      limited, but I want to avoid this like super like  
15      high cost 2028, 2029 or high obligation. I don't  
16      even know if it will be high cost. That's part of  
17      the reason why I agonize over it.

18                   HEARING OFFICER KNAUER: Thank you, TJ.  
19       I'm going to set up the queue here. I see Thomas  
20       Weiss has unmuted, then we'll go to Dylan then Matt  
21       Cota.

22                   MR. WEISS: Thank you. This is Thomas  
23       Weiss. I had -- my original thoughts on this were to  
24       include something like the Department's measure mix  
25       and I found that they were unnecessary the way I set



1 up my proposal. In my proposal the greenhouse gas  
2 inventory is based on what I have been calling  
3 realtime emissions, and what I did was or proposed is  
4 that we go from the realtime emissions to the life  
5 cycle emissions of the existing mix. So we basically  
6 convert the inventory into life cycle emissions and  
7 we base our trajectory on the life cycle emissions  
8 and then we don't need a measure mix.

9 What happens is we know from the measure  
10 mix how much we have to reduce it in order to meet  
11 the goals. Obligated parties have fuel value  
12 obligations and it has been up to them to come up  
13 with credits or projects that will create the credits  
14 that they need, and if there is then a difference  
15 that shows up as different information comes in as  
16 required by the Act, that is what the triennial  
17 updates are about or the necessary on a faster term  
18 could cause adjustments.

19 One thing I don't know goes back to what  
20 Matt Cota was talking about are the triennial -- if  
21 the first triennial update comes in year three, is it  
22 allowed to change years 4 through 10. That's what I  
23 don't know about how this is set up. Is that  
24 something that's in statute or is that something that  
25 we're trying to determine? So that's the end of my

1 comment.

2 HEARING OFFICER KNAUER: Thank you, Mr.  
3 Weiss. I would say to answer your last question that  
4 is something that we're trying to determine as part  
5 of this rulemaking process. Now we'll go to Dylan.

6 MR. GIAMBATISTA: Yes thank you. With  
7 regard to the measure mix as our comments reflected  
8 we do think that the logical part of the sequence in  
9 this stage of development will provide additional  
10 data that we can reference, but in terms of  
11 implementation we view the actual activities that can  
12 be done to achieve compliance as set forth in the Act  
13 so provided that the type of activity meets the  
14 requirements of the emission schedule, the carbon  
15 intensity score, the intent of the law would appear  
16 to be to allow flexibility for obligated parties, and  
17 it may be then that elements of the measure mix are  
18 those that are chosen as compliance pathways, but I  
19 think one thing that we would want to ensure intent  
20 on is that the measure mix is a piece of data and  
21 information in forming some of the projections, but I  
22 want to ensure our understanding that the measure mix  
23 is not something obligated parties would be compelled  
24 to comply with. We're complying with reductions of  
25 greenhouse gas emissions. Do I have that right?

1 MR. COTA: I think so.

2 MR. POOR: Yeah I'll just respond  
3 quickly. Sorry to shortcut you there, Brian. Yeah  
4 in our proposal that you would still be -- you would  
5 not be required to meet what this measure mix is, but  
6 it is -- the measure mix is really used to help set  
7 the trajectory -- the obligations for each obligated  
8 entity and then you need to go out and meet those as  
9 cost effectively as possible or meet those  
10 obligations. You just may need more clean heat  
11 credits depending on how -- to meet your obligation  
12 and that's like the balance in the iterative process.

13 HEARING OFFICER KNAUER: Matt, did you  
14 have anything else? Your mike has been on for a  
15 little while?

16 MR. COTA: I just wanted to say I  
17 absolutely agree with what Ken Jones is saying. We  
18 were hovering. All the various entities different  
19 shapes and sizes and commodities that either provide  
20 clean heat services, installed measures, or obligated  
21 parties that will have to pay the -- or obligated  
22 parties that want to earn their own credits, until we  
23 have a value associated with those credits and a cost  
24 for not obtaining those credits it's really hard for  
25 us to do anything other than calculate some nebulous

1 value for those early actions, and in order to change  
2 that marketplace Ken is absolutely right we have to  
3 know what the cost is for not producing our own  
4 credits and we have to know the value of creating our  
5 own credits whether it's energy product or service or  
6 piece of equipment.

7 Not having that in advance time -- this  
8 is where I disagree with Ken -- which is not having  
9 that I think compels, again we don't have this  
10 choice, but I would encourage the Legislature to  
11 delay implementation if we don't have this in due  
12 course. Waiting until September to make significant  
13 investments on whether or not you put a bulk storage  
14 facility that can accommodate biodiesel or whether  
15 you retrain your staff all these decisions are  
16 waiting on these values; the cost of credits, the  
17 value of those credits, and the obligation that each  
18 entity has and pricing. I mean we're going to -- 18  
19 months from now you can buy a price for a gallon of  
20 heating oil, you can buy it and sell it 18 months  
21 from today. So we would like to know ASAP, but if we  
22 don't get that, it's going to be really hard for us  
23 to be able to move forward without a delay.

24 HEARING OFFICER KNAUER: Thank you.

25 Brian and then Dave.

1                   MR. WOODS: Thank you, Tom. I'll try to  
2                   be brief. I want to share at least my perspective on  
3                   the measure mix issue. Because of the way the law is  
4                   written it's -- you know the emissions from the fuel  
5                   that's avoided minus the emissions from the fuel  
6                   that's used instead for each clean heat measure, I  
7                   don't see a way to be able to -- the -- the credits  
8                   for any clean heat measure aren't just related to  
9                   their different depending upon what they are  
10                  replacing. So, for example, weatherization project  
11                  the fuel that's avoided is fuel that you don't use  
12                  because you have a tighter building envelope and then  
13                  emissions from the fuel that you use well you're not  
14                  using any fuel instead versus in a heat pump  
15                  situation that heat pump load might be displacing  
16                  fuel oil or it might be displacing propane. So those  
17                  numbers are all going to be different for every clean  
18                  heat measure.

19                 I understand Mr. Westman's proposal to  
20                 try and make that a little more uniform and simpler,  
21                 but the way the law is written it's not in order to  
22                 be able -- to be able to do the calculation to say  
23                 this measure results in this many reductions and you  
24                 need to do that in order to be able to get to the end  
25                 of the calculation and say and this will result in

1       this change in gross emissions as measured by the  
2       inventory.

3                       So I don't think it's possible to go to  
4       work from the inventory and go backwards to life  
5       cycle because again you're going to need to know what  
6       each measure is earning and what it's actually  
7       replacing. So I think it's a critical point of  
8       program design and I think there can be a table or  
9       assumptions about what a clean heat measure is, what  
10      it's displacing that are defaults. The idea of  
11      custom credit for larger projects or more complex  
12      projects I think is worth exploring, but I think it's  
13      unavoidable to be able to get on this trajectory and  
14      to be able to say we're going to be -- you know we're  
15      apportioning credits that are -- get us on this RCI  
16      sector's proportional contribution to the 2030  
17      targets. Doing that without assuming what the mix of  
18      measures is going to be I haven't been able to figure  
19      out how to do that.

20                      HEARING OFFICER KNAUER: Thank you,  
21      Brian. Dave, go ahead.

22                      MR. WESTMAN: Yeah appreciate this  
23      conversation. It's definitely helping our team  
24      understand what the Department and sounds like ANR is  
25      in agreement on it. I guess from our perspective the

1 comment TJ said that in effect this methodology would  
2 essentially assign credit obligations to obligated  
3 parties but that they -- but the key word that I  
4 heard and that I'm reacting to is, as an existing  
5 program implementer at Efficiency Vermont, is that  
6 the obligated party might have to seek out more  
7 credits if they change their measure mix from what is  
8 assumed they would be implementing when those credits  
9 were allocated. I would just kind of -- I would just  
10 go out on a limb and say that kind of result is  
11 fairly unworkable from my perspective. I think the  
12 obligated party would need to have a firm number of  
13 credits that they retire and they know that they have  
14 met their obligation and regardless of the measure  
15 mix, and so from my perspective you know I do want to  
16 go back to my initial point because I read the  
17 statute I think differently than how the Department  
18 and ANR are presenting it here. I read the statute  
19 as saying clean heat credits are awarded based on the  
20 amount of life cycle emissions reduced, not clean  
21 heat credits are somehow -- well I guess I don't want  
22 -- I don't want to mischaracterize how the Department  
23 or ANR is saying it so I'll say clearly what I think  
24 the legislation is saying which is I believe it says  
25 clean heat credits are awarded for projects completed

1 based on their life cycle emission reductions. To me  
2 that does not statutorily prevent one credit equaling  
3 one inventory ton of reductions. It means that you  
4 have to create an accounting system where individual  
5 projects have greater or lesser amounts of GHG  
6 impacts and therefore greater or lesser amounts of  
7 credits awarded. That's something we do everyday  
8 with keeping track of efficiency savings and fuel  
9 savings based on fuel type, measure installed. It's  
10 a complex system, but it's a system that works today.  
11 So I'm not overly intimidated by the idea of having  
12 different credits awarded based on a project  
13 characteristics. We do that all the time. I'm more  
14 concerned with this fundamental premise that  
15 obligated party might have to go out and get more  
16 credits because they somehow changed their measure  
17 mix. That doesn't seem like a workable solution from  
18 my end, and I guess I'll finish by saying if my  
19 statutory interpretation is different from the  
20 Department and ANR, then I would really appreciate a  
21 fine tooth comb understanding of why that section  
22 where clean heat credits are sort of defined as a  
23 statutory -- defined characteristics what is leading  
24 the Department to that sort of interpretation because  
25 I don't see it that way.



1                   MR. POOR: Yeah so I want to be clear  
2                   we're not proposing anything that would set an  
3                   obligation and then have, you know, on the back end  
4                   obligated parties having to go back and get more  
5                   credits to meet an obligation. It's really the clean  
6                   heat credit value is awarded on life cycle emissions  
7                   reductions and we don't know how many life cycle  
8                   emissions reductions are necessary to meet the GHG  
9                   inventory reductions unless we create a measure mix,  
10                  and so I actually think what you ended up saying was  
11                  really consistent with what we were saying in terms  
12                  of the translation to a greenhouse gas inventory. It  
13                  may have just been in the reverse perhaps with a --  
14                  you were talking about fractional credits, et cetera,  
15                  and I actually think they are fairly consistent and  
16                  they are still just -- either way there needs to be a  
17                  translation between life cycle and inventory.

18                 HEARING OFFICER KNAUER: Any more  
19                 discussion? Dave, are you in a good position? Are  
20                 you comfortable now that you heard from TJ?

21                 MR. WESTMAN: Yeah I guess if I could --  
22                 if I could sum up then where I would think that  
23                 translation occurs is that the translation occurs in  
24                 the TRM which is technical resource manual that  
25                 characterizes how much -- how many credits get formed

1 under what situation for specific clean heat  
2 measures. That's where I would suggest that if we  
3 keep it simple for the sake of the obligated party to  
4 say one credit equals one ton, then TRM would  
5 essentially be, you know, and based on that  
6 translation for each measure. So that's -- that's I  
7 guess what I'm suggesting is that you can still set  
8 that credit, but a measure with less of an impact on  
9 life cycle emissions, and I mean that in like the --  
10 a measure that has higher life cycle emissions would  
11 essentially get a lower credit value and a measure  
12 that has a greater reduction in life cycle emissions  
13 would have a higher credit value. Some type of  
14 translation there so that the accounting all adds up  
15 at the statewide level and at the obligated party  
16 level, but that the measure mix becomes the sort of  
17 defining characteristic of what measures sort of have  
18 the greater impact and I don't have the technical  
19 details to talk any further about that.

20 MR. POOR: Yeah no I agree the clean  
21 heat credit value on a life cycle basis should be  
22 part of the TRM for each measure. We're talking  
23 about how we set the obligations for each obligated  
24 entity and those obligations need to add up to  
25 greenhouse gas inventory amounts, and so that's where

1 the measure mix comes in is like how do we set those  
2 obligations. We need to assume a measure mix so we  
3 know how much -- how many clean heat credit values  
4 are necessary to actually get to the greenhouse gas  
5 inventory. So --

6 MR. WESTMAN: That's where we're not  
7 quite seeing eye to eye. I think if you've got a  
8 one-for-one credit per ton, then you don't need to --  
9 you don't need to know what your measure mix looks  
10 like at all.

11 MR. WOODS: That's right, but they  
12 aren't one to one. The gross emissions reductions  
13 are not the same as the life cycle emissions  
14 reductions. That's where you can't do the arithmetic  
15 unless you know what the measure mix is going to be.

16 MR. WESTMAN: Understood. We agree on  
17 that which is why I'm suggesting that in the -- if in  
18 the TRM a measure with higher life cycle emissions  
19 should get a smaller credit allowance and that's  
20 where I'm not understanding how -- understanding how  
21 that was intended to actually be interpreted quite  
22 honestly by the legislation, and I would appreciate  
23 some kind of interpretation of how life cycle  
24 emissions are supposed to line up to this.

25 MR. WOODS: Well I'm not the lawyer and

1 I didn't write the law. I guess I'm willing to say  
2 this is how I understand it with that disclaimer.  
3 I'll repeat what I said before that credits are based  
4 on the life cycle emissions of the fuel that's  
5 displaced minus the life cycle emissions of the fuel  
6 that's used instead and that's the same for fuels and  
7 it's also for measures as well. So the way I read  
8 that is what I said before every measure, if you  
9 install a heat pump, the credit that you get with it  
10 replaces fuel oil is different than the credit you  
11 will get if it replaces propane, and that's fine and  
12 I agree with you that the TRM should have a list of  
13 here's the clean heat measures, here's the things  
14 that they are replacing, I'm not intimidated by that  
15 at all. I think that's eminently doable, but I think  
16 where we're kind of talking past each other is in  
17 order to establish for each either the trajectory or  
18 as TJ was talking about the 2030 requirement for the  
19 entire market you need to know -- you need to assume  
20 here's the mix of measures that are going to be  
21 deployed, here's what they are going to replace, and  
22 they will result in this life cycle emissions, and  
23 then if I know what the measure mix is, if I can say  
24 oh okay this -- we got you know 10,000 heat pumps and  
25 they replaced all fuel oil and they replaced, you

1 know, 60 percent of the fuel load and I know what the  
2 emissions are for the electricity the way the  
3 inventory does it, and I know what emissions from  
4 fuel oil are, the way the inventory does it, then I  
5 can do the math and then I can establish the entire  
6 credit requirement that meets the statutory  
7 requirement to say that the credit requirement needs  
8 to get you on the path to meet the GWSA standard for  
9 the portion that's RCI. I know that gets very  
10 complicated so that's the way I see it.

11 MR. WESTMAN: Thank you for spelling  
12 that out. I appreciate it.

13 MR. WOODS: Did it help?

14 MR. WESTMAN: I think it helped.  
15 Whether or not it helps us actually write this rule  
16 I'm less certain of.

17 MR. COTA: Tom, if it's all right just  
18 quickly just to double down on Brian's point which is  
19 as the heating contractors are installing heat pumps,  
20 not just in heating oil and propane homes but in  
21 homes that use wood, so what would that measurement  
22 be? Would it be different than the heating oil?

23 MR. WOODS: Conceptually, Matt, of  
24 course because the inventory emissions for biomass  
25 aren't in that sector. They show up elsewhere. They

1 are in the agriculture, land use sector. So yeah  
2 that's an entirely -- the emissions from the fuel  
3 you're replacing, if the fuel you're replacing is  
4 biomass, is zero.

5 MR. COTA: And it's not insignificant.  
6 We've got 40,000 homes that use biomass.

7 HEARING OFFICER KNAUER: All right  
8 folks. We've been going for almost two hours so  
9 we're going to take a break now until noon so that's  
10 8 minutes from now. If there are any final comments  
11 to wrap up this topic, at that time we'll do that.  
12 Otherwise, we will proceed with additional questions.  
13 So see you in eight minutes.

14 (Recess.)

15 HEARING OFFICER KNAUER: So folks we had  
16 a robust discussion about what role the measure mix  
17 will play in setting the trajectory or the pace for  
18 the clean heat standard program and the setting the  
19 ten years requirement outlook for obligated parties.  
20 So take this as a request. When folks file their  
21 reply comments make sure that you include some  
22 commentary on what role you think the measure mix  
23 will play in that -- in setting the trajectory.

24 So I'm going to move us along. I  
25 imagine we've got one more hour and a bit of material

1 to get through. So I'm going to continue with my  
2 questions on the Department's filing, and moving  
3 right along to the topic of the good cause temporary  
4 adjustments the Department suggested that good cause  
5 modification should occur at least 120 days before  
6 the determination of default delivery agent credit  
7 costs. So first want to double-check with the  
8 Department that that's your position or that's part  
9 of your straw proposal? This is on page 11.

10 MR. POOR: Yeah I think this is part of  
11 the -- you know just the idea of giving as much  
12 advance notice as necessary in order to allow impacts  
13 -- any impacts to trickle down to the rest of the  
14 process including what might turn into a DDA  
15 obligation or not.

16 HEARING OFFICER KNAUER: Okay. Yeah so  
17 I think the practical effect of that is we are -- it  
18 might mean that the modification would need to be  
19 made at least 240 days before an obligated party  
20 needs to present its election to the Commission on  
21 how it intends to meet its annual obligation because  
22 I think once the DDA credit cost is set I believe the  
23 law mandates that an obligated party would have 120  
24 days to inform the Commission how it intends to  
25 proceed, whether that is with the DDA or procuring

1 its own clean heat credits. So that's just kind of  
2 the practical effect, and I guess bigger picture I  
3 think we will need to kind of set out either in  
4 annual or triennial kind of process map that shows  
5 when all these decision points get made and, Ken  
6 Jones, looks like you have your hand up.

7 MR. JONES: Yeah to me there are I think  
8 three rather distinct elements to this. One is  
9 whether the general trajectory has been appropriate,  
10 and as we gain experience behind it and say oh we're  
11 -- it's noted in the Public Service Department  
12 submittal it may be we didn't set it aggressively  
13 enough therefore you modify it up or we set it too  
14 aggressively and modify it down, that's one, and then  
15 the second and it was cited in a couple of the  
16 comments leading up to this workshop is individual  
17 obligated party specific. If some condition is met  
18 by a specific obligated party that affects their  
19 ability to meet their annual requirement, a process  
20 for the Public Utility Commission to address that,  
21 but I think there's a third especially it's  
22 highlighted by you saying a 240 day period before the  
23 final plan by the obligated party and that's in year.  
24 When we get near the end of the year and through  
25 especially in these first couple years of obligation



1 if the target is set at such a level that the  
2 available number of credits is more challenging to  
3 accomplish, the market price is going to go through  
4 the roof, and I think that the Legislature intended  
5 for there to be a mechanism to avoid that short term  
6 probably near the end of an obligation year relief  
7 value. So again I think there are three different  
8 pieces and I'm kind of hoping that the rules address  
9 all three.

10 HEARING OFFICER KNAUER: Thank you.

11 Anyone else in the workshop today have any other  
12 questions on the Department's comments regarding the  
13 good cause temporary adjustments? Looks like that's  
14 a no. I do have -- my next question this is from the  
15 Department's comments, but there's a similar comment  
16 in Efficiency Vermont's filing. The Department  
17 stated that it is unlikely that the TAG itself will  
18 originate significant work on its own and Efficiency  
19 Vermont stated that the TAG is most efficiently used  
20 to react and respond to work versus being the creator  
21 of technical work.

22 I just wanted to ask the Department and  
23 Efficiency Vermont to each say a bit more about that.  
24 You know when I look at Section 8128(a), you know,  
25 that section details many technical duties that are

1 assigned to the TAG as deliverables. So just trying  
2 to square your comments with what I -- with my read  
3 of the statute.

4 MR. WESTMAN: TJ, do you mind if I go  
5 first? Yeah thanks, Tom. Great question. Probably  
6 could have explained this a little bit more clearly,  
7 but I think we're in a -- I think we're in -- in sort  
8 of a -- like a no huddle type offensive situation  
9 here where we're just trying to sort of see each play  
10 as it's showing up on the field, and that sort of you  
11 know making -- making audibles as they come, and I  
12 think that's not desirable for the short term, but  
13 certainly isn't desirable for the long term, and so I  
14 do see the TAG's capacity to work through a lot of  
15 the sort of launch issues as being pretty limited  
16 just because there's so much to go through and it  
17 takes time and effort to develop these matters, and  
18 longer term once the rule is put into place I do see  
19 the TAG as being more -- far more able to you know  
20 develop these technical analyses on its own.

21 So I think our comments were probably  
22 more along the lines of the next, you know, 12 to 18  
23 months. The TAG has a lot on its plate. It would be  
24 better if they were being served those plays for  
25 review and then I would expect that once the rule

1 goes into place and things start sort of settling  
2 down that the TAG can sort of take on a more self  
3 sufficient role.

4 HEARING OFFICER KNAUER: Thank you. TJ.

5 MR. POOR: Yeah I guess I just, you  
6 know, in the context of things like credit ownership  
7 I'll use as an example that is something that the PUC  
8 is taking broad comments on and it's also listed as  
9 one of the things the TAG should think about, and so  
10 the way I think about that is there are the policy  
11 components of credit ownership that are the subject  
12 of and some technical components that are subject to  
13 responding, you know, all parties who want to respond  
14 to the PUC's solicitation for comments to comment on,  
15 and I don't think the TAG was intended to comment on  
16 and, you know, develop original kind of  
17 organizational comments as a TAG on policy issues.  
18 It's called a Technical Advisory Group for a reason.

19 So I think that, you know, the way we  
20 think about it is in this credit ownership example  
21 for -- issue, for example, that the PUC would take  
22 the comments from all parties in the broader rule  
23 proceeding and say okay here is what our result is or  
24 TAG here are the comments, what are the technical  
25 issues associated with these comments, and that in

1       that way the TAG can then provide constructive  
2       feedback as at a minimum venue for discussing the  
3       technical issues and maybe the TAG does you know  
4       create a comment on technical issues, but I don't  
5       think it's appropriate and we don't think it's  
6       appropriate for the TAG to be weighing in on policy  
7       issues. That is not an obligation that has been  
8       assigned to the TAG and it doesn't have any -- and I  
9       actually don't think it will be easy for the TAG to  
10      do it given the makeup as a lot of the entities that  
11      also comment on the policy issues, and so narrowing  
12      the scope is really -- and it's not a narrow scope,  
13      don't get me wrong, but I'm kind of drawing the scope  
14      I guess is really important.

15                   HEARING OFFICER KNAUER: Thank you for  
16      that clarification, TJ, and I'm going to ask a  
17      followup. Do you believe that it would be -- within  
18      -- that the TAG will be originating significant  
19      technical work on its own?

20                   MR. POOR: Not without resources. You  
21      know I suppose that's a possibility if there's some  
22      volunteers, but when I think about how the TAG's work  
23      in the energy efficiency world it is the VEIC  
24      actually runs the TAG and that is part of -- I think  
25      it's part of the order of appointment structure, but

1       they originate measure characterization proposals and  
2       the Department of Public Service responds and works  
3       on it. Anybody is invited to participate. Not a  
4       whole lot of people do and -- beyond the energy  
5       efficiency utilities.

6                   In the tier three space where there's a  
7       TAG the utilities have hired the VEIC to develop  
8       measure characterizations. They have that resource  
9       and then they discuss them and bring them forward to  
10      the Commission for approval. Without a -- without  
11      resources I don't think that's possible. You know  
12      the way I see it with measure characterizations I  
13      think that's the piece where they could eventually do  
14      something if they have resources. Right now the PUC  
15      has a contractor that can support that and so -- but  
16      the contractor is developing originating work and the  
17      TAG is providing advice.

18                   HEARING OFFICER KNAUER: Thank you, TJ.  
19      I don't want to get us on a tangent about the --  
20      about this. It was just comments that caught my  
21      attention when I was reviewing all this yesterday and  
22      it's important that we understand what TAG is  
23      delivering and capable of producing and not, but  
24      again that's not the focus of our workshop today. So  
25      we can continue to have that discussion.

1                   So mercifully those are all my questions  
2                   on the Department's filing at this time so I'm going  
3                   to move along. Next we had some questions based on  
4                   Vermont Gas's filing and, Erin, if you're here did  
5                   you have some questions?

6                   MS. HICKS-TIBBLES: It will take me just  
7                   a minute to get organized again. If you have one, go  
8                   ahead.

9                   HEARING OFFICER KNAUER: All right. So  
10                  I'll jump right in. On page 2 answer 2 of Vermont  
11                  Gas's filing Vermont Gas stated that the process  
12                  should be structured with consistent procedures,  
13                  process would benefit from use of similar  
14                  methodological practices, et cetera. I'm not going  
15                  to read the entire filing. I'm wondering -- point  
16                  taken. Does Vermont Gas have a suggestion as to what  
17                  those procedures and/or methodological practices  
18                  should be?

19                  MR. GIAMBATISTA: Thank you for the  
20                  question. I think in general our key point here is  
21                  we know it's a review process. It's going to take  
22                  place every three years and so as a market  
23                  participant working in this space we want to ensure  
24                  that all of the folks trying to comply with the Act  
25                  have some sense of the process that will be set out.

1       You know there might be existing procedures that the  
2       PUC uses for certain types of cases here that might  
3       be applicable. We would defer to your judgment  
4       around that. Just consulting my notes for a moment.

5               One of the other things that I do want  
6       to call out here is that a review process may or may  
7       not require adjustments and so we have outlined that  
8       in our comments as well. So the procedures that the  
9       PUC would use may look differently based upon actual  
10      outcomes in the marketplace. Something to consider.

11             HEARING OFFICER KNAUER: All right.  
12      Thank you. Yeah so I'll reflect back to you and to  
13      everyone yeah we're trying to create a rule that  
14      provides regulatory certainty and predictability as  
15      to what those processes and what those methods would  
16      be. So I think Vermont Gas has, you know, rightly  
17      identified this is something that will help obligated  
18      parties to know how to navigate these waters. So in  
19      your reply comments if you have some specific  
20      suggestions, we will gladly take them. Erin, do you  
21      want to go ahead?

22             MS. HICKS-TIBBLES: Yeah kind of related  
23      comment and VGS mentioned that the uniform percentage  
24      reduction applied to obligated parties  
25      disincentivizes over performance and I was wondering

1 if you could, you know, explain a little bit more and  
2 I was wondering if other people agree with these  
3 statements.

4 MR. GIAMBATISTA: Thank you for the  
5 question here. I think that as we seek to understand  
6 the components of information and assumptions that  
7 will go into setting these requirements I think  
8 transparency is important for all of us in this world  
9 that we're entering into. In general we don't want  
10 to see a system where we are only measuring to meet  
11 the requirements in a compliance period because we're  
12 uncertain about what the future may hold and that may  
13 provide a disincentive to obligated parties to do  
14 additional activities. So to the extent that there  
15 are factors and assumptions being made, whether it be  
16 the measure mix or other things that we've discussed,  
17 we want to ensure that we have the opportunity to  
18 comply with what is most cost effective that will  
19 provide a benefit to our customers but also to the  
20 greater goals of the Act, and so that is what was  
21 intended in this part of our comments.

22 HEARING OFFICER KNAUER: I see that Ken  
23 Jones raised his hand.

24 MR. JONES: Yeah this is back to you,  
25 Dylan. In terms of accomplishing beyond the



1 requirement is it your envisioning and perhaps others  
2 on this call that the market may address that, that  
3 you can market additional credits to other obligated  
4 parties or to the DDA so that yeah you might be able  
5 to have a program in place that's wildly successful  
6 and would continue to pursue it because the market  
7 will accept your benefits and compensate you?

8 MR. GIAMBATISTA: Thank you. Just to  
9 outline our thinking a little more on this section we  
10 think of this as looking ahead into the future. As  
11 we make investments to comply with the Act and  
12 achieve our obligation in a given compliance period  
13 we want to be sure that the investment we're making  
14 results in lowering our obligation in the future, and  
15 depending on how the sector share is performing based  
16 upon the performance of installed measures and  
17 delivered fuels, we want some certainty that the  
18 investment that we're making is cost effective, and  
19 depending on how this process would work out and  
20 depending on how that triennial update impacted the  
21 ten year projection it may alter some of the  
22 investments that we're making. So just something to  
23 consider that we're weighing and we've been thinking  
24 about this since enactment.

25 HEARING OFFICER KNAUER: Erin, do you

1 have additional questions?

2 MS. HICKS-TIBBLES: I think not on this  
3 commentary.

4 HEARING OFFICER KNAUER: Other questions  
5 for Vermont Gas or based on Vermont Gas's filing?

6 MS. HICKS-TIBBLES: No.

7 HEARING OFFICER KNAUER: All right. I  
8 just have a similar request to my earlier request.  
9 Page 3 answer 3 of Vermont Gas's filing the company  
10 was looking for clear guidance about how the  
11 Commission would interpret the portion of the law  
12 related to good cause adjustments and noting that  
13 Vermont Gas would like the proposed rules to include  
14 sets of procedures, et cetera. So again if anyone  
15 has specifics that they would seek to have included  
16 in a rule, please, you know, feel free to state them  
17 now, but importantly put them on paper when you file  
18 your reply comments, and I guess with that open the  
19 floor does anyone else have any comments or questions  
20 based on Vermont Gas's filing and I see that Ken  
21 does.

22 MR. JONES: No.

23 HEARING OFFICER KNAUER: Anyone else?  
24 All right. Thank you. So I did not have any  
25 questions regarding the Clean Fuels Alliance filing,

1 but opening the floor to all workshop participants in  
2 case anyone else had questions based on that filing.  
3 I'm going to say that's a sufficient pause and folks  
4 do not have questions.

5 Turning now to Matt's filing for the  
6 Vermont Fuel Dealers so Matt prefaced this multiple  
7 times today about looking to know both the clean heat  
8 credit requirements and Matt used the term  
9 alternative compliance payment, but I think maybe  
10 you're talking about the DDA cost, but I guess the  
11 two are linked. Looking to understand those things  
12 at least 18 months in advance of what I -- you know a  
13 compliance year. So a general question to all  
14 workshop participants is do we believe it's possible  
15 to provide that information to obligated parties on  
16 that schedule? Ken Jones.

17 MR. JONES: I mean yes if we -- very  
18 much hinges on when the obligation starts. So if the  
19 obligation starts in 2027, then yeah we can get the  
20 information by the middle of 2025, but you know as  
21 some of you may have heard I believe that we can  
22 start to prime the pump to provide information  
23 earlier than that and it's going to get -- my kind of  
24 next comment about the shape of the trajectory this  
25 is a recognition that establishing some of the early

1 requirements is going to initiate market action and,  
2 I'm sorry, I don't know how better to project measure  
3 uptake and the ultimate reduction in the use of  
4 fossil fuels until we get the market going, and so  
5 again when we start talking about the shape it may  
6 mean we set obligations at an early time maybe not  
7 very high to see how the market reacts, but anyways  
8 but the answer is yeah we will, and if the specific  
9 three year product from the Public Utility Commission  
10 it depends on what year the first of those three  
11 years is, and as I say if it's established in 2027  
12 which is definitely out there, but that means we can  
13 do interim work for maybe even 2025 and 2026 to allow  
14 the market to start to do its work.

15 HEARING OFFICER KNAUER: Thank you and  
16 then as I'm thinking about this being an ongoing  
17 program with the triennial review process going back  
18 to Dylan's comment maybe not an update maybe an  
19 update who knows depends on what that review  
20 produces, and if Matt's seeking to know 18 months in  
21 advance of a compliance year, you know, it begs the  
22 question of how soon does that triennial review  
23 process need to take place? It seems like we would  
24 need to begin the process, you know, maybe three  
25 years in advance especially given, you know, a few of

1 the other numbers that we've been talking about today  
2 like the 120 or 240 day election process. So I guess  
3 those are my -- also go to my earlier comment that is  
4 at some point we will need to draw kind of a process  
5 map that looks at what's happening on an annual and  
6 triennial basis.

7 Any other comments on the fuel dealers  
8 suggestion or request that we let them know 18 months  
9 in advance what the requirement amount is and the DDA  
10 cost would be? TJ.

11 MR. POOR: I guess I just have a  
12 question to better understand that. So -- and I just  
13 want to confirm my understanding. So fuel dealers  
14 purchase their fuel and then they need to -- they  
15 need to offer like the fixed price option like the  
16 prebuys basically to their customers, right, and they  
17 can't change that -- they can't change that price and  
18 so what you're saying is that's why we need to know  
19 -- that's why you need to know well in advance. Is  
20 that -- is that the gist of it, Matt?

21 MR. COTA: That is the gist of it, but  
22 there's a key element here which I think it's -- it's  
23 maybe you all know, but let's assume someone here on  
24 this call doesn't. The delivered heating fuels  
25 industry is fundamentally differently than a

1 regulated utility like Vermont Gas or electric power  
2 company in that we can't make up for rates for past  
3 issues. So if there's a storm and all the lines are  
4 down and Green Mountain Power has to spend all of  
5 this money rebuilding our electrical infrastructure,  
6 that can be recouped in rates. We have no ability to  
7 recoup costs that come in the future. It just  
8 doesn't happen because they can switch companies and  
9 our rates aren't regulated. So if you are offering a  
10 prebuy program, if you are offering a fixed price, a  
11 guaranteed price program, Vermont law is clear within  
12 7 days of offering such a program you must acquire 75  
13 percent of those gallons in the form of a guaranteed  
14 price contract with your wholesale supplier or some  
15 other hedging mechanism. That's been on the books  
16 since 2006 in order to offer those contracts to  
17 customers prebuys or guaranteed price programs which  
18 are typically offered in April and go on for the next  
19 six months depending on the type of people. You have  
20 to acquire those gallons now. So we're getting  
21 legitimate calls from consumers, from fuel dealers  
22 saying what do we do here. Is there going to be a  
23 credit fee attached to the gallons that we deliver in  
24 March of next year and here it is in February, and I  
25 can only say I don't know. We don't have any clear

1 direction. If we had some certainty about when that  
2 fee could be applied and how much it was, well then  
3 you could offer these programs, but to not know that  
4 offering these programs may be a fast track to  
5 bankruptcy and woe is us. There are real people that  
6 depend on these products.

7 MR. POOR: So I understand the  
8 regulatory construct and the risks. I'm really just  
9 focused on the timing which is what I don't  
10 understand. So you said April. I was thinking July,  
11 get the prebuy notice from my dealer in July and so  
12 it's probably a range, right. So in my mind that  
13 means that the fuel dealer given the law has  
14 purchased the fuel in let's say June. So they  
15 purchased the fuel in June, offer the prebuy in July  
16 for that upcoming heating season.

17 So if you knew by May what the credit  
18 price is for the following year, you could include  
19 that credit price in the prebuy, and so in my mind  
20 it's like eight months and I feel like I imagine I'm  
21 missing something here like you need to know in May  
22 before the calendar year that starts before in my  
23 timeline here as opposed to 18 months before. So  
24 what am I missing.

25 MR. COTA: What you're missing is the

1 opportunity that is realized by a smaller subset but  
2 large users in which they can prebuy. You can get a  
3 futures contract with an upstream supplier or  
4 essentially a paper contract 18 months in advance as  
5 a way to smooth out any volatility in the market. So  
6 yes for the average consumer who buys 700 gallons of  
7 heating oil their offer comes out in May or June and  
8 then the fuel gets delivered throughout the next  
9 heating season, not the calendar year but the heating  
10 season, but that's not how all of it is purchased.

11 MR. POOR: Okay.

12 MR. COTA: And fuel dealers who are able  
13 to enter a paper contract for 18 months for oil and  
14 propane have the ability to ensure a stable price for  
15 their consumers.

16 MR. POOR: Right and so are those --

17 MR. COTA: Not having that ability means  
18 we are not subject to the market -- the whims of the  
19 market.

20 MR. POOR: Right, and so my question is  
21 could they just buy that -- buy that fuel 18 months  
22 in advance and then when they offer -- what you're  
23 saying I guess they are offering that to the end user  
24 as well 18 months in advance. Like the end user can  
25 have a 18 month prebuy?



1                   MR. COTA: That's atypical, but it is  
2 possible.

3                   MR. POOR: Okay and so in that case I  
4 definitely see. I was thinking because -- so what  
5 percentage, if it's atypical, what percentage are we  
6 talking about of prebuys I guess?

7                   MR. COTA: Well we're talking about  
8 large users and that's not the data that we have or  
9 can collect. I mean it's all survey data, but we do  
10 have it.

11                  MR. POOR: So sorry to explore this like  
12 live here, maybe I should have a conversation with  
13 you on the side, but if -- I don't know. I imagine  
14 maybe somebody else doesn't know to your point  
15 earlier, but so if they were to -- would a possible  
16 solution be you offer this price and then you would  
17 have to say, you know, this may change by a penny or  
18 two per gallon depending on the ultimate obligation  
19 under the clean heat standard, and asking that  
20 question I can -- your response is somebody who  
21 doesn't offer that will just take that customer and  
22 so --

23                  MR. COTA: My response would be the  
24 Attorney General's Office which enforces the law, the  
25 contracts law, would -- guaranteed price programs

1 might disagree with that -- might object to us doing  
2 that.

3 MR. POOR: That's another issue. Okay.  
4 Okay well that's helpful on the timing. I'll spare  
5 you anything now and maybe follow up.

6 HEARING OFFICER KNAUER: So Ken Jones  
7 raised his hand.

8 MR. JONES: Yeah there is a market  
9 solution and whether it's the DDA or another entity  
10 can provide credits -- credit prices to the obligated  
11 parties for future years, and so if someone -- if a  
12 large buyer is going to buy on price based on the  
13 fuel and then they will also through the obligated  
14 party buy those credits, buy the purchase value of  
15 those credits because the market has established  
16 this, then the market player will accept the risk of  
17 how those credit prices change over time, but you  
18 know when this thing gets rolling there can be those  
19 market opportunities that arise.

20 MR. POOR: So it's really the price that  
21 needs to be 18 months as opposed to the obligation or  
22 --

23 MR. COTA: Well this is what we're  
24 trying to establish which is -- which is, is the --  
25 is the alternative compliance payment or payment in

1        lieu of distributing credits what is the ceiling,  
2        what is that price because before any decision is  
3        made on offering guaranteed price programs for winter  
4        delivery of heating fuels we would need to know that.  
5        For most consumers you're right, TJ. Most  
6        transactions nine months, ten months in advance, but  
7        for some very large transactions they are going to  
8        want to know. They are going to want to get a secure  
9        price 18 months in advance because that's the way the  
10       market has always been, but that generally -- that  
11       generally is large users, institutional users.

12                HEARING OFFICER KNAUER: It's an  
13       interesting point and I guess the question for folks  
14       to ponder is do we design the rule around what Matt  
15       has characterized as an atypical situation for the  
16       large institutional buyers or do we design for more  
17       typical fuel purchase scenario or do we design to  
18       accommodate all scenarios. Feel free to discuss or  
19       put it in your comments.

20                MR. COTA: Well I would just add that  
21       the 18 months is the far end, right, but for the  
22       people that have prebuys or budgets those are entered  
23       into in May and June for the following heating  
24       season. That lasts until the next May or June. So  
25       18 months may be atypical. 12 or 11 months is very

1 common in offering these types of guaranteed price  
2 programs. Again for the consumer price stability you  
3 could outlaw them, but they saw value in them and  
4 that's why they created rules around how we offer  
5 them. You would need to know what any taxes and fees  
6 are well in advance or any of your cost inputs.  
7 Otherwise you're offering a price which would be, if  
8 you don't honor it, then you lose your ability to  
9 sell.

10 MR. POOR: Sorry. Rick, if you want to  
11 go first you can.

12 MR. WESTON: Matt, TJ, Ken, others,  
13 quick -- this has been -- I mean this whole workshop  
14 has been very interesting and I've been following  
15 closely. I've wanted -- a couple issues I would have  
16 liked to jump in on, but I think you have all handled  
17 them well. One -- just a question and it's a little  
18 bit of a riff on Ken's point. Would setting prices  
19 even administratively early on for the early action  
20 credits go a long way to solving this problem for  
21 you, Matt, because they would be available for  
22 purchase and then you know would be essentially an  
23 adder to the fixed price that you're agreeing to.

24 MR. COTA: Yes, but here's how my world  
25 view may not gibe with others which is we view the

1 credits that can be bartered and created by the --  
2 that can be purchased by the obligated parties, the  
3 heating contractor that they team up with or  
4 weatherization team they team up with or can be  
5 generated by themselves through the energy products  
6 that receive credit under the clean heat standard, we  
7 view that as the price that is advantageous to the  
8 default delivery agent price. So we see the DDA the  
9 ceiling. In other words, you as an obligated entity  
10 can achieve -- you can find your own path to reducing  
11 greenhouse gas emission either through energy  
12 products or services and produce credits at the  
13 compliance point or forget all that and just write a  
14 check, and so what we see that writing a check based  
15 on your prior year obligation as being the ceiling  
16 and that would be set by the Public Utility  
17 Commission. So that is the most important number not  
18 the what am I going to get for -- yes we need to know  
19 -- to your point, Rick, we need to know what a gallon  
20 of biodiesel versus heat pump, all that, we want to  
21 know those prices, but if we know the ceiling then we  
22 can work backwards from there and we can  
23 appropriately set prices because again you want to  
24 keep these companies in business and they can't stay  
25 in business if they don't know what their fixed costs

1 are, and if their fixed cost is this alternative  
2 compliance payment, this DDA price, the sooner we  
3 know that the better, but I would be remiss if I  
4 didn't bring this up which is we're trying to figure  
5 out how all this works. We also have the little  
6 complication in that this may never take effect  
7 because the Legislature still has to approve whatever  
8 rule the PUC designs, either has to be signed by the  
9 Governor into law or he vetoes it, she vetoes it, has  
10 to become law through an override.

11 So as we determine what that ceiling  
12 price is and as we build it into our prices there is  
13 also hanging out there the possibility that in effect  
14 it won't happen. So the timing of this is so  
15 challenging for me to wrap my head around because I  
16 want to make sure that if it does happen there aren't  
17 individuals that are caught either paying a fee that  
18 never takes effect or they never incorporate that  
19 into their fixed cost which would hurt the viability  
20 of the business because, like I said at the outset,  
21 they can't go back to the PUC and ask to recoup their  
22 expenses. They just go out of business.

23 HEARING OFFICER KNAUER: So any other  
24 comments or questions related to Matt's filing? Go  
25 ahead, Erin.

1 MS. HICKS-TIBBLES: This is more related  
2 to an earlier comment that Matt had than to the  
3 filing itself. Matt said he would ideally change the  
4 compliance year to also be a heating season. I was  
5 just wondering if others agreed or disagreed with  
6 that timing?

7 MR. POOR: I'll just comment I don't  
8 know if I agree or disagree. I can see the value of  
9 having it be on a heating season. That relationship  
10 with how other programs work with the clean heat  
11 standard in terms of them being on a calendar year  
12 versus the clean heat standard being on a fiscal year  
13 I don't know if there's implications related to that,  
14 but -- and maybe they should all move to a fiscal  
15 year and that would be better, but I just wanted to  
16 point that out as it came to mind, but I do think --  
17 and also the greenhouse gas inventory is on a  
18 calendar year basis as well. So that has  
19 implications.

20 HEARING OFFICER KNAUER: Thomas Weiss,  
21 did you have something you wanted to say? You picked  
22 up the phone for a minute.

23 MR. WEISS: I withdrew whatever comment  
24 I would have made.

25 HEARING OFFICER KNAUER: Okay. Thank

1           you.   Matthew.

2                       MR. BAKERPOOLE:  I just wanted to put  
3           Thomas's comments on the radar for folks, the first  
4           being the recommendation for having a smooth  
5           retirement schedule curve.  That's definitely one way  
6           to do it.  I think that means a steeper starting  
7           point.  So depending on how many early action credits  
8           have actually been banked that may or may not be  
9           easier to do than the slightly less steep flat curve,  
10          but the second consideration I wanted to mention was  
11          Thomas brings up the projected load growth that  
12          policy may support.  So potentially a hundred  
13          thousand new residents in the next 10 to 20 years and  
14          I think both the Commission's technical consultants  
15          and the Department consultant need to be aware of  
16          that.  Not that it's going to happen, but just that  
17          it's maybe something to be included in an assumption  
18          or a model.

19                     HEARING OFFICER KNAUER:  Thank you.  Ken  
20          Jones, your hand is up.

21                     MR. JONES:  It is because I want to  
22          piggyback on Matthew's last point because Mr. Weiss  
23          does have an additional piece there that I think is  
24          important.  In order to establish the annual credit  
25          amount it really -- it needs to be based on what the



1 world would be absent the clean heat standard. I  
2 know that's very difficult, but we can at least look  
3 at the factors that contribute to changes in fossil  
4 fuel use that are not covered by clean heat measures,  
5 and over time as people replace their boilers and  
6 furnaces they typically get greater efficiency.  
7 Every time there's a building renovation buildings  
8 tend to be a little bit more efficient. So there's  
9 that factor which could reduce the sort of baseline  
10 moving forward from a baseline year let's say 2022,  
11 but then it's countered by what Mr. Weiss suggests.  
12 He's just -- this particular policy about adding  
13 building units, but the fact is and I've looked at  
14 this, you can look at the grand list over the last 20  
15 years, and it's been about an average of a half a  
16 percent increase in building stock in Vermont, and  
17 then perhaps the technical consultants can look a  
18 little bit more about how the characteristics of  
19 those units have changed, but those two factors and  
20 maybe more I think do need to be considered as a  
21 baseline for the out years beyond the start point,  
22 and then because you only need credits to accomplish  
23 reductions in addition to reductions that would be  
24 accomplished outside of the credit system and then  
25 dare I say there are several of those activities.

1 One of my favorites is set back thermostats which I  
2 don't believe count as a clean heat credit and yet  
3 historically they have had a very significant impact  
4 on the ability of homeowners, building owners, to  
5 reduce their fuel use.

6 So anyway in terms of the rule  
7 establishment Mr. Weiss does include a step in there  
8 for establishing that call it a background number  
9 that goes into the future, goes to 2030, and it's the  
10 difference between that and what we meet in terms of  
11 the target that's going to be the basis for  
12 establishing that annual amount.

13 HEARING OFFICER KNAUER: So yeah we've  
14 moved on to Thomas Weiss's filing. I had no comments  
15 or questions. Do other workshop participants have  
16 any additional comments or questions on Thomas's  
17 filing?

18 MR. WEISS: This is Thomas. If nobody  
19 has any questions, I do have one more thing that I  
20 would like to get some information on today.

21 HEARING OFFICER KNAUER: Sure. Go for  
22 it.

23 MR. WEISS: Department of Public Service  
24 referred to a life cycle study being done by the  
25 Agency of Natural Resources and I would like to

1 figure out what its status is, who is doing it, where  
2 can I get information on it. Maybe not right now,  
3 but if somebody could follow up on that I would  
4 appreciate it and I believe that's in conjunction  
5 with the greenhouse gas inventory.

6 HEARING OFFICER KNAUER: Brian, the  
7 floor is yours.

8 MR. WOODS: I was just going to say,  
9 Thomas, why don't you just send me an email and let  
10 me know what you want to know. It's out of the  
11 Climate Action Office and so just get in touch with  
12 me and we'll tell you what it is that you want to  
13 know.

14 MR. WEISS: Will do.

15 MR. WOODS: Great. Thank you.

16 HEARING OFFICER KNAUER: Ben, please go  
17 ahead.

18 MR. BOLASKI: I saw that Mr. Weiss  
19 proposed that the equity advisory group should be  
20 continued with an amendment or some sort of  
21 subsequent legislation. I just think that's a good  
22 point that, you know, we shouldn't assume that equity  
23 issues are -- you know we can sort them all out in  
24 the initial phase of the Act. I think that is  
25 probably a good idea to keep the equity advisor group

1 around similar to the TAG, and also we were talking  
2 about -- I think Erin had a question about the  
3 calendar year going to like the heating season. I  
4 just want to point out the Weatherization Assistance  
5 Program administered by the Office of Economic  
6 Opportunity also uses the same calendar, the heating  
7 season. So it could make sense to -- we know that,  
8 you know, everybody is on a different schedule, but  
9 when you have other programs that offer, you know,  
10 very important services to low income Vermonters that  
11 also track the same schedule it might be a good idea  
12 to match up with those. Just wanted to point out --  
13 point that out.

14 HEARING OFFICER KNAUER: Brian, your  
15 hand is up now it's down. Ken, go ahead.

16 MR. JONES: Yeah one other thing that is  
17 going to need to be in the rule, and Ben's comment  
18 just triggered that for me, is that this trajectory  
19 needs to include a component that addresses low and  
20 moderate income. So the number of credits and  
21 whether -- you folks know a lot better than I whether  
22 it's specific to percentage of credits or some other  
23 metric that reflects a certain percentage of low  
24 income household benefit and moderate income benefit,  
25 but that -- say it could be a part of the

1 establishment of specific credit schedule and so that  
2 -- that also needs to be included in the rule about  
3 how to do that, and they gave us a starting point in  
4 terms of just straight percentages, but as we get to  
5 equitable distribution of benefits in later  
6 discussions that's going to influence this part of  
7 the rule as well.

8 HEARING OFFICER KNAUER: Ben.

9 MR. BOLASKI: On that same point we know  
10 we need to reasonable -- most reasonable extent  
11 possible the low and moderate income credits need to  
12 be or should be front loaded or if, you know, as many  
13 of them as possible I believe is how it's written. I  
14 think that's, you know, very important, is going to  
15 really affect that curve kind of how steeply that  
16 goes down, but you know it's important kind of just  
17 what I said with the Weatherization Assistance  
18 Program. I really see the Weatherization Assistance  
19 Program as one of the primary providers of low and  
20 moderate income credits, you know, available to  
21 obligated parties. You know I think delivering  
22 biofuels to a low income household is one thing, but  
23 to have an installed measure in a low income house  
24 that is kind of independently done just through an  
25 obligated party and low income individual or

1 household is fairly rare. You know I think the  
2 majority of installed measures going in, in low and  
3 moderate income homes are done through the  
4 Weatherization Assistance Program. So I think  
5 coordination and just keeping the -- you know  
6 basically the weatherization program in mind as we  
7 think about the LMI folks is going to be crucial. So  
8 yeah that's -- I just wanted to throw that out there.

9 HEARING OFFICER KNAUER: Matt, did you  
10 have a response?

11 MR. COTA: Yeah I agree with Ben, but I  
12 just want to add some context which is in areas where  
13 it's a rental unit that's low and moderate income,  
14 particularly as written in the law, that allows the  
15 obligated parties to count those that are receiving  
16 fuel assistance to be counted as low and moderate  
17 income, and where the -- either the tenant nor the  
18 heating service or fuel provider has the ability to  
19 convince the owner of the property to do an installed  
20 measure they do have the ability to encourage the low  
21 and moderate income individual to purchase an energy  
22 product with lower greenhouse gas emissions. So in  
23 those cases low and moderate income Vermonters that  
24 are renters that receive LIHEAP that will be counted  
25 as toward our obligation of meeting that 16 percent

1 load and 16 percent moderate. I think biofuels are  
2 going to be how the -- largely those individuals  
3 receive or receive the benefit, if there is a benefit  
4 of clean heat, they receive the -- how they are  
5 essentially able -- an obligated party is able to  
6 earn clean heat credits for that community of people,  
7 renters. I didn't say that very artfully, but I  
8 think you got the gist of that.

9 MR. BOLASKI: Yeah that's a great point,  
10 Matt, and also just kind of a thought. I mean we  
11 know that the, you know, I used to work in the low  
12 income weatherization program as an energy auditor  
13 and I know that there's a major constraint right now  
14 with the amount of contractors that are -- basically  
15 there's a bottleneck of the number of contractors  
16 working in that program for a variety of reasons.  
17 Obviously low income households have various issues,  
18 you know, that makes installed measures more  
19 difficult, for example, or they need a service  
20 upgrade or whatever it may be, but you know something  
21 that I have been kind of thinking about that could  
22 accelerate the LMI credit option or credit production  
23 and encourage contractors to or obligated parties to  
24 work within those homes is again the weatherization  
25 program, you know, there's -- basically if obligated

1 parties were able to figure out -- like I guess to  
2 summarize if we were to set the DDA price as like the  
3 cost of, you know, what a low income weatherization  
4 cost, that would be the high end, you know, and work  
5 down from there and basically encouraging as many  
6 obligated parties to work with the low income  
7 individuals as possible would help to accelerate, you  
8 know, make sure those folks are taken care of first,  
9 make sure that their credit requirements, LMI folks,  
10 are taken care of and, you know, basically if the --  
11 with the LIHEAP funding if you have an emergency heat  
12 or if the weatherization program is in a household  
13 and the furnace breaks down calling up an obligated  
14 party who they already work with and having them come  
15 out and, you know, install like a heat pump, for  
16 example, as a full replacement is a pretty easy  
17 customer for that obligated party because it's  
18 essentially a gimme. You know it's like hey go do  
19 this. The weatherization program is paying for that.  
20 You know it's just in that scenario basically, you  
21 know, what I'm suggesting is that yeah there could be  
22 an option there or like basically an avenue for, you  
23 know, obligated parties working with the  
24 weatherization program, you know, basically  
25 incentivising their -- yeah their participation in



1 that program would be something that I think everyone  
2 needs to think about for the low income community and  
3 affecting the curve there of credits. So yeah this  
4 all gets into -- I think I might be getting ahead of  
5 myself, you know, in terms of, you know, I think  
6 about this everyday, but when we get into credit  
7 price and stuff it's going to come up. So it's come  
8 up a lot just now, but yeah.

9 HEARING OFFICER KNAUER: Thank you.

10 Recognizing that we're almost at time we still  
11 haven't talked about the Efficiency Vermont filing,  
12 but I can tell you that I didn't have any questions  
13 based on Efficiency Vermont's filing, but I do want  
14 to open the floor in case others had any questions  
15 for Efficiency Vermont. I take that as a no. So I  
16 have no more questions. We've got one minute left so  
17 I'll take this chance to remind everyone -- Brian  
18 your hand is up.

19 MR. WOODS: Yeah I'm -- very briefly I  
20 want to roll back to just before the break and that  
21 discussion we were having regarding the life cycle  
22 versus the inventory. I may have misspoken so I want  
23 to clarify that the legislation says it's the  
24 difference between the emissions of the fuel that's  
25 used versus minus the emissions of the life cycle --

1 life cycle of the fuel that's not used versus the  
2 emissions that are used instead, and Matt asked about  
3 wood and how that's counted. So what I think I said  
4 was in the life cycle wood would be zero and that's  
5 of course not true. Life cycle wood is going to have  
6 an emission factor, but in the inventory it's not  
7 going to show up in the RCI sector. So it would be  
8 zero and that's an important distinction when you're  
9 making that translation for a clean heat measure that  
10 displaces wood. It potentially would earn credits,  
11 but it wouldn't show up in the inventory as an  
12 emission reduction, and so that's a really good  
13 example of why we need to know what the measure mix  
14 is because like how much are we assuming wood is  
15 getting displaced by let's say a heat pump and what  
16 does that mean for the entire allocation that's  
17 required in order to be able to meet the reductions  
18 as they are measured by inventory. So thank you for  
19 allowing me to clarify.

20 HEARING OFFICER KNAUER: You highlighted  
21 a very interesting thing that will need to be  
22 resolved. We're not going to do that at 1:01.

23 MR. WOODS: Exactly, but thanks.

24 HEARING OFFICER KNAUER: For sure. So  
25 reminder that the deadline for reply comments on the

1       topic of credit ownership is March 8th, coming right  
2       up, and absent any other discussion I want to thank  
3       all of the participants for attending today's  
4       workshop and providing the Commission with your very  
5       valuable input into the process. Appreciate  
6       everyone's input here today and with that we are  
7       adjourned.

8                       (Adjourned at 1:02 p.m.)

C E R T I F I C A T E

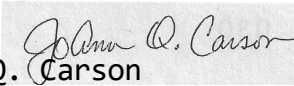
I, JoAnn Q. Carson, do hereby certify that I recorded by stenographic means the workshop re: Case Number 23-2220-RULE via Go To Meeting on February 23, 2024, beginning at 10 a.m.

I further certify that the foregoing testimony was taken by me stenographically and thereafter reduced to typewriting, and the foregoing 107 pages are a transcript of the stenograph notes taken by me of the evidence and the proceedings, to the best of my ability.

I further certify that I am not related to any of the parties thereto or their Counsel, and I am in no way interested in the outcome of said cause.

Dated at Burlington, Vermont, this 29th day of February, 2024.

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JoAnn Q. Carson

Court Reporter

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