



Clean Fuels Program Expansion 2022 Rulemaking

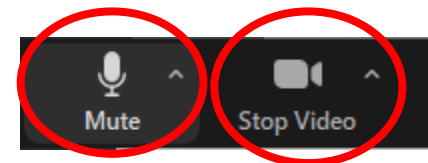
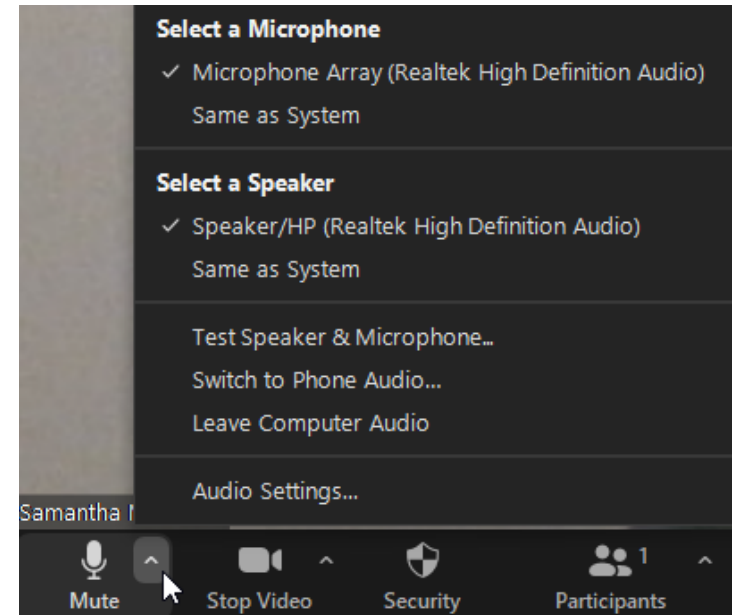
Pathways Workshop

February 17, 2022

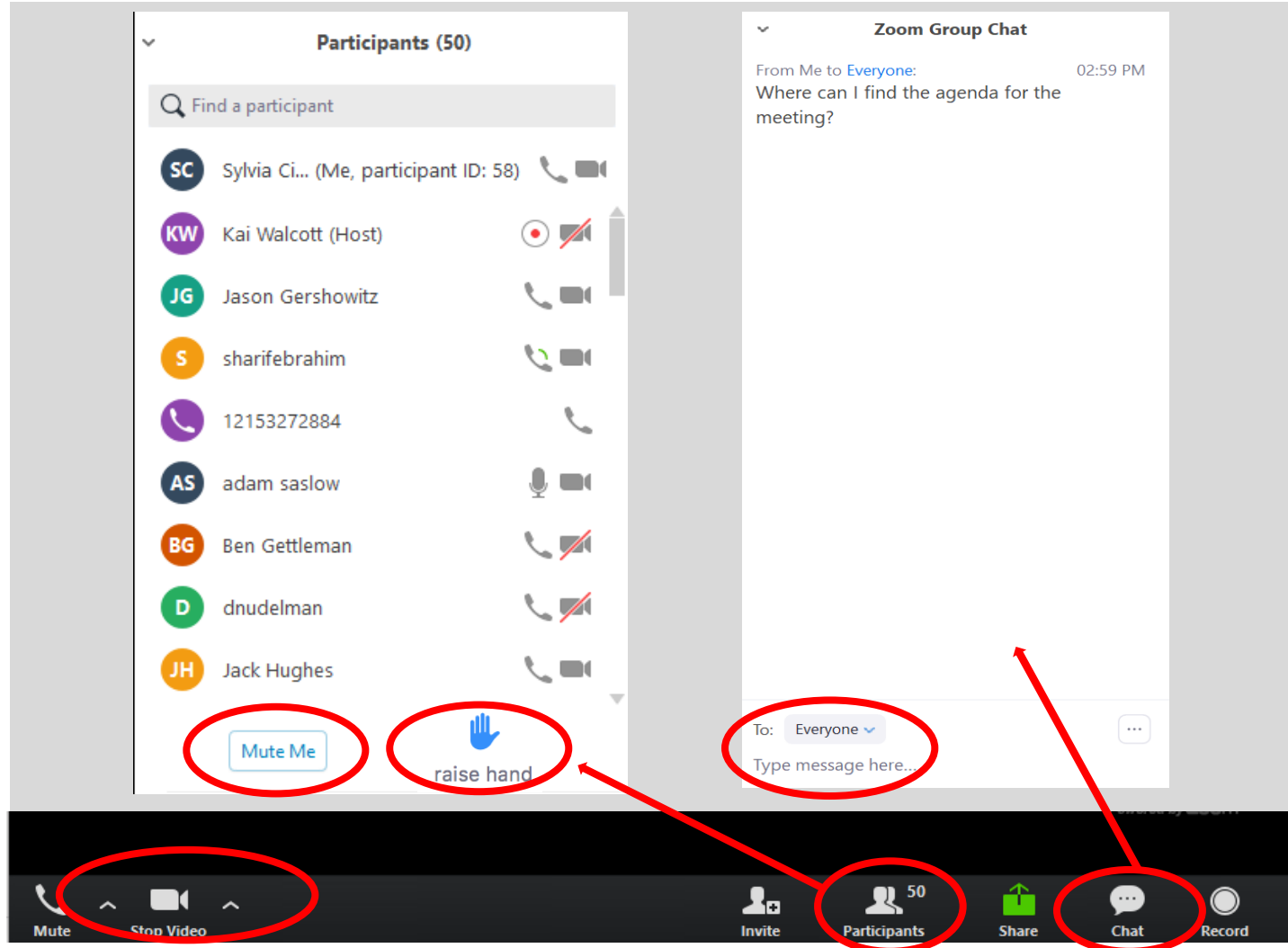
Zoom Meeting Tips

- Please see below webinar instructions and tips below:
 - If you have not already **connected your audio**, click on the arrow next to the microphone icon, then click “Join Computer Audio” or “Switch to Phone Audio” to connect your computer speakers or to view the conference line information.
 - Please **keep yourself on mute** when not speaking. To mute and unmute, either select microphone icon, or use your personal phone.
 - **Use video** if possible, to promote face to face communication. Click the video icon to turn on your webinar camera.

If you are experiencing technical difficulties, please send a text to Gillian Garber-Yonts at 206-617-7626.



Zoom Meeting Tips



- To raise your hand by phone, press *9.
- To unmute yourself by phone, press *6.

Comment instructions

To make verbally ask a question or make a comment:

- ▶ If you have joined by Zoom, click “Raise Hand.”
- ▶ If you have joined by phone, press *9 to raise your hand.
- ▶ The facilitator will call on participants. You will receive an “unmute” request. Please accept it. If you are commenting by phone dial *6 to unmute.
- ▶ Please provide your name and affiliation.
- ▶ We will do our best to balance hearing from as many parties as we can on a topic while getting through all the topics in this workshop.
- ▶ **If we run out of time and you have not had a chance to speak, you can still provide written comments after the meeting.**



How is this different than a RAC meeting?



Participate in an open and mutually respectful way



Balance of speaking time



Serve as a liaison to your larger community of interest



Act in good faith

- DEQ and the facilitator will seek to prioritize calling on RAC members, but this is an open discussion.
- Comments on other topics or the broader rulemaking should be reserved for next week's RAC meeting.

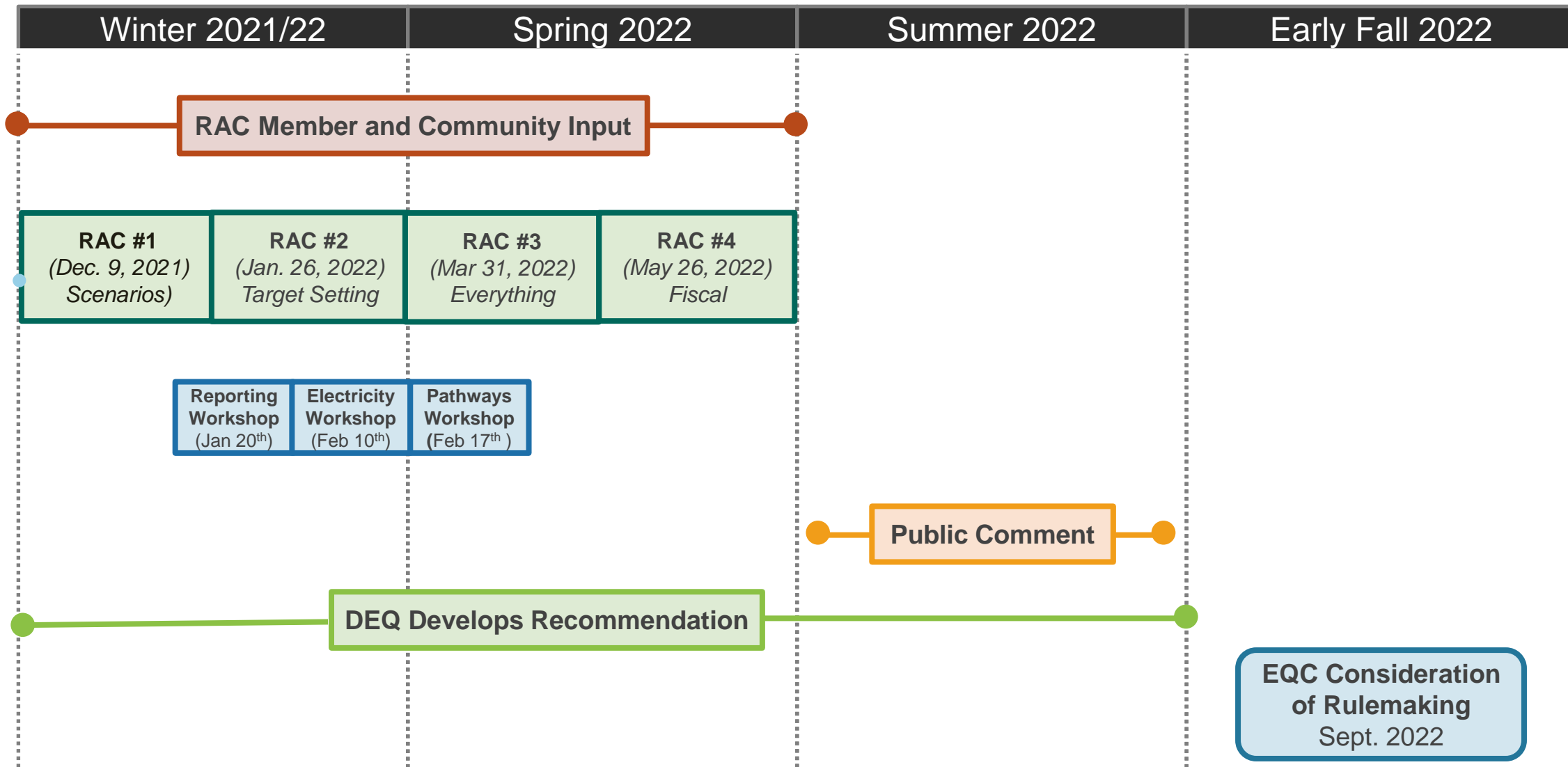
Meeting Agenda

Item	Time	Topic	Presenter
-	12:45 p.m.	Webinar Setup and Login	-
A	1:00 p.m.	Welcome and Introductions	All
B	1:10 p.m.	Review Agenda	Kearns & West
C	1:20 p.m.	Presentation and Discussion: Pathways	DEQ
D	3:30 p.m.	Public Comment	Kearns & West
E	3:45 p.m.	Wrap-Up & Next Steps	Kearns & West
F	4:00 p.m.	Adjourn Meeting	

DEQ Introductions

- Cory-Ann Wind
 - Kiara Winans
 - Bill Peters
 - Stephanie Summers
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- Please send all comments or questions to the rulemaking inbox: cfp2022@deq.oregon.gov

Clean Fuels Program Expansion 2022 Rulemaking Timeline



Topic: Minor Changes in the Rule Language for Pathways

Minor Changes in Rule Language for Pathways

- Under OAR 340-253-0450(2)(d), Obtaining a Carbon Intensity, there is a provision for DEQ to request “Any other supporting materials relating to the pathway.”
- **Proposal:**
Add provisional language for Annual Fuel Pathway Report requirements under OAR-253-0450(9)(e)(C), “any other supporting materials relating to the Annual Fuel Pathway Report and the pathway, as requested by DEQ.”

Key questions

Questions or comments on the proposed provision?

Are there any other clarifications or updates in the pathway applications or reports portion of the regulation that warrant CFP staff review and consideration during this rulemaking?

Topic: New Date Green-e Standard* Requirement for Biogas to Electricity Projects

*Green-e Renewable Energy Standard for Canada
and the United States

New Date Green-e Requirement for Biogas to Electricity Projects

Background:

- In the CFP 2021 Electricity Rulemaking, the CFP first required the use of the Green-e standard to specify criteria to ensure that new and additional renewable electricity generation is used to meet the increasing demand for electric vehicles.
 - For example, the Green-e standard provides accounting and tracking of carbon attributes of Renewable Energy Certificates or RECs.

New Date Green-e Requirement for Biogas to Electricity Projects

Background:

- The following requirements were adopted during the CFP 2021 Electricity Rulemaking to limit the use of unbundled Renewable Electricity Certificates or RECs in order to claim zero-carbon electricity:
 - The RECs must be certified under the Green-e standard,
 - The renewable electricity generators must be located in the western electric grid region, and
 - The renewable electricity must come from electric generators whose new date is 2016 or later — for all sources other than biogas. The 2016 new date was chosen because that was the first year of the CFP.

New Date Green-e Requirement for Biogas to Electricity Projects

Background:

- Biogas generators must meet the “New Date” requirement of the Green-e standard which specifies a rolling 15-year basis for eligibility.
 - For example, a product whose “Year of Sale” is 2020 must comply with the “New Date” of 2006.
- There are some conditions that enable producers to be eligible under the New Date after the initial 15-year window.
 - Please refer to the Green-e documentation for specific on the conditions.

New Date Green-e Requirement for Biogas to Electricity Projects

Background:

- Stakeholders presented CFP with a report compiled by the Oregon Department of Energy (ODOE, 2015) on different types of bioenergy facilities in Oregon.
- Based on that data, 21 Oregon-based anaerobic digester facilities/biogas-to-electricity projects are now ineligible to generate credits in the CFP due to adopting the Green-e standard since they were established before 2016 or may be ineligible within the next two to five years.

New Date Green-e Requirement for Biogas to Electricity Projects

- **For context**: The anaerobic digester facilities/biogas-to-electricity projects registered in the CFP program are often from dairies and swine farms. In part, because the CFP accounts for avoided methane emissions, these projects often have a negative carbon intensity (e.g., -650 to -150 gCO₂e/MJ) resulting in a higher dollar value per kWh in the CFP compared to, e.g., solar electricity.
- Example: Let's suppose a CFP average credit price of \$125 and Oregon's statewide grid mix electricity carbon intensity (146.02 gCO₂e/MJ) used to charge a light-duty electric car with an EER equal to 3.4. The value of the credits generated is ~7 cents per kilowatt-hour. For comparison, here are a few other examples:

Source	CI (g CO ₂ e/MJ)	Value (\$/kWh)
Oregon electricity grid mix	146.02	0.07
Solar electricity	0	0.14
Dairy digester biogas	-450	0.34

Key questions (1 of 3)

Is there an alternative to Green-e that provides a similar accounting and tracking function to prevent double-counting to support new and renewable electricity generation?

Key questions (2 of 3)

- Does it make sense for CFP to allow biogas-to-electricity projects to participate in the program for a year or two before meeting the New Date requirements?
- In other words, would it make sense to extend compliance with the New Date requirements to one or two years after registering in the CFP?
 - Would this enable producers to generate revenue to reinvest in the facility to meet the requirements of the Green-e standard (within that one-year or two-year period)?

Key questions (3 of 3)

Given that biogas-to-electricity projects have a different New Date requirement than any other source of renewable electricity, is there a policy rationale to extend compliance with the New Date requirements to one or two years after registering in the CFP?

Topic: Hydrogen Book and Claim

Hydrogen Book and Claim

Background:

- During the listening session, CFP staff received requests from stakeholders (REG, Air Products) to consider adopting a book and claim accounting system for hydrogen where fuel production facilities are getting hydrogen from pipeline and storage systems where multiple hydrogen producers are supplying hydrogen users.

Hydrogen Book and Claim

Background:

- Given the need to incentivize and commercialize low-carbon hydrogen for multiple uses, including directly as a transportation fuel, DEQ is considering using allowing the use of book and claim accounting for new or expanded hydrogen supplied to renewable diesel production facilities injected into hydrogen pipelines
- The hydrogen pipelines and associated storage would need to have a direct connection to the fuel production facility
- This approach would clarify the source and CI of hydrogen for those production facilities

Key questions

1. What projects or producers would potentially benefit from this allowance of book and claim for hydrogen?
2. For hydrogen used in renewable diesel production, is an attestation-based book and claim accounting option for hydrogen produced from non-fossil resources reasonable so long as it is limited to a hydrogen-only delivery system with multiple sources of hydrogen? Does it provide reasonable assurance/prevent against source swapping, other? Why or why not?
3. How do we prevent potential double counting?
4. Should the low-CI hydrogen producer apply with the fuel production facility as a joint applicant?

Topic: OR-GREET

OR-GREET

Background:

- DEQ received questions and comments during the listening session and subsequent written comment period on the following topics:
 - Tier 1 simplified CI calculator for biogas to electricity pathways, based on the current simplified calculator for biomethane from anaerobic digestion of dairy and swine manure
 - Adjustment factor for generator set or genset
 - OR-GREET's regional grid mix data
 - Tailpipe emissions and OR-GREET updates

OR-GREET

Proposal:

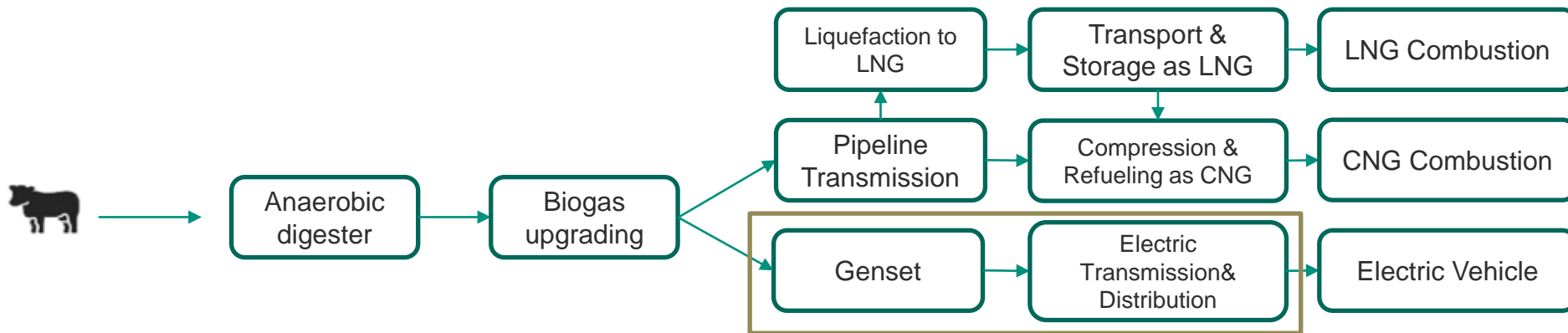
Develop a Tier 1 simplified CI calculator for biogas to electricity pathways

- Specifically, currently, a user must modify the Tier 1 Simplified Calculator for Biomethane from Anaerobic Digester of Dairy and Swine Manure – to include the biogas to electricity processes and related emissions
- Instead of needing to make those modifications, a user could use the proposed simplified calculator

OR-GREET

Context:

Currently, documentation on the CFP website shows how the Tier 1 Simplified Calculator for Biomethane from Anaerobic Digester of Dairy and Swine Manure can be modified to account for the processes required for biogas to electricity generation.

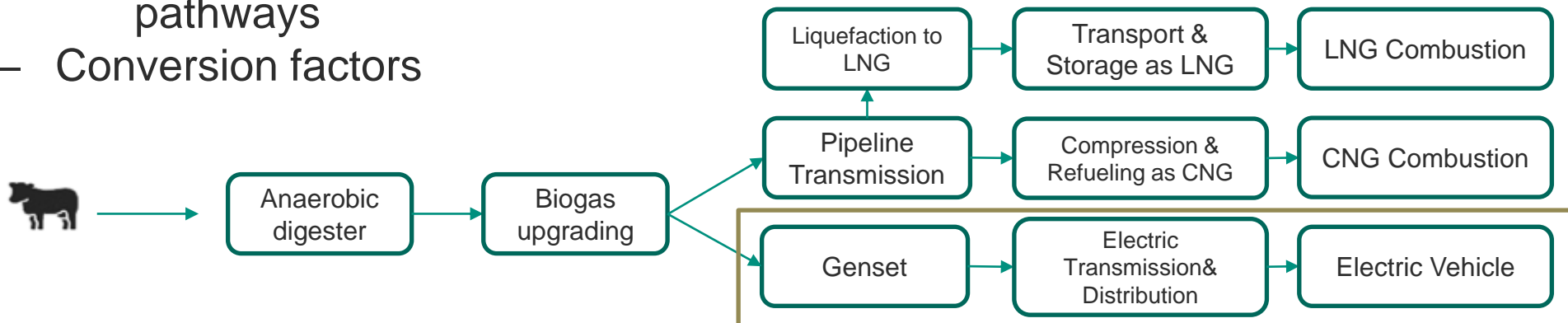


Simplified flow diagram excludes some flows and processes (e.g., flare and potential heat recovery).

OR-GREET

Elements of those modifications include:

- References the quantity of biogas supplied to electricity generation rather than the quantity of biomethane pipeline for avoided emissions
- Incorporates critical factors:
 - Emission factors for biogas electricity production for generator set or genset
 - An "adjustment factor" is used to account for the efficiency of the genset used in biogas-derived electricity
 - CFP considers a 50% genset efficiency in the CI calculation for biogas to electricity pathways
- Conversion factors



Simplified flow diagram excludes some flows and processes (e.g., flare and potential heat recovery).

Questions or Comments?

OR-GREET

OR-GREET's regional grid mix data

- In OR-GREET 3.0, there is a Region Selection tab that allows the user to select feedstock and fuel, electricity resources mix, crude sources, and natural gas sources for the intended region.
- In-state producers can refer to the utility CI values published by DEQ that are based on facility and utility-specific data reported through DEQ's greenhouse gas reporting program.
- All producers (in-state and out-of-state) required documentation:
 - All utility-specific power sources shown as a percent of total system load
 - Utility-specific power generation capacity for each source (solar, wind, hydro, etc.)
 - Documentation stating the marginal generation available (e.g., natural gas)

OR-GREET

OR-GREET's regional grid mix data

- All unspecified sources or non-specified sources or non-specified purchases must be defined.
- In the CFP, these otherwise undefined sources will be accounted for according to the definition OAR 340-215-0020(57):

(57) “Unspecified source of electricity” or “unspecified source” means a source of electricity that is not a specified source at the time of entry into the transaction to procure the electricity. For the purposes of this division, electricity imported, sold, allocated, or distributed to end users in this state through an energy imbalance market or other centralized market administered by a market operator is considered an unspecified source
- These sources are accounted for using the emission factor in OAR 215-0120(2)(a): (a) The emission factor for calculating emissions from unspecified power is 0.428 MT CO₂e/MWh.

Questions or Comments?

OR-GREET

Background:

- The OR-GREET model is based on the Argonne National Laboratory GREET model (GREET 1_2016 Worksheets) and closely mirrors the CA-GREET model.
- OR-GREET-derived simplified calculators are used for established pathways like starch and fiber ethanol.

OR-GREET

Tailpipe emissions factors

- Stakeholder comment: Inconsistent use of tailpipe emissions

Examples:

Simplified Calculator Reference	Application	Tailpipe emissions (gCO₂e/MJ)
Tier 1 Simplified CI Calculator for Biomethane from North American Landfills	CNG Vehicles	3.66
Tier 1 Simplified CI Calculator for Biomethane from North American Landfills	LNG Vehicles	3.75
Tier 1 Simplified CI Calculator for Renewable Diesel	RD/BD Vehicles	0.76

OR-GREET

- Updates to the OR-GREET model or related simplified calculators
 - Any major modifications to the OR-GREET model or related simplified calculators will be reviewed and considered in a subsequent rulemaking.
 - Minor modifications may be considered within this rulemaking

Written Comment Instructions

To submit comment after the meeting:

- ▶ Email comments to CFP.2022@deq.oregon.gov with “Pathways Workshop Meeting Public Comment” as the subject line **by the end of day on Friday, March 4.**
- ▶ Thank you for sharing your feedback.



Next Steps



- ▶ Comments due: **March 4**
- ▶ Next RAC meeting: **March 31**

Thank you!