



Oregon Department of Environmental Quality

Pathways Workshop

CFP Expansion 2022 Rulemaking

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Background

Stakeholders proposed several topics during the listening session preceding the start of this rulemaking. These topics were briefly discussed at the first rulemaking advisory committee meeting, but several require more detailed discussion. Therefore, the topics were categorized into three main topic areas. There will be a workshop to cover these topic areas in more depth: reporting, electricity, and pathways. CFP staff will consider the feedback received during these workshops and determine whether and how to move forward with any potential action items during this rulemaking.

Minor Changes in Rule Language for Pathways and Related Topics

Background: The regulations guide the implementation of the CFP and occasionally need to be clarified or updated. CFP is seeking input from stakeholders on what language needs clarification or updating regarding the pathway applications or reports portion of the regulation.

Reference Materials: <https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=1560>

Proposal: CFP proposes to add provisional language for Annual Fuel Pathway Report requirements that will allow staff to request additional supporting information during the AFPR review process.

Question: 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?

Green-e Requirement for Biogas to Electricity Projects

Background: In the CFP 2021 Electricity Rulemaking, 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. CFP is aligned with the Green-e standard because it provides accounting and tracking of carbon attributes of RECs and related policies. For example, since the CFP is only one program in the broader context of electricity policy, our intent in adopting the Green-e standard is to ensure that the renewable electricity provisions of the CFP are in addition to the state renewable portfolio standard.

The CFP 2021 Electricity Rulemaking approved the following requirements to limit the use of unbundled renewable electricity certificates to claim zero-carbon electricity:

- (1) the RECs must be certified under the Green-e standard,
- (2) the renewable electricity generators must be located in the western electric grid, and
- (3) the renewable electricity must come from electric generators whose start date is 2016 or later – for all sources other than biogas.

Note: The 2016 start date was chosen because that was the first year of the CFP.

Biogas generators must meet the "New Date" requirement of the Green-e standard, which specifies a rolling 15-year basis. For example, a product whose "Year of Sale" is 2020 must comply with the "New Date" of 2006; a "Year of Sale" of 2021 must correspond to a 2007 "New Date" and so on. In addition, the following are conditions that enable producers to be eligible under the New Date:

- (1) Placed in operation (generating electricity, including test energy put onto the electricity grid) on or after the applicable New Date;
- (2) Repowered on or after the applicable New Date such that 80% of the fair market value of the project derives from new generation equipment installed as part of the repowering¹. In

¹ Hydroelectric facilities are not eligible to apply for repowering using this document.

order to be recognized as repowered for the purposes of Green-e® Energy, the owner of the facility seeking "repowered" status must complete and submit a copy of the Green-e® Energy Repowering Worksheet (please get in touch with Green-e® Energy staff to receive a copy of this worksheet) for Green-e® Energy staff review and approval."

These are just Conditions 1 and 2 of 8 possible Green-e conditions. For the other conditions and additional information, see Part II., Section E. Renewables in the Green-e Renewable Energy Standard: <https://www.green-e.org/docs/energy/Green-e%20Standard%20US.pdf>

Discussion: The biogas-to-electricity projects registered in the CFP program are often from dairies and swine farms. When OR-GREET was last updated in the 2018 rulemaking, DEQ established a baseline for these systems that accounts for the methane emitted into the atmosphere—capturing the methane results in a reduction of greenhouse gases. In part, because the CFP rewards methane reduction, these projects often have a negative carbon intensity (e.g., -650 to -150 gCO_{2e}/MJ).

The negative carbon intensities carry value for biogas-to-electricity projects. Example: Let's suppose a CFP average credit price of \$125 and Oregon's statewide grid mix electricity carbon intensity (146.02 gCO_{2e}/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 _{2e} /MJ) | Value (\$/kWh) |
|-----------------------------|-----------------------------|----------------|
| Oregon electricity grid mix | 146.02 | 0.07 |
| Solar electricity | 0 | 0.14 |
| Dairy digester biogas | -450 | 0.34 |

Stakeholders presented CFP with data compiled by the Oregon Department of Energy (ODOE)² about biogas projects in Oregon. Based on that data, 21 Oregon-based anaerobic digester facilities/biogas-to-electricity projects may be ineligible to generate credits in the CFP due to adopting the Green-e standard (e.g., because they were established before 2016). Because of this, stakeholders have requested that DEQ revisit the start date requirements for biogas to electricity projects. In addition, it is noteworthy that an in-depth analysis of these systems has not been completed since 2015, and additional research might be needed to determine the actual impact.

Key Questions:

1. Should CFP reconsider the New Date requirement for biogas-to-electricity projects? Given that biogas-to-electricity projects already have a different New Date requirement than any other source of renewable electricity, what is the policy rationale for further extending this requirement?
2. Is there an alternative to Green-e that provides a similar accounting and tracking function to prevent double-counting and support new and renewable electricity generation?
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)?

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.

Under current CFP regulations, fuel pathway applicants can use specified source feedstocks in pathways for biomethane injected into natural gas pipelines and supplied using book and claim accounting and claimed as a feedstock for Compressed Natural Gas (OAR 340-253-0400 (7)(b)). In

² <https://olis.oregonlegislature.gov/liz/2015r1/Downloads/CommitteeMeetingDocument/68985>

addition, unbundled Renewable Electricity Certificates can be used to claim low-carbon electricity can be claimed through book and claim accounting (OAR 340-253-0470 (5)(a)) for electricity used to charge electric vehicles. However, on the fuel pathway side of the program, biomethane and renewable electricity can only be claimed when the sources of that energy are directly connected to the fuel production facility.

In the interest of incentivizing low-carbon hydrogen for multiple uses, including directly as a transportation fuel, DEQ is considering using book and claim accounting for new or expanded low-CI hydrogen supplied to renewable diesel production facilities injected into hydrogen pipelines.

Reference Materials: <https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=1560>

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 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 as a joint applicant with the fuel production facility?

OR-GREET Topics

- a. 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. DEQ staff have identified some minor errors in the calculators that need to be corrected.
- b. DEQ received several questions and comments during the listening session and subsequent written comment period and are shown below. Reference materials for each topic are provided.
 - Describe what is accounted for in OR-GREET's regional grid mix data. Reference: <https://www.oregon.gov/deq/ghgp/Documents/UtilitySpecificElectricity.pdf>
 - Clarify assumptions for energy efficiency adjustment factor for genset. Reference: <https://www.oregon.gov/deq/ghgp/Documents/BiogasElectricity.pdf>
 - Clarify tailpipe emissions assumptions and emissions factors values used in the OR-GREET model and the related simplified calculators. Reference: <https://www.oregon.gov/deq/FilterDocs/Tier1ORgreetManual.pdf>
 - Develop 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. Reference materials: <https://www.oregon.gov/deq/ghgp/Documents/BiogasElectricity.pdf>

Key Question:

Are there any other updates, modifications, or other details in the OR-GREET model or related simplified calculators that you want CFP staff to review and consider for this rulemaking? Note: Any major modifications to the OR-GREET model or related simplified calculators will be reviewed and considered for a subsequent rulemaking process.

Alternate formats

DEQ can provide documents in an alternate format or in a language other than English upon request. Call DEQ at 800-452-4011 or email deqinfo@deq.oregon.gov.