State of Oregon
Department of Environmental Quality Memorandum

Date: Nov. 6, 2024

To: Environmental Quality Commission

From: Leah Feldon, Director

Subject: Agenda item C, Informational item: Clean Fuels Program Rulemaking
Nov. 21-22, 2024, EQC meeting

Why this is important

DEQ is planning to propose changes the rules governing Oregon's Clean Fuels Program. These changes will update the lifecycle carbon intensity model that is central to the program's operation, expand the scope of the reports that must be third-party verified, and make other changes to the program, including accommodating carbon capture and sequestration projects.

Prior EQC involvement

The Clean Fuels Program has been before the commission several times, including rulemakings in 2012, 2014, 2015, 2016, 2017, 2018, 2020, 2021, and 2022. The last time EQC approved updates to the lifecycle carbon intensity model – Oregon GREET – was in the 2018 rulemaking, and the Third Party Verification program was adopted in 2020.

Background

The 2009 and 2015 legislatures passed legislation authorizing the Environmental Quality Commission to adopt rules establishing the Clean Fuels Program. The statute requires the state to reduce the carbon intensity of its transportation fuels by at least 10% by 2025. In 2022, EQC adopted rules expanding the program to a 20% reduction by 2030 and 37% by 2035.

The program requirements apply to all companies supplying transportation fuels in Oregon. Companies that "over-comply" with the standards – meaning they overall provide lower carbon fuels relative to the annual program standard – are awarded credits that they can sell to those that have supplied higher carbon fuels. That ability to sell credits creates economic incentives for low carbon fuels and disincentives for high carbon fuels. Over $300 million in credits traded in 2023, and another $186 million in credits have traded this year as of October.

The program has reduced 13.3 million metric tons of CO2e since 2016 and has helped reduce the carbon intensity of the biofuels used in the state by over 25% for ethanol and 20% for biodiesel. The program has also provided significant support for electric and other low-carbon, alternative fuel vehicles and helped ensure that most of the electric vehicles used in the state are matched with renewable electricity.

The fuel suppliers that the program regulates and the credit generators – which are

companies that only provide low carbon fuels – have thus far exceeded the program's targets each year since the program's outset in 2016. The 10% target by 2025 is well on track to being met, and the 20% and 37% targets adopted in 2022 appear to be increasingly feasible as supplies of low carbon fuels such as renewable diesel have increased and as zero emission vehicles and the use of electricity continue to grow.

The program uses a lifecycle approach to calculate the carbon intensity of the transportation fuels it regulates. In the context of this program, the lifecycle approach means that all of the carbon emissions attributable to a fuel from the creation of the feedstock to the combustion or use of the fuel are included in the calculation. These calculations use a customized version of Argonne National Laboratory's Greenhouse Gases, Regulated Emissions, and Energy use in Technologies (GREET) model. That customized model was developed in consultation with the California Air Resources Board, which has its own version for its Low Carbon Fuel Standard program, on which Oregon's CFP is based. The model is modified for Oregon to better model fuels that are made in or come to the Pacific Northwest, along with locking down parts of the model limits the complexity and makes it fair and replicable across different producers.

The program also provides several "simplified" calculators for the model, which are fuel-specific and easier for fuel producers to fill out and DEQ staff to review. Each fuel supplier must use these models to apply to DEQ for a carbon intensity (CI) score, or they can apply to have pathways already certified by the California Air Resources Board using the California version of the model reviewed, adjusted, and recertified by DEQ. Each certified CI score represents a unique fuel pathway that takes into account the emissions associated with creating the feedstock, refining or transforming it into the fuel, transporting that fuel to the end users, and then using it in a vehicle. Fuel producers also use the simplified calculators to submit Annual Fuel Pathway Reports, which may be subject to verification and which DEQ uses to confirm that they have not exceeded the certified carbon intensity score for their fuels.

The EQC adopted the Third Party Verification program was adopted for the CFP and the Greenhouse Gas Reporting Program in 2020. That program supplements DEQ's limited resources to audit reported data into both programs by requiring the larger reporting entities to hire third-party verifiers to conduct audits. DEQ accredits those verifiers and the verifications they conduct are according to the rules in OAR 340-0272.

Earlier this year, the program certified the first fuel pathways that include Carbon Capture and Sequestration as part of the fuel production, subtracting from the carbon intensity score of those fuels the CO2 that the plant is injecting into a subterranean aquifer. That plant, Red Trail in North Dakota, captures a portion of the CO2 that it would otherwise emit into the atmosphere when it produces corn ethanol, and injects it several thousand feet into the ground in order to permanently sequester it. This technology is still in the early stages of being commercialized at industrial facilities, and corn ethanol production is an early target for it because it produces a relatively pure CO2 stream from the

fermentation process as opposed to the gases produced by combustion. As these projects are still in their early stages, there is a risk that the geologically sequestered CO2 could escape from confinement years or decades after it is injected.

Proposed rules and rationale

This rulemaking proposes much needed updates to the tools used by the Clean Fuels Program to calculate greenhouse gas emissions. This includes updating the full "well-to-wheels" OR-GREET fuel carbon intensity model to version 4.0 and updating and adding simplified calculators for Tier 1 fuels. The last time the model was updated was in 2018. This latest update will improve the model's accuracy, align with the latest science, and will keep it in line with California's program. The latter benefit allows DEQ to continue to recertify already reviewed fuels and provide a carbon intensity score under California's program. That ability offers significant savings in administrative costs, as the alternative would require DEQ staff to conduct complete reviews of most fuels that, to date, have been expedited by being able to recertify using the work conducted by California's program.

This rulemaking proposes requirements around how the program handles fuel pathways with carbon capture and sequestration projects by creating a reserve account to safeguard the environmental integrity of the credits issued to those projects. The reserve account would act as an insurance mechanism by requiring fuel pathways with those projects to set aside some of the credits they would otherwise have generated into that reserve based on a risk-based methodology. The credits in that reserve would then be invalidated if in the future there is a leak of CO2 into the atmosphere.

This rulemaking also proposes adding requirements for the validation of fuel pathway applications and the third party verification of electricity reporting. For fuel pathway applications, requiring verification for any original applications ensures that the fuel producer is verified prior to any credits being issued on its pathway. Most fuel producers' applications to DEQ are for recertification of their California pathways, where pathway applications must already be verified before certification. DEQ proposes adding verification for electricity as the number of electricity credits has grown significantly in recent years as transportation electrification has progressed, and DEQ has found a number of errors in electricity reporting in recent years. Given those errors and DEQ's limited resources for auditing reporting entities, requiring third party verification will serve to improve the accuracy of that reporting and credit generation.

Finally, this rulemaking also proposes several other changes to help ensure the program's integrity in future years, such as proposing requirements to high-risk pathways using 'specified source' feedstocks to ensure the environmental integrity of those fuels. Those feedstocks include used cooking oil, animal fat, and others that pose a higher risk for being falsified because they are assigned lower carbon intensity scores (thus increasing the credits the fuels would generate) due to being wastes or byproducts of other, more valuable products. The proposed new attestation requirements for entities in the supply chain of those feedstocks are identical to proposed requirements from California.

At the outset of this rulemaking, DEQ held two technical workshops open to the public to solicit initial thinking about each of these areas of proposed rule changes. DEQ then

held two public meetings with a rulemaking advisory committee; those meetings were on April 17, 2024, and Aug. 14, 2024. During each of those meetings, DEQ took public comments on the proposed updates to the OR-GREET model and the other proposed rule changes.

EQC involvement

DEQ intends to bring a rule proposal for commission action at the January 2025 EQC meeting date.

Supporting materials

A. Clean Fuels Program Webpage:
https://www.oregon.gov/deq/ghgp/cfp/Pages/default.aspx
B. Rulemaking Webpage:
https://www.oregon.gov/deq/rulemaking/Pages/cfp2024.aspx

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Translation or other formats

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