



State of Oregon Department of Environmental Quality

CFP 2018 Rulemaking Fiscal Impact Statement

Short Summary

DEQ proposes to amend Oregon Clean Fuels Program rules under division 253 of chapter 340 of the Oregon Administrative Rules. The proposed rule changes would:

- update the models used to determine the carbon intensities of fuels and the resulting changes to the lookup table values, clean fuel standards, energy economy ratios, and temporary fuel pathway codes;
- add new categories of fuel used to generate credits including forklifts and truck refrigeration units and add new fuels that could generate credits including alternative jet fuel and renewable propane; and
- make some housekeeping changes.

DEQ also proposes to amend rules under division 12 of chapter 340 of the Oregon Administrative Rules to classify certain violations and establish or clarify enforcement criteria for violations of the Oregon Clean Fuels Program.

Brief History

The 2009 Oregon Legislature passed House Bill 2186 authorizing the Oregon Environmental Quality Commission to adopt rules to reduce lifecycle emissions of greenhouse gases from Oregon's transportation fuels by 10 percent over a 10-year period.

The EQC adopted phase 1 rules on Dec. 7, 2012 that required Oregon transportation fuel producers and importers to register, keep records and report the volumes and carbon intensities of the transportation fuels they provide in Oregon.

The EQC adopted phase 2 rules on Jan. 7, 2015 that required Oregon transportation fuel importers to reduce the average carbon intensity of fuels they provide in Oregon by 10 percent over a 10-year period.

The 2015 Oregon Legislature passed Senate Bill 324 that removed the Dec. 31, 2015 sunset date in House Bill 2186 (2009) and further amended the authorizing statute, ORS 468A.275, for the Oregon Clean Fuels Program.

The EQC adopted updated rules on Dec. 9, 2015 to implement SB 324 (2015).

The EQC adopted temporary rules on April 21, 2016 to correct a miscalculation in the clean fuel standards and certain carbon intensity values. Permanent rules for the correction were adopted on August 18, 2016.

The 2017 Oregon Legislature passed House Bill 2017 that added provisions for a Credit Clearance Market (CCM) as an additional cost containment mechanism. The EQC adopted updated rules on Nov. 2, 2017 adding the CCM mechanism, updating several provisions relating to electricity's use as a transportation fuel and adding market monitoring provisions.

Overview of the Proposed Rule Changes

The proposed rule changes fall into four broad categories: 1) updates to the models and the resulting changes; 2) the addition of new fuel types and fuel uses to the program; 3) housekeeping changes; and 4) updates to the enforcement provisions. The proposed rule revisions are based on discussions and input from DEQ's CFP 2018 Rulemaking Advisory Committee. Here is a brief description of the most significant elements of the proposed rules:

- 1) Updates to the models used to calculate carbon intensity values and the resulting changes to carbon intensity values and the clean fuel standards
 - a) Update to OR-GREET - The GREET (Greenhouse gases, Regulated Emissions and Energy Use in Transportation) model is used to calculate the direct greenhouse gas emissions from a transportation fuel's lifecycle. The current version of the model is OR-GREET 2.0 and this rulemaking proposes to update to OR-GREET 3.0. In addition to adopting the full model used for Tier 2 applications, DEQ also proposes to adopt the 8 simplified calculators developed by California Air Resources Board (CARB) for Tier 1 applications:
 - 1) starch and corn-fiber ethanol,
 - 2) sugarcane-derived ethanol,
 - 3) biodiesel and renewable diesel,
 - 4) LNG and L-CNG from North American natural gas,
 - 5) biomethane from North American landfills,
 - 6) biomethane from anaerobic digestion of wastewater sludge,
 - 7) biomethane from food green and other organic waste, and
 - 8) biomethane from anaerobic digestion of dairy and swine manure.

The update will bring Oregon's model into alignment with California's version of its model, CA-GREET 3.0, and incorporates the Oregon-specific electricity mix and transportation distances to Oregon. OR-GREET 3.0 is available as an Excel spreadsheet from DEQ.

- b) Update to OPGEE - The OPGEE (the Oil Production Greenhouse gas Emissions Estimator) model is used to estimate greenhouse gas emissions from the production, processing and transport of crude petroleum. The current version of the model is OPGEE 1.1 and this rulemaking proposes to update to OPGEE 2.0. The update also

incorporates the mix of crude oils used in 2015 based on a DEQ study of public data for the crude oil mix going into Washington refineries.

- c) New carbon intensity values - Combining the effect of the two model updates described above produces Table 1, the net changes to carbon intensity values of selected fuels.

Table 1. Carbon Intensity Values of Selected Fuels (gCO ₂ e/MJ)			
Fuel Type	Current Value	Proposed Value	Net Change in Value
Gasoline	100.77	100.39	- 0.38
Imported gasoline blended with 10 percent ethanol	98.64	98.29	- 0.35
Diesel	101.65	102.07	+ 0.42
Imported diesel blended with 5 percent biodiesel	99.61	100.01	+ 0.40
Imported diesel blended with 20 percent biodiesel	93.41	93.75	+ 0.34
Compressed natural gas (pipeline)	79.93	80.44	+ 0.51
Liquefied natural gas (80% efficient)	94.46	86.97	- 7.49
Liquefied petroleum gas	83.05	83.52	+ 0.47

- d) New clean fuel standards – Since the clean fuel standards are based on the carbon intensity value of Oregon’s fuel mix in the 2015 baseline year, the updates described above result in Tables 2 and 3, the updated clean fuel standards for gasoline and diesel:

Table 2. Proposed Clean Fuel Standard for Gasoline (gCO ₂ e/MJ)				
Year	% Reduction	Current Standard	Proposed Standard	Change
2019	1.5%	97.16	96.82	-0.35
2020	2.5%	96.18	95.83	-0.34
2021	3.5%	95.19	94.85	-0.34
2022	5.0%	93.71	93.38	-0.34
2023	6.5%	92.23	91.90	-0.33
2024	8.0%	90.75	90.43	-0.33
2025 and beyond	10.0%	88.78	88.46	-0.32

Table 3. Proposed Clean Fuel Standard for Diesel (gCO₂e/MJ)

Year	% Reduction	Current Standard	Proposed Standard	Change
2019	1.5%	98.12	98.51	0.39
2020	2.5%	97.12	97.51	0.39
2021	3.5%	96.12	96.51	0.39
2022	5.0%	94.63	95.01	0.38
2023	6.5%	93.14	93.51	0.37
2024	8.0%	91.64	92.01	0.37
2025 and beyond	10.0%	89.65	90.01	0.36

- 2) New fuel types and fuel uses that could generate credits in the program
- a) Forklifts – This rulemaking proposes that the owner or operator of the forklift fleet be eligible to generate credits from the use of propane, electricity or hydrogen instead of gasoline or diesel. The new EER for forklifts are also proposed: for propane, 0.9 and for electricity, 3.8.
 - b) Truck refrigeration units – This rulemaking proposes that the owner or operator of the truck refrigeration unit be eligible to generate credits from the use of electricity instead of diesel. The new EER for TRUs is 3.4.
 - c) Alternative jet fuel – This rulemaking proposes that Oregon producers or importers of alternative jet fuel be eligible to generate credits when compared to a new clean fuel standard for jet fuel shown in Table 4:

Table 4. Proposed Clean Fuel Standard for Jet Fuel (gCO₂e/MJ)

Year	% Reduction	Proposed Standard
2019	1.5%	90.97
2020	2.5%	90.97
2021	3.5%	90.97
2022	5.0%	90.97
2023	6.5%	90.97
2024	8.0%	90.97
2025 and beyond	10.0%	89.65

The carbon intensity of petroleum jet fuel is 90.97 gCO₂e/MJ. Alternative jet fuel requires that a Tier 1 or Tier 2 OR-GREET 3.0 application be submitted to determine its carbon intensity value.

- d) Renewable propane – This rulemaking proposes to add renewable propane as an opt-in fuel. Renewable propane requires that a Tier 1 or Tier 2 OR-GREET 3.0 application be submitted to determine its carbon intensity value.
- 3) Make housekeeping changes to the rules such as:
 - a) New and updated energy economy ratios for alternative jet fuel; on-road electric motorcycles; propane, electric or hydrogen forklifts; electric transit buses; other electric heavy duty BEVs or PHEVs; and aerial tram.
 - b) New fuel pathway codes for hydrogen.
 - c) New temporary fuel pathway codes for renewable natural gas digested from dairies and municipal wastewater facilities.
 - d) New substitute fuel pathway codes for E10, B5 and B20.
- 4) Updates to the enforcement provisions

Fiscal and Economic Impact

The scope of this fiscal and economic impact statement is limited to the impact of the proposed rule changes contained in this rulemaking, it does not re-assess the existing CFP in its entirety. The proposed rule changes fall into four broad categories: 1) changes in the potential market value of lower carbon fuels based on the updated carbon intensity values; 2) potential benefits to new fuel types and fuel uses; and 3) potential costs related to enforcement. The proposed rule revisions are based on discussions and input from DEQ's CFP 2018 Rulemaking Advisory Committee.

Statement of Cost of Compliance

General Direct Costs

- *Administrative Costs*

There is a one-time cost to register with the program if the business is not already registered. There are on-going costs to keep records, submit reports, obtain carbon intensities, and generate and transfer credits.

The proposed rule changes would make it easier to submit a Tier 1 application and would not otherwise change the administrative costs associated with participating in the program.

- *Costs Related to Enforcement*

There are costs related to being involved in an enforcement action that includes responding to requests for additional information, correcting the violation and the payment of civil penalties if assessed.

The proposed rule changes would not have an economic impact on businesses, individuals or government entities unless they violate the program rules.

- *Costs to Reduce Carbon*

To achieve the existing and updated clean fuel standards, each regulated party could provide greater volumes of lower carbon fuels, blend different types of lower carbon fuels or purchase credits from providers of clean fuels. These options would have varying costs. Since clean fuel credits are bought and sold on the free market and prices negotiated between private businesses, DEQ cannot accurately predict the actual cost impacts related to the credit market.

As described above, the proposed clean fuel standards for gasoline are slightly lower than the current values and the proposed clean fuel standards for diesel are slightly higher than the current values. The proposed changes to OR-GREET do not result in any significant change to the carbon intensities of gasoline or diesel substitutes. The proposed changes to the gasoline and diesel clean fuel standards would not have a significant economic impact.

The proposed rules would add additional credit generation from alternative jet, forklifts and TRUs and may have an impact on credit prices as these applications increase in use over time. Individual businesses that provide these fuels would benefit economically by their inclusion in the program.

Potential Impact to Fuel Consumers

Fuel consumers could experience both positive and negative impacts as regulated parties pass their savings and costs to their customers. For example, if the price of lower carbon fuels were less than the fuels they replace, then costs should decrease. Conversely, if the price of lower carbon fuels were greater than the fuels they replace or if regulated parties had to purchase credits to comply with the standards, costs could increase. The proposed rule changes do not significantly change this impact on the overall program.

DEQ and other state agencies, federal agencies, local governments

Direct Impacts: The proposed rule changes do not impose direct fiscal or economic effects on state or federal agencies or local governments unless they import transportation fuel or provide clean fuels. If so, see the discussions about the General Direct Costs above.

Indirect Impacts: State and federal agencies and local governments are fuel consumers. See the discussions about the Potential Impact on Fuel Consumers above.

Public

Direct Impacts: The proposed rule changes do not impose direct fiscal or economic effects on the public.

Indirect Impacts: Members of the public purchase fuel for their personal vehicles. See the discussions about the Potential Impact on Fuel Consumers above.

Large businesses - businesses with more than 50 employees

Many large businesses participate in the program including but not limited to fuel terminal operators, biofuel producers, fuel marketers, natural gas and electric utilities, EV charger owners, and transit districts. The proposed rule changes would add owners or operators of forklift fleets or warehousing operations to the types of businesses that could participate in the program.

Direct Impacts: See the discussions about General Direct Costs above.

Indirect Impacts: Large businesses are fuel consumers. See the discussions about the Potential Impact on Fuel Consumers above.

Small businesses – businesses with 50 or fewer employees

Direct Impacts: See the discussions about General Direct Costs above.

Indirect Impacts: Small businesses are fuel consumers. See the discussions about the Potential Impact on Fuel Consumers above.

a. Estimated number of small businesses and types of businesses and industries with small businesses subject to proposed rule.

Approximately 50 small businesses are registered with the program, primarily fuel distributors and biofuel producers.

b. Projected reporting, recordkeeping and other administrative activities, including costs of professional services, required for small businesses to comply with the proposed rule.

There proposed rule changes would not affect these costs except in the case of a new small business registering to generate credits from the proposed additions to the program. In this case they will incur minimal administrative costs described in the discussions about the General Direct Costs above.

c. Projected equipment, supplies, labor and increased administration required for small businesses to comply with the proposed rule.

There proposed rule changes would not affect these costs.

d. Describe how DEQ involved small businesses in developing this proposed rule.

DEQ convened a 24-member advisory committee that included small businesses to discuss the proposed rule changes.

Documents relied on for fiscal and economic impact

Document title	Document location
California Low Carbon Fuel Standard regulation, workgroup and rulemaking documents	http://www.arb.ca.gov/fuels/lcfs/lcfs.htm
Argonne GREET model	https://greet.es.anl.gov/
Stanford University OPGEE model	https://pangea.stanford.edu/researchgroups/eao/research/opgee-oil-production-greenhouse-gas-emissions-estimator
Oregon Clean Fuels Program Updates Rulemaking Advisory Committee (2018)	https://www.oregon.gov/deq/Regulations/rulemaking/Pages/rCFP2018.aspx
Reports from registered regulated parties for the Oregon Clean Fuels Program	Program files located at: DEQ Headquarters 700 NE Multnomah Street Portland, OR 97232

Advisory committee

DEQ appointed the CFP 2018 Rulemaking Advisory Committee to provide input on the proposed rules and for input on the fiscal and economic impact statement. As ORS 183.333 requires, DEQ will ask for the committee's recommendations on:

- Whether the proposed rules would have a fiscal impact,
- The extent of the impact, and
- Whether the proposed rules would have a significant adverse impact on small businesses and complies with ORS 183.540.

The committee will review the draft fiscal and economic impact statement at its meeting on July 16, 2018. Its recommendations will be reflected in the meeting summary.