



Oregon Clean Fuels Program

Requesting an EER-adjusted Carbon Intensity Using a Tier 2 Pathway Application

Implementing the Clean Fuels Program Electricity 2021 Rulemaking

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Introduction

The Oregon Clean Fuels Program is providing guidelines for the regulatory requirements in a user-friendly format. Unlike the regulation itself, this document does not have the force of law. It is not intended to and cannot establish new mandatory requirements beyond those that are already in the CFP regulation, nor can it supplant, replace or amend any of the legal requirements of the regulation. Conversely, any omission or truncation of regulatory requirements does not relieve entities of their legal obligation to fully comply with all requirements of the regulation.

Background

Table 7 of the CFP (see Appendix A) provides Energy Economy Ratio values for several fuel-vehicle combinations used for calculating credits and deficits as per 340-253-0450. If the fuel-vehicle combination is not represented by an EER value in Table 7, and both the fuel and vehicle type are eligible in CFP regulation OAR 340-253-0100, then the reporting entity may request an EER-adjusted carbon intensity using a Tier 2 pathway application. Applications must be for electric vehicles capable of full normal operation using energy from onboard batteries or fuel cells. An EER-adjusted CI is specific to the pathway holder, and no other entity can use it for credit generation purposes except in (3) below.

Eligibility

In accordance with OAR 340-253-0460, the following entities are eligible to submit an EER-adjusted CI Tier 2 pathway application:

- (1) Vehicle owners or operators that would be eligible to generate credits for their vehicles;
- (2) Manufacturers of vehicles that would be eligible to generate credits may make a joint application with an owner or operator of their vehicles based in Oregon; and
- (3) A single, joint application may be submitted on behalf of, and combining data from, any combination of multiple vehicle owners, operators and manufacturers.

Application Process and Requirements

An applicant must submit a Tier 2 pathway application for requesting an EER-adjusted CI using the Alternative Fuel Portal and include the following:

- (1) **Letter of Intent.** The applicant must provide a letter of intent to request an EER-adjusted CI for their specific use case, along with a justification as to why the EER values provided in Table 7 of the CFP regulation do not apply to the fuel-vehicle combination under consideration.

(2) **Methodology.** The applicant must provide a detailed description of the methodology used in its calculations, including all assumptions made, and provide all data and references to calculate the proposed EER-adjusted CI value. The methodology used must compare the useful output from the alternative fuel-vehicle technology under consideration to comparable conventional fuel-vehicle technology. The following is recommended to be included as part of the methodology:

(a) **Description of Fuel-Vehicle Technology.** The applicant may include a description of the fuel-vehicle technology, a preliminary estimate of the EER and the EER-adjusted CI for their specific use case and how this unique and innovative transportation use could help support CFP goals of reducing the carbon intensity of transportation fuel in Oregon, including the potential magnitude of credit generation.

(b) **Displacement Baseline.** This refers to the conventional fuel-vehicle use that the proposed alternative fuel-vehicle combination will be replacing. Incorrectly identifying the displacement baseline may result in overestimation or underestimating the useful output that the alternative fuel-vehicle combination is displacing. Therefore, to accurately assess the EER value, it is critical to identify the displacement baseline correctly. In some cases, the displacement baseline may be a combination of multiple transport uses, rather than a direct replacement of one in particular. For example, a new high-speed train project may be shown to displace passenger vehicles, air transport and bus transport.

The applicant may identify the displacement baseline and provide a justification, including all the data sources relied upon to make that determination. They may rely on academic and market research, studies, reports, surveys and other data sources to make that determination.

Note: Proper identification of the units used to measure and compare useful output is necessary for accurately quantifying the EER value. The units used to measure useful output may differ on a case-by-case basis. For example, while comparing a battery-electric, light-duty vehicle to an internal combustion, light-duty vehicle, the useful output can be measured in miles traveled by the vehicle per unit of energy of a fuel (miles/MJ). Still, for comparing a light-rail transit system displacing light-duty passenger cars, the useful output can be measured in passenger miles traveled per unit of energy of a fuel (passenger-miles-traveled/MJ).

(c) **Determining System Boundary and CI Impacts.** Proper identification of the system boundary is necessary to determine all energy inputs and useful outputs accurately and account for any impact on the life cycle emissions associated with the fuel consumption in the use case with the given fuel-vehicle combination. For example, e-bicycles or e-scooters may be refueled at a designated central location but may be deployed elsewhere throughout a city. In this case, any resulting energy consumption and emissions associated with the transportation of these e-bicycles or e-scooters would need to be accounted for in the system boundary to assess the useful output and effective CI of the fuel.

(3) **Supplemental Information.** Include records and datasets used to establish any part of the methodology.

(4) **Minimum Data Requirement.:**

(a) An applicant must submit at least three months of operating data that represents typical usage for each individual vehicle included in the application, except that the application must cover at least 300 hours of operating data for each individual vehicle included in the application; and

(b) An application from a manufacturer may provide data from duty-cycle testing. A manufacturer seeking to propose using duty-cycle testing data must consult with CFP prior to submitting an application and receive written, advanced approval from the agency for the duration and test cycles it is including, in addition to or in lieu of operational data.

(5) **OR-GREET Model and Life Cycle Analysis Report.** Unless the fuel under consideration would qualify for a Lookup Table pathway, the applicant must provide a copy of the OR-GREET 3.0 model and a life cycle analysis report as per OAR 340-253-0450 of the CFP regulation. Please refer to OAR 340-253-0450 for Lookup Table pathway requirements for a fuel. For example, instead of the CI calculator, the annual fuel pathway report for renewable electricity and hydrogen lookup table pathways must include invoices or metering records substantiating the quantity of renewable or low-CI inputs procured from a qualifying source (OAR 340-253-0450 (9)(e)(C)(ii)).

(6) **Joint Application.** An application that includes the manufacturer of the vehicle(s), owners or operators who begin to operate the same vehicle(s) considered and operated in Oregon can be a joint applicant, and must provide the following:

(a) A letter from the manufacturer stating that it supports the addition of the joint applicant;

(b) Any current operational data by the new joint applicant, or other data elements required to be reported; and

(c) A statement by the new joint applicant that they understand and accept any and all pathway conditions associated with the proposed EER value.

Reporting Requirements

For any EER-adjusted fuel pathway approved by the CFP, the applicant must annually submit vehicle usage and energy consumption data for each individual vehicle using the value approved by the CFP to generate credits or deficits in the program. The CFP may specify additional data elements that must be reported annually as part of its pathway conditions.

Third Party Validation and Verification Requirements

The CFP staff will review the application and identify any site-specific inputs during the certification process. If an application does not include site-specific inputs, it is not subject to third-party validation requirements. Whether EER-adjusted annual reports must be verified will be determined based on expected variability of CI parameters, inclusion of site-specific data and any specifications in the operating conditions.

Alternative 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.state.or.us.

Appendix A

Table 7. Energy Economy Ratios for Fuels Used in Light-, Medium-, and Heavy-Duty, and Aviation Applications

Light/Medium-Duty Applications (Fuels used as gasoline replacements)		Heavy-Duty/Off-Road Applications (Fuels used as diesel replacements)		Aviation Applications (Fuels used as jet fuel replacements)	
Fuel/Vehicle Combination	EER Value Relative to Gasoline	Fuel/Vehicle Combination	EER Value Relative to Diesel	Fuel/Vehicle Combination	EER Value Relative to Jet Fuel
Gasoline (including E10) or any other gasoline-ethanol blend	1	Diesel fuel (including B5) or any other blend of diesel and biodiesel or renewable hydrocarbon diesel	1	Alternative Jet Fuel	1
CNG Internal Combustion Engine Vehicle (ICEV)	1	CNG, LNG or LPG (Spark-Ignition Engines)	0.9		
Electricity/Battery Electric Vehicle or Plug-In Hybrid Electric Vehicle	3.4	CNG, LNG or LPG (Compression-Ignition Engines)	1		
Electricity/On-Road Electric Motorcycle	4.4	Electricity/Battery Electric Vehicle or Plug-In Hybrid Electric Vehicle	5		
Propane/Propane Forklift	0.9	Electricity/Battery Electric Vehicle or Plug-In Hybrid Transit Bus	5		
Hydrogen/Fuel Cell Vehicle	2.5	Electricity/Fixed Guideway Light Rail	3.3		
		Electricity/Fixed Guideway Streetcar	2.1		
		Electricity/Fixed Guideway Aerial Tram	2.6		
		Electricity/Electric Forklift	3.8		
		Electricity/Electric TRU (eTRU)	3.4		
		Hydrogen/Fuel Cell Vehicle	1.9		
		Hydrogen/Fuel Cell Forklift	2.1		
		Electricity/Cargo Handling Equipment	2.7		
		Electricity/Ocean Going Vessels	2.6		