



Oregon Clean Fuels Program

# Requesting an Energy Economy Ratio Using a Tier 2 Pathway Application

Contact: Oregon Clean Fuels Program; [oregoncleanfuels@deq.oregon.gov](mailto:oregoncleanfuels@deq.oregon.gov)

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## Introduction

Table 7 of the Clean Fuels Program's rules in OAR 340-253-8010 (see Appendix A) provides Energy Economy Ratio values for many fuel-vehicle combinations used for calculating credits and deficits. If there is not an EER value representing a fuel-vehicle combination in Table 7, and both the fuel and vehicle type are eligible under the CFP's rules, then a reporting entity may apply for an EER using a Tier 2 pathway application process. Applications must be for electric vehicles capable of full normal operation using energy from onboard batteries or hydrogen fuel cells.

## Eligibility

In accordance with OAR 340-253-0460, the following entities are eligible to submit an EER 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.
- (3) Any combination of the above.

## Application process and requirements

An applicant must submit a Tier 2 pathway application for an EER using the Alternative Fuel Portal (AFP) in the [Online Fuels Reporting System \(OFRS\)](#) and include the following:

**Letter of intent.** The applicant must provide a letter of intent to request an EER for their specific use case and justify why the EER values provided in Table 7 of OAR 340-253-8010 do not apply to the fuel-vehicle combination they are applying for.

**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 value. The methodology used must compare the useful output from the alternative fuel-vehicle technology to similar 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 for their specific use case, and how this transportation use case could help support CFP goals of reducing the carbon intensity of transportation fuel in Oregon, including an estimate of the potential magnitude of credit generation.

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

Similarly, it's critical to identify the system boundary correctly. The system boundary is necessary to accurately determine all energy inputs and outputs 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. It's also critical for assessing the displacement baseline. For example, e-bicycles or e-scooters may be refueled at a designated central location but deployed elsewhere throughout a city.

The applicant may identify the displacement baseline and justify, 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 output is necessary for accurately quantifying the EER value. The units used to measure output may differ on a case-by-case basis. For example, while comparing a battery-electric, light-duty vehicle to internal combustion, light-duty vehicle, the 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 output can be measured in passenger miles traveled per unit of energy of a fuel (passenger-miles-traveled/MJ).

**Supplemental information.** Include any records and datasets used to establish any part of the methodology in the application such as metering data, manufacturer specifications for specific equipment, etc.

**Minimum data requirement.** An applicant must submit at least three months of operating data that represent typical usage for each 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. If the application is coming from a manufacturer, they may provide data from duty-cycle testing. A manufacturer seeking to propose using duty-cycle testing data must consult with CFP before applying and receiving written, advanced approval from the agency for the duration and test cycles, it includes, in addition to or in place of operational data.

## Approving a new EER

Once the required documents and data are submitted to the DEQ through the AFP OFRS, CFP staff will review the materials. If there is missing or incomplete information, the CFP will submit a request for additional information to the applicant. Upon completing of the EER application, the CFP staff will issue a public notice with a request for comments within 30 calendar days. Any comments will be considered in the final review of the EER application.

## **Requesting a joint application**

For any approved application that included the manufacturer of the vehicles, any owners, or operators who begin to operate the same vehicles in Oregon can request to become a joint applicant to use that approved EER from the original application. The new owner or operator must provide a letter from the EER holder stating they support the addition of the new joint applicant.

## **Reporting requirements**

For any EER approved by the CFP through a Tier 2 application process, the applicant must annually submit vehicle usage and energy consumption data for each vehicle using the value approved by the CFP to generate credits or deficits in the program. In addition, the CFP may specify additional data that must be reported annually.

## **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.oregon.gov](mailto:deqinfo@deq.oregon.gov).

## 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		