Concise Explanatory Statement
Chapter 173-424 WAC, Clean Fuels Program Rule & Chapter 173-455 WAC, Air Quality Fee Rule

Summary of Rulemaking and Response to Comments

Washington State Department of Ecology
Olympia, Washington
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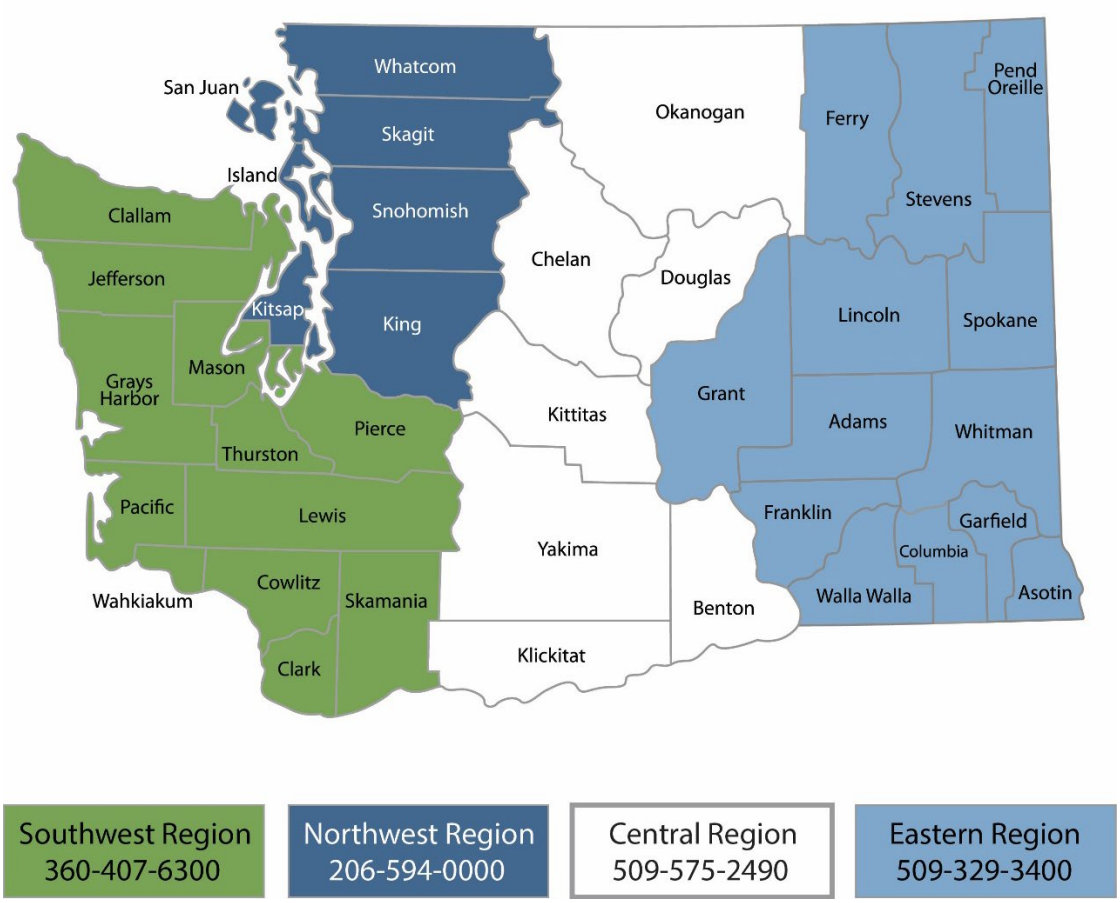
Department of Ecology's Regional Offices

Map of Counties Served



Southwest Region 360-407-6300	Northwest Region 206-594-0000	Central Region 509-575-2490	Eastern Region 509-329-3400

Region	Counties Served	Mailing Address	Phone
Southwest	Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, Wahkiakum	PO Box 47775 Olympia, WA 98504	360-407-6300
Northwest	Island, King, Kitsap, San Juan, Skagit, Snohomish, Whatcom	PO Box 330316 Shoreline, WA 98133	206-594-0000
Central	Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima	1250 W Alder St Union Gap, WA 98903	509-575-2490
Eastern	Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman	4601 N Monroe Spokane, WA 99205	509-329-3400
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Concise Explanatory Statement

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Air Quality Program
Washington State Department of Ecology
Olympia, WA

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Abbreviations and Acronyms

AEZ-EF	Agro-ecological zone emissions factor model
AJF	Alternative jet fuel
APA	Administrative Procedure Act
CARB	California Air Resources Board
CCA	Climate Commitment Act
CCS	Carbon capture and sequestration
CDR	Carbon dioxide removal
CES	Concise Explanatory Statement
CETA	Clean Energy Transformation Act
CFP	Clean Fuels Program
CFR	Code of Federal Regulations
CFS	Clean Fuel Standard
CI	Carbon intensity
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DCFC	Direct current fast charging
EER	Energy economy ratio
eCHE	Electric cargo handling equipment
eFSE	Electric fuel supply equipment
eGSE	Electric ground support equipment
EJ	Environmental Justice
eOGV	Electric ocean going vessel
eTRU	Electric transportation refrigeration unit
EV	Electric vehicle
EVSE	Electric vehicle supply equipment
FCI	Fast charging infrastructure
FRA	Final Regulatory Analyses
GHG	Greenhouse gas
GTAP	Global trade analysis project model
GWP	Global warming potential

HEAL Act	Healthy Environment for All Act (Chapter 70A.02 RCW)
HRI	Hydrogen refueling infrastructure
iLUC	Indirect land use change
MT	Metric tons
OR DEQ	Oregon Department of Environmental Quality
PRA	Preliminary Regulatory Analyses
REC	Renewable energy certificate
RCW	Revised Code of Washington
RNG	Renewable natural gas
SAF	Sustainable aviation fuel
WAC	Washington Administrative Code
WA-GREET	Washington Greenhouse Gases, Regulated Emissions, and Energy use in Transportation model
WFRS	Washington Fuels Reporting System
WFRS-CBTS	Washington Fuels Reporting System Credit Bank & Transfer System

Introduction

The purpose of a Concise Explanatory Statement is to:

- Meet the Administrative Procedure Act (APA) requirements for agencies to prepare a Concise Explanatory Statement (RCW 34.05.325).
- Provide reasons for adopting the rule.
- Describe any differences between the proposed rule and the adopted rule.
- Provide Ecology's response to public comments.

This Concise Explanatory Statement provides information on The Washington State Department of Ecology's (Ecology) rule adoption for:

Title:	Clean Fuels Program Rule & Air Quality Fee Rule
WAC Chapter(s):	173-424; 173-455
Adopted date:	November 28, 2022
Effective date:	December 29, 2022

To see more information related to this rulemaking or other Ecology rulemakings please visit our website: https://ecology.wa.gov/About-us/How-we-operate/Laws-rules-rulemaking.

Reasons for Adopting the Rule

In 2021, the Legislature passed the Transportation Fuel – Clean Fuels Program (Chapter 70A.535 RCW) to reduce emissions of greenhouse gases and conventional air pollutants from transportation and to spur economic development through deployment of clean fuel technology.

The law directs Ecology to adopt rules establishing the Clean Fuels Program by January 1, 2023. The program must reduce the carbon intensity of transportation fuels used in Washington by 20 percent below 2017 levels by 2038. Carbon intensity accounts for GHG emissions throughout the full lifecycle of the fuel (i.e., GHG emissions from feedstock production and transport, fuel production and transport, and use of the fuel) per unit energy of the fuel.

The law also allows Ecology to charge fees to recover the direct and indirect costs of developing and implementing the program, including the associated fuel supply forecasting work of the Washington Department of Commerce.

Differences Between the Proposed Rule and Adopted Rule

RCW 34.05.325(6)(a)(ii) requires Ecology to describe the differences between the text of the proposed rule as published in the Washington State Register and the text of the rule as adopted, other than editing changes, stating the reasons for the differences.

There are some differences between the proposed rule filed on July 18, 2022 and the adopted rule filed on November 28, 2022. Ecology made these changes for all or some of the following reasons:

- In response to comments we received.
- To ensure clarity and consistency.
- To meet the intent of the authorizing statute.

The following content describes the changes and Ecology's reasons for making them.

Section	Change	Reason
WAC 173-424-110(11)	Changed "WAC 173-424-140(3)" to "WAC 173-424-220"	Corrected reference
WAC 173-424-110(26)	Added definition for "British Thermal Unit"	Clarity
WAC 173-424-110(27)	Added definition for "Brown grease"	In response to comment

Section	Change	Reason
WAC 173-424-110(37)	Changed “year(s)” to “year”	Clarify that a compliance period is one year
WAC 173-424-110(61)	Added “but not limited to”	Expanded eTRU definition to provide option to include eTRU types beyond the list, consistent with Oregon’s rule.
WAC 173-424-110(66)	Added “from locations within Washington State”	In response to comment for consistency
WAC 173-424-110(68)	Added definition for “Ferry vessel”	In response to comment to define the term used in advance credits section
WAC 173-424-110(71)	Added “trolley bus” and “streetcar” and removed “or for a bus rapid transit system” from “fixed guideway” definition	In response to comments and to provide consistency with Oregon’s revised rule
WAC 173-424-110(73)	Added definition for “Fuel cell”	In response to comments requesting the definition be included in the rule
WAC 173-424-110(86)	Removed errant text and added “this chapter”	In response to comments to correct typographical error
WAC 173-424-110(88)	Added “contractually” and “through a book and claim accounting methodology.”	In response to comment and to provide consistency with Oregon’s revised rule
WAC 173-424-110(89)	Removed “statewide grid or”	In response to comments to clarify that we are using a utility specific CI, rather than a statewide CI
WAC 173-424-110(98)	Added definition for “Liquid fuels”	Clarity
WAC 173-424-110(99)	Added “Washington”	In response to comment that this should refer specifically to the average Washington grid
WAC 173-424-110(102)	Added “, and where the individual parking spaces that	In response to comments that the definition should be

Section	Change	Reason
	an electric vehicle charger serves, and the charging equipment itself, are not deeded to or owned by a single resident" and removed "in which each unit shares a floor or ceiling on at least one side."	tied more directly to charging and parking, and to align with Oregon's definition
WAC 173-424-110(124)	Removed reference to subpart K	In response to comment that this subpart is now obsolete in the CFR
WAC 173-424-110(131)	Added definition for "Residence"	In response to comment that the term was used in the rule but not defined
WAC 173-424-110	Removed definition for "Shore power"	For clarity, as this definition is similar to the definition for eOGV
WAC 173-424-110	Removed definition for "Single-family residence"	In response to comments that the term was not used in the rule
WAC 173-424-110(139)	Added definition for "Therm"	Clarity
WAC 173-424-110(145)	Added "without obligation"	In response to comment to clarify the definition
WAC 173-424-110(145)	Added "'Position holder sale with obligation' means the transportation fuel was sold below the rack with a transfer of the compliance obligation."	In response to comment to clarify definition
WAC 173-424-110(152)	Added "renewable energy certificates"	Clarity, as this is the first time the acronym "RECs" is used in the rule

Section	Change	Reason
WAC 173-424-110(157)	Added "is adapted from California's CA-GREET3.0 (August 13, 2018). The model includes contributions from the Oil Production Greenhouse Gas Estimator (OPGEE2.0) model (for emissions from crude extraction) and Global Trade Analysis Project (GTAP-BIO) together with the Agro-Ecological Zone Emissions Factor (AEZ-EF) model for land use change (LUC)."	In response to comment requesting inclusion of the protocols in WA-GREET
WAC 173-424-110(158)	Added definition for "Yard trucks"	In response to comments that yard trucks should be defined separately, as in California's rule
WAC 173-424-110	Added "'eFV' means electrical power for a ferry vessel"	In response to comment requesting abbreviation
WAC 173-424-110	Added "'eGSE' means electric ground support equipment"	In response to comments that eGSE was defined but not included in the list of abbreviations
WAC 173-424-110	Removed "power for" from eOGV abbreviation	To specify that eOGV means electric ocean-going vessel, rather than power for the vessel
WAC 173-424-110	Removed duplicate abbreviation for "RFS"	In response to comments that the abbreviation was listed twice
WAC 173-424-120(3)(a)	Replaced "through December 31, 2038" with "for a specific year."	In response to comment to avoid general conclusion that these fuels will meet the CI standard through 2038

Section	Change	Reason
WAC 173-424-130(1)	Replaced “at” with “if” and added “gasoline gallon equivalent (42.6 million MJ)”	In response to comment requesting clarification if the quantity of exempt fuels included gallons equivalent and for consistency with California’s rule
WAC 173-424-130(2)(a)(ii)	Removed “Marine”	In response to comment for consistency with statute
WAC 173-424-130(3)	Replaced “be” with “claim” and added “for regulated fuel”	Clarity
WAC 173-424-130(3)(a)	Added subsections (A), (B), and (C) with documentation requirements	In response to comment for clarity
WAC 173-424-130(3)(b)	Added subsection (b)	In response to comment that requested consistent criteria for exemptions that apply for all types of fuels
WAC 173-424-140(1)(c)	Removed “comply with”	Clarity
WAC 173-424-140(2)(a)	Changed “program” to “CFP” in two places	Consistency
WAC 173-424-140(3)(b)(i)	Added clarifying language on aggregator designation	In response to comments to clarify that all regulated parties and eligible credit generators can designate an aggregator

Section	Change	Reason
WAC 173-424-200(2)	Removed “of first fuel reporting entities for liquid fuels” and moved “Liquid fuels refer to fossil fuels (including gasoline, diesel, and conventional jet fuels), liquid alternative fuels (including ethanol, biomass-based fuels, and alternative jet fuels), and blend of liquid fossil and alternative fuels” to the new definition of “liquid fuels”	Clarity
WAC 173-424-200(2)(b)	Removed “for”	To correct typographical error
WAC 173-424-200(2)(b)(i)(A)	Removed “following” and added “(I) through (IV) below”	Clarity
WAC 173-424-200(2)	Removed “base deficit and incremental” in multiple places in this subsection	In response to comment to clarify that we are not addressing incremental deficits separately
WAC 173-424-200(2)(b)(i)(A)(IV)	Added “The downstream entity is required to report on WFRS-CBTS, if exports the fuel.”	In response to comment
WAC 173-424-200(2)(b)(i)(B)	Added “and to any other requirement applicable to a fuel reporting entity.”	Clarity
WAC 173-424-200(2)(b)(ii)(A)	Added “at the time ownership of fuel is transferred”	Clarity
WAC 173-424-200(2)(b)(ii)(A)(I)	Added “and the transferor retains the responsibilities as a fuel reporting entity”	In response to comment for clarity
WAC 173-424-200(2)(b)(ii)(A)(III)	Changed “recipient” to “transferor”	In response to comment for clarity

Section	Change	Reason
WAC 173-424-200(2)(b)(ii)(B)	Added "Upon transfer according to (A) above, the recipient also becomes a fuel reporting entity for the fuel while the transferor is still subject to reporting requirements and any other requirements applicable to a fuel reporting entity under this chapter" and removed repeated language in (B) and subsections (I), (II), and (III)	In response to comment for clarity and because some of the requirements were duplicative
WAC 173-424-210(2)(e)(i) and (ii)	Added "fossil based"	Clarity
WAC 173-424-210(2)(e)(iii)	Added "Renewable hydrogen: For renewable hydrogen, including the renewable portion of any blend with fossil hydrogen, the first fuel reporting entity is the producer or importer of the renewable hydrogen."	In response to comment
WAC 173-424-220(3)	Added subsection (3) Designating another entity as credit generator	In response to comments requesting a credit generation hierarchy
WAC 173-424-220(4)(b)	Removed "or service provider" and changed "aggregator" to "entity"	In response to comments to remove term for clarity and to correct an error
WAC 173-424-220(4)(b)(i)	Changed "aggregator" to "entity"	In response to comments to correct an error
WAC 173-424-220(5)	Changed "fixed guideway" to "public transit" and made clarifying edits	In response to comments to clarify that public transit agencies have the right to credit generation for public transit buses
WAC 173-424-220(6)(a)(ii)	Removed "or actual" and added "credits and" Also added specificity for 2023 requirements	In response to comments that requiring annual credits was more stable than credit revenue and for clarity

Section	Change	Reason
WAC 173-424-220(6)(b) and (c)	Revised to add specificity to forklift credit generation rights	In response to comments
WAC 173-424-220(7)(a)	Removed “the owner of”	In response to comment to correct typographical mistake
WAC 173-424-220(7)	Removed subsection (b)	For clarity, as this subsection is redundant with the addition of subsection (3)
WAC 173-424-220(8)(a)	Added “cargo” to “electric handling equipment owner”	In response to comments to correct typographical mistake
WAC 173-424-220(8)(b)(i)	Removed “owner”	To correct typographical mistake
WAC 173-424-220(8)(b)(ii)	Removed “or actual” and added specificity for 2023 requirements	In response to comments that requiring annual credits was more stable than credit revenue and for clarity
WAC 173-424-220(8)(c)	Revised to: “If the eCHE owner does not generate the credits, then the eCHE operator may generate the credit if the two entities agree by written contract that: (i) The eCHE owner will not generate credits. (ii) The eCHE operator accepts all the CFP responsibilities as the fuel reporting entity and credit generator.”	Clarity

Section	Change	Reason
WAC 173-424-220(8)(d)	Added: "If credit generation rights are passed to the eCHE operator, the operator must annually notify in writing to the eCHE owner that: (i) The operator is generating credit for the amount of electricity they use for the electric cargo handling equipment. (ii) The estimated annual credits and credit revenue the operator gets for the use of electricity in the eCHE based on the credit price in the previous year. For the 2023 calendar year, the operator shall use the average of the annual average credit price in CARB and OR-DEQ clean fuel standard programs."	Clarity and consistency
WAC 173-424-220(9)(a) and (b)	Changed references from "electric power supplying equipment" or "electric charging equipment" to "electric fuel supply equipment"	In response to comment requesting consistent use of the term

Section	Change	Reason
WAC 173-424-220(9)(b)	Revised to: "If the owner of the electric fuel supply equipment does not generate the credits, then the operator of the electric fuel supply equipment may generate the credit if the two entities agree by written contract that: (i) The owner of the electric fuel supply equipment will not generate credits. (ii) The operator of the electric fuel supply equipment accepts all the CFP responsibilities as the fuel reporting entity and credit generator."	Clarity and consistency
WAC 173-424-220(10)(a)	Added: "If the owner of the charging equipment does not generate the credits, then the owner of the electric ground support equipment may generate the credit if the two entities agree by written contract that: (i) The owner of the charging equipment will not generate credits. (ii) The owner of the electric ground support equipment accepts all the CFP responsibilities as the fuel reporting entity and credit generator."	Clarity and consistency
WAC 173-424-220(11)	Added: "For the 2023 reporting year, electric utilities must notify ecology by January 15, 2023."	To clarify requirements for 2023

Section	Change	Reason
WAC 173-424-220(11)(a)(iii)	Changed reference from (b) to (a)	Clarity
WAC 173-424-220(12)	Removed “or service provider”	In response to comments to remove the term for clarity
WAC 173-424-220(12)	Changed subsection references to (4) and (11)	Clarity
WAC 173-424-220(12)(a)(i)	Added “and”	Clarity
WAC 173-424-220(12)(c)	Removed “the”	To correct typographical error
WAC 173-424-300(1)(b)	Removed “be on the applying entity’s letterhead and”	To simplify reporting
WAC 173-424-300(1)(b)(i)	Removed “and EPA RFS identification number (if available)”	Consistency with other registration processes
WAC 173-424-300(1)(b)(ii)	Removed “including county”	Information not needed and will reduce IT workload
WAC 173-424-300(1)(b)(vi), (vii) and (viii)	Moved to 300(1)(g)(iii)	In response to comment
WAC 173-424-300(1)(b)(vii)(B)	Removed subsection (B) as the requirement is listed in (1)(g)(iii)(C)	Consistency
WAC 173-424-300(1)(b)(vii)(B)	Removed “the number of chargers located in Washington, their locations, the estimated annual discharge of electricity per location”	In response to comment that this information would be difficult to provide
WAC 173-424-300(1)(d) and (f)	Changed “Washington FRS” to “WFRS” in multiple places	Consistency
WAC 173-424-300(1)(e)(ii)	Changed “the” to “any”	Clarity
WAC 173-424-300(1)(e)(iv)	Changed sentence structure	Clarity
WAC 173-424-300(1)(g)(i)	Removed “WACFP”	Clarity

Section	Change	Reason
WAC 173-424-300(1)(g)(iii)(A)(I)	Added "Unless designated as first fuel reporting entity in WAC 173-424-210"	In response to comments that those already designated as first fuel reporting entities should not have to upload contracts
WAC 173-424-300(1)(g)(iii)(A)(II)	Removed "the estimated annual fuel throughput per location"	To streamline the registration process
WAC 173-424-300(1)(g)(iii)(D)	Added "Unless designated as first fuel reporting entity in 173-424-220"	In response to comments that those already designated as first fuel reporting entities should not have to upload contracts
WAC 173-424-300(1)(g)(iii)(D)	Moved "…registered entities that are charging electric vehicles must provide ecology with a copy of a written contractual agreement demonstrating the registered entity acquired the designation of the first fuel reporting entity status;" to (g)(iii)	Clarity
WAC 173-424-300(1)(g)	Removed "For residential metered EV charging, FSE refers to a piece of equipment or on-vehicle telematics capable of measuring the electricity dispensed for EV charging"	To remove duplicate info when (1)(c) was moved to (1)(g)(iii)(D)
WAC 173-424-300(1)(g)(iii)(G)	Added subsection (G)	Moved from (viii) to more appropriate subsection (g)(iii)(G)
WAC 173-424-300(1)(g)(iii)(H)	Corrected "WA-RFS" to "WFRS" in multiple places	To fix typographical error
WAC 173-424-300(1)(g)(iii)(I)	Added "or eGSE"	In response to comment
WAC 173-424-300(2)(b)(i)	Removed "and county"	To simplify registration processes

Section	Change	Reason
WAC 173-424-300(2)(b)(ii)	Removed “state the basis for” and changed “letter” to “application”	To simplify registration processes
WAC 173-424-300(2)(b)(ii)(A)	Removed “Must be on the organization letterhead”	To simplify registration processes
WAC 173-424-300(2)(b)(ii)(B)	Removed “primary” and “relationship to the organization” and replaced “representative and alternative account representative” with “administrator” Made “phones” and “email addresses” singular.	To simplify registration processes
WAC 173-424-400(1)(c)	Added “subject to the CFP”	In response to comment
WAC 173-424-400(1)(i)	Replaced “copies” with “datasets” and changed “bills” to “billing information”	In response to comments to clarify that utilities can submit a dataset of billing information rather than individual customer bills
WAC 173-424-400(1)(k)	Added “As applicable”	Clarity
WAC 173-424-400(1)(k)(i)	Corrected “FRS” to “RFS” and added “and the Climate Commitment Act (Chapter 173-446 WAC)” and “or Climate Commitment Act”	In response to comments to correct typographical mistake and to clarify a credit can be claimed under both the CCA and CFS
WAC 173-424-400(1)(k)(ii)	Removed “as a process energy or feedstock”	In response to comments, to provide clarity and reduce redundancy
WAC 173-424-400(2)	Replaced “fuel” with “product”	In response to comment
WAC 173-424-400(2)(h)	Added “fossil” to “gasoline” and “diesel fuel”	In response to comment for clarity

Section	Change	Reason
WAC 173-424-400(6)	Added "This requirement does not apply to fuels stored outside the bulk system, as defined in WAC 173-424-110(28)"	Clarity
WAC 173-424-410(1)(c)	Changed "December 31st" to "January 10th"	In response to comment that the deadline be later to allow for flexibility over the holidays, and for consistency with Oregon requirements
WAC 173-424-420	Changed "In addition to all the requirements in" to "The following requirements are in addition to requirements contained in"	Clarity
WAC 173-424-420(2)(e)	Removed "file 108"	In response to comment to correct typographical error
WAC 173-424-420(3)(a)	Removed "statewide or" and "for the purpose of claiming incremental credits to claim credits"	In response to comment to clarify we are not using a statewide mix, and to improve the clarity of the requirement and align with Oregon's rule
WAC 173-424-420(3)(a)	Changed "power" to "electricity"	In response to comment for consistency
WAC 173-424-420(3)(b)(i)	Added "If an electric utility monitors electric energy use in EVs" and changed "must" to "may" Also removed "for the calculation of credits for nonmetered charging from the prior quarter" and moved "within the first 45 days after the end of the quarter"	In response to comment to make the requirement optional
WAC 173-424-420(3)(b)(iii)	Added "from nonmetered residential EV charging"	Clarity

Section	Change	Reason
WAC 173-424-420(3)(c)(ii)	Replaced “and the” with “The” and added “also”; Changed “requirement” to “requirements”	Clarity
WAC 173-424-420(3)(c)(ii)(B)	Added “Multiple claims will be resolved pursuant to WAC 173-424-220(11)(b)(iii)” and “other than utilities or electric vehicle manufacturers”	In response to comment for consistency
WAC 173-424-420(3)(c)(iii)	Added subsection specifying credit revenue spending requirements for nonutility credit generators	In response to comments requesting these requirements
WAC 173-424-420(3)(f)	Added “in and”	Clarity
WAC 173-424-420(3)(f)	Added “The quantity of electricity used in electric forklifts may be determined as follows: (i) Quantity of electricity used during a reporting period, as measured per FSE. (ii) If the quantity of electricity as measured per FSE is unavailable, the reporting entity may submit a written statement to Ecology demonstrating the reasons they are unable to provide measured electricity data. Upon approval from Ecology, they may use an Ecology approved estimation method.”	In response to comment asking to specify how to determine the amount of electricity used by forklifts

Section	Change	Reason
WAC 173-424-420(4)(a)	Corrected “WA-RFS” to “WFRS” and replaced “vehicle weight category: LDV & MDV and HDV” with “the vehicle station classes (based on tank type and size) as required in the hydrogen industry standard fueling protocol SAE J2601.”	To correct typographical error and in response to comments stating that there is no system to identify whether the refueled vehicle weight category is LD/MD/HD
WAC 173-424-420(6)(b)	Added “renewable” to “gasoline”	In response to comment for clarity
WAC 173-424-420(6)(f)	Changed “Reporting” to “All reports of” and added “under this chapter must comply with the following”	Clarity
WAC 173-424-420(6)(f)(ii)	Added “; and”	Clarity
WAC 173-424-420(6)(g)	Added “Such purchasers must also report a transaction for the same gallons using an ‘Export out of Washington distribution system’ transaction.” Removed “in all applicable reports under this chapter”	Clarity
WAC 173-424-430(1)(a)	Corrected “WA RFS” to “WFRS”	In response to comment to correct typographical error
WAC 173-424-500(4)	Added “Carrying forward a small deficit under this subsection” and removed “not”	For clarity and in response to comment to correct typographical error
WAC 173-424-510(1)(b)	Added “an” and reference to subsection 610(6)	Clarity
WAC 173-424-510(1)(c)	Added reference to subsection 610(8)	Clarity

Section	Change	Reason
WAC 173-424-510(3)	Added “Registered entities can generate and transact credit during the initial compliance period.”	In response to comment asking for clarity on the initial compliance period
WAC 173-424-520(4)(d)	Removed subsection (d)	In response to comment that the subsection was confusing and unnecessary
WAC 173-424-540(2)	Changed “2023” to “2022”	In response to comment for consistency with WAC 173-424-420(3)(f)
WAC 173-424-540(3)(b)(ii)	Removed “or statewide”	In response to comment to clarify we are not using statewide mix
WAC 173-424-540(3)(b)(iii)	Added subsection (iii)	To include additional alternative method for residential EV charging credit calculation.
WAC 173-424-540(4)	Removed multiple references to “incremental aggregator”	To clarify we are not using an incremental aggregator
WAC 173-424-540(4)	Changed “power” to “electricity”	In response to comment for consistency
WAC 173-424-540(4)(c)	Changed “it” to “the registered entity”	Clarity
WAC 173-424-550(1)(a)	Removed “through transportation electrification”	In response to comment to make the criteria applicable to broader decarbonization
WAC 173-424-550(2)(b)	Added new entities eligible for advance credits	In response to comments and for consistency with Oregon
WAC 173-424-550(2)(c)	Added “and infrastructure” in (i) and (ii)	Clarity
WAC 173-424-550(2)(c)	Added “(iv) Public transit infrastructure”	In response to comments requesting eligibility for advance credit investments
WAC 173-424-550(3)(b)(iii)	Changed “retired” to “exited”	In response to comment seeking clarity

Section	Change	Reason
WAC 173-424-550(4)(c)	Added “at least”	In response to comment for consistency
WAC 173-424-550(6)(c)	Removed “purchasing and”	In response to comment to allow for situations where the applicant does not need to purchase credits
WAC 173-424-550(7)(b)	Added “for that project”	In response to comment for clarity
WAC 173-424-550(7)(b)	Added “using credits generated from that project or other banked credits.”	Clarity
WAC 173-424-560(1)(a)(i)	Added “; and”	Clarity
WAC 173-424-560(1)(b)(v)	Added “The application for medium and heavy duty vehicles shall not be accepted until HySCapE model or equivalent model or capacity estimation methodology is approved by ecology for these vehicle size categories.”	In response to comment for clarity
WAC 173-424-560(1)(b)(vi)(A)	Changed “500” to “800”	In response to comments to increase the capacity of hydrogen refueling stations
WAC 173-424-560(1)(b)(vi)(B)	Changed “2300” to “3000” and “1150” to “1500”	In response to comments to increase the capacity of hydrogen refueling stations
WAC 173-424-560(1)(d)(vii)	Changed “eight” to “nine”	In response to comment, as a compromise, to reduce the burden on the regulated entity for the two years that will be lost
WAC 173-424-560(1)(d)(viii)(B)	Corrected “FCI” to “HRI”	In response to comment to correct typographical error
WAC 173-424-560(1)(e)	Added “or diesel” and “depending on the fuel it replaces” to equation	To make the formula applicable to both light duty vehicle HRI and MD/HDV HRI

Section	Change	Reason
WAC 173-424-560(2)(a)(ii)(B)	Replaced “one” with “three quarters of all” and added “subject to this provision” Removed “a CHAdeMO connector protocol and at least one FSE with an”	In response to comment requesting alignment with federal guidelines
WAC 173-424-560(2)(a)(ii)(C)	Changed “No more than three-quarters of all FSE subject to this provision at the site can support only a single fast charging connector protocol” to “The charging equipment owner must have at least one adaptor for all three charging connector types, if the adapter technology is available.”	To have at least one adaptor from all types of connectors
WAC 173-424-560(2)(e)	Added “or diesel” and “depending on the fuel it replaces” to equation	To make the formula applicable to both light duty vehicle HRI and MD/HDV HRI
WAC 173-424-570(2)(b)	Added “on the first Monday of April”	In response to comment requesting a date when Ecology will publish new maximum price
WAC 173-424-600(1)(a)	Changed “will be” to “is”	Clarity
WAC 173-424-600(3)(b)	Added “apply to”	Clarity
WAC 173-424-600(3)(c)(i)	Removed “and statewide average”	In response to comment to clarify we are not using a statewide mix
WAC 173-424-600(4)(b)	Changed “power” to “electricity”	In response to comment for consistency
WAC 173-424-600(4)(b)(ii)	Added “and Climate Commitment Act (Chapter 173-446 WAC)” and “or the Climate Commitment Act”	To clarify that a credit claimed under the CCA can also be used in the CFS
WAC 173-424-600(5)(b)	Changed reference to subsection (4)	In response to comments to correct subsection reference

Section	Change	Reason
WAC 173-424-600(5)(b)	Removed “that”	In response to comment to correct typographical error
WAC 173-424-600(5)(b)	Changed Tier 2 pathway application acceptance date and made clarifying edits. Also added “Low carbon fuel productions facilities with already certified fuel pathways may also use it temporarily for the production capacity expanded facility.”	In response to comments requesting an earlier date to submit Tier 2 pathway applications, and for clarity
WAC 173-424-600(6)(b)	Added “hydrogen produced using” and removed “produced hydrogen”	Clarity
WAC 173-424-600(7)	Replaced “can be” with “can be claimed for”	Clarity
WAC 173-424-600(7)	Added “A fuel pathway applicant may add a conservative margin of safety, of a magnitude determined by the applicant, to increase the certified CI above the operational CI calculated based on the data submitted in the initial fuel pathway application, to account for potential process variability and diminish the risk of non-compliance with the certified CI.”	In response to comment for clarity and for consistency with other jurisdictions
WAC 173-424-600(9)	Added subsection (9)	In response to comment to provide fuel pathways for compliance in 2023 and 2024 program implementation

Section	Change	Reason
WAC 173-424-610(1)(d)	Added “Annual fuel pathway report, if submitted to CARB or OR-DEQ;”	To allow staff to have additional information on the implementation of CARB or OR-DEQ approved fuel pathways
WAC 173-424-610(7)(c)	Added “shall be equivalent to allocation methodologies accepted in the federal and other states’ similar programs, and”	In response to comment with concern over the accuracy of co-processed biomass allocation to fuels
WAC 173-424-610(8)(a)	Changed “regulated” to “registered” and removed “or credit generator” Added “in (i) or (ii) below. A fuel producer may also apply to Ecology for approval to have a temporary fuel pathway code assigned to its facility. Temporary fuel pathway code that:”	To make the rule concise, by replacing “regulated party or credit generator” with “registered party”. To clarify a fuel producer can apply for temporary fuel pathway.
WAC 173-424-610(9)(e)(iii)	Added “if verification is required under WAC 173-424-800.”	Clarity
WAC 173-424-610(9)(f)(i)	Changed “seven” to “14”	In response to comment to extend the time to notify Ecology
WAC 173-424-610(9)(g)(iii)	Removed (B)	This subsection was redundant, so removed for clarity
WAC 173-424-610(9)(g)(iii)(D)(I)	Added “and RTCs” and removed subsection reference	To allow the use of RECs for electricity and RTCs for biomethane
WAC 173-424-610(9)(g)(iii)(D)(II)	Added “an Ecology”	Clarity

Section	Change	Reason
WAC 173-424-610(9)(g)(iii)(E)	Added “fuel” and “Any offsite source of renewable electricity must meet the requirements under WAC 173-424-630(5);”	Clarity
WAC 173-424-610(9)(g)(iii)(G)	Added “The new certified CI will take effect for the following reporting year. The fuel”	Clarity
WAC 173-424-610(9)(g)(iii)	Removed subsection (9)(g)(iii)(G)	In response to comment
WAC 173-424-610(9)(k)	Added subsection (k) “Ecology may prioritize the review of fuel pathway applications according to the date the application is submitted, the application deemed complete date, and the potential GHG emission reduction potential.”	To provide staff criteria for prioritization when the fuel pathway applications exceed the capacity of staff to review them
WAC 173-424-610(13)(c)	Added “Ecology may require the reporting entity to provide documentation to support the force majeure event timeline.”	To clarify that Ecology may require additional information to verify force majeure event timeline
WAC 173-424-610(14) and (15)	Added subsections (14) and (15)	14. To ensure the integrity of book-and-claim accounting method as applied to biomethane injected to pipeline. 15. To ensure fuel pathway holders sell fuels with the conservative CI to their customers.
WAC 173-424-620(3)	Added “, or other fuel-vehicle technologies.”	Clarity
WAC 173-424-620(5)(a)	Added “type” in multiple places	In response to comment

Section	Change	Reason
WAC 173-424-630(1)	Changed “June 15, 2023” to “March 15, 2023”	So that information provided can be used in quarterly reports
WAC 173-424-630(3)	Removed “considered as generated using natural gas” and added “0.437 metric tons per megawatt-hour of electricity as measured by the utility at the first point of receipt in Washington, unless ecology assigns another number as directed by RCW 19.405.070(2).”	In response to comment for clarity and consistency with the definition of unspecified electricity
WAC 173-424-630(4)(b)	Changed reference from “Table 7” to “Table 6”	In response to comment to correct typographical error
WAC 173-424-630(4)(d)	Added “The applicant is allowed to utilize RECs generated onsite for other purposes, if the RECs are in excess of the energy dispensed through EV chargers.”	In response to comment
WAC 173-424-630(5)(a)	Added “, and:”	Clarity
WAC 173-424-630(5)(b)	Removed “by an electric generator that was placed into service” and added “in and after”	In response to comments and to clarify RECs may be generated in 2023
WAC 173-424-630(5)(e)	Added subsection (e)	In response to comment to address concerns about double counting
WAC 173-424-630(7)	Removed “via a Tier 2 fuel pathway application”	For consistency with other jurisdictions
WAC 173-424-630(7)(a)	Removed “Notwithstanding WAC 173-424-610, Tier 2”	For consistency with other jurisdictions
WAC 173-424-700(1)	Edited section references	For consistency with other jurisdictions

Section	Change	Reason
WAC 173-424-700(2)	Changed “WA-RFS” to “WFRS” in multiple places	To correct a typographical error
WAC 173-424-710(2)	Changed “WA-RFS” to “WFRS” in multiple places	To correct a typographical error
WAC 173-424-900 Tables 1 and 2	Made minor edits to CI values throughout table	Updates to model resulted in minor changes to values
WAC 173-424-900 Table 3	Changed Washington gasoline energy density from 117.73 to 118.38 and added “fossil”	In response to comment to correct energy density based on 10% ethanol blend level and at the request of a commenter for clarity
WAC 173-424-900 Table 4	Removed duplicate “Propane/Propane forklift” row and changed “Propane/Propane” to “Propane/LPG”	To correct typographical error
WAC 173-424-900 Table 4	Added “Trolley bus”	To show that the EER is the same for fixed guideway/streetcar/trolley bus
WAC 173-424-900 Table 4	Added EER value of 2.6 for eOGV	In response to comments that EER was missing for eOGV
WAC 173-424-900 Table 4	Added EER value of 3.2 for electricity/ground support equipment	The value was included in the text but missing in the table
WAC 173-424-900 Table 6	Made minor edits to CI values throughout table	Updates to model resulted in minor changes to values
WAC 173-424-900 Table 6	Made small wording changes to two pathway descriptions in table and added blend level to footnotes	Clarity and consistency and in response to comment
WAC 173-424-900 Table 7	Made minor edits to CI values throughout table	Updates to model resulted in minor changes to values

Section	Change	Reason
WAC 173-424-900 Table 8	Made minor edits to CI values throughout table	Updates to model resulted in minor changes to values
WAC 173-424-900 Table 9	Made edits throughout table	In response to comments and for clarity
WAC 173-424-900 Table 10	Changed “2018” to “2020” and added footnote	In response to comments
WAC 173-455-150(1)	Replaced “All entities required to participate or voluntarily participating under WAC 173-424-130” with “Credit and deficit generators as defined in WAC 173-424-110”	In response to comment to clarify if credit aggregators are required to pay a fee
WAC 173-455-150	Removed subsection (3)	Clarity
WAC 173-455-150(3)	Added “and credit”	Clarity and consistency
WAC 173-455-150(3)(a)	Added “In 2023, ecology determines deficit and credit generators based on registration information.”	Consistency
WAC 173-455-150(3)(b) and (c)	Added “and credit”	Clarity and consistency
WAC 173-455-150(4)	Replaced “year” with “biennium” and added “, along with the Department of Commerce,”	Consistency with the statute
WAC 173-455-150(4)	Added “Ecology must publish the workload analysis and provide an opportunity for public review and comment on the workload analysis.”	Consistency with the statute
WAC 173-455-150(5)	Replaced “the entities required to participate or voluntarily participating under WAC 173-424-120” with “credit and deficit generators.”	In response to comment to clarify if credit aggregators are required to pay a fee

Section	Change	Reason
WAC 173-455-150(5)(a)(i)	Replaced “Eighty” with “Ninety-five”	In response to comments that credit generators should pay less in fees
WAC 173-455-150(5)(a)(ii)	Replaced “Twenty” with “Five”	In response to comments that credit generators should pay less in fees
WAC 173-455-150(5)(b)	Replaced “after” with “in” and added “and later”	To clarify that the fee allocation methodology includes 2024
WAC 173-455-150(5)(b)(i)	Replaced “20” with “5”	In response to comments that credit generators should pay less in fees
WAC 173-455-150(5)(b)(i)	Removed “all program participants”	Clarity
WAC 173-455-150(5)(b)(ii)	Replaced “80” with “95”	In response to comments that credit generators should pay less in fees
WAC 173-455-150(5)(b)(ii)(A)	Added “Category 1 is 70 percent of the deficit generation fee.”	In response to comment requesting specificity for these fee categories
WAC 173-455-150(5)(b)(ii)(B)	Added “Category 2 is 20 percent of the deficit generation fee.”	In response to comment requesting specificity for these fee categories
WAC 173-455-150(5)(b)(ii)(C)	Added “Category 3 is 10 percent of the deficit generation fee.”	In response to comment requesting specificity for these fee categories
WAC 173-455-150(6)(a)	Added comment period for 2023 fees	To align the fee timeline for 2023 with the 2024 timeline
WAC 173-455-150(6)(b) and (c)	Added “workload analysis” and “2024 workload analysis” and “workload analysis applicable to that year” in multiple places	To clarify that the workload analysis will be published, and for consistency with the statute
WAC 173-455-150(7)	Changed “60” to “30”	Consistency with other AQ fees

Section	Change	Reason
WAC 173-455-150(7)	Changed “90” to “60”	To align with fee invoicing requirements

Topics

We grouped and organized comments and responses together by topic. We used the following topics to group comments together:

- Advance credits
- Applicability
- Backstop aggregator
- Bioethanol/fuel cell technology
- Book and claim accounting
- Capacity credits
    - HRI
    - FCI
- Carbon capture and sequestration
    - Agriculture
    - Geologic
- Carbon intensity/GREET model
    - Electricity
    - Farm level accounting
    - Global warming potentials
    - Hydrogen
    - Indirect land use change
    - Natural gas
    - SAF
- Carbon intensity reduction target
- Clarifications
- CCA/CFS interaction
- Compliance period
- Credit aggregator requirements
- Credit clearance market
- Credit/deficit calculation
- Credit estimation

- Credit generation
    - eCHE
    - eFSE/EVSE
    - eGSE
    - eOGV/Shorepower
    - eTRU
    - Fixed guideway
    - Forklifts
    - Nonresidential EV
    - Residential EV
- Credit trading
- Definitions
- Designation
- E15 and E85
- Economic analysis
- EER
- Environmental justice
- EV purchase incentives
- Forecast deferral
- Fuel pathways
    - Administrative
    - Application
    - Co-processed fuels
    - Hydrogen
    - RNG
    - SAF
    - Tier 1
    - Tier 2
- Fuel pathway codes
- General opposition
- General support

- Guidance documents
- IT systems
- Preliminary Regulatory Analyses
- Program fees
- Program linkage
- Project based crediting
- Public disclosure
- Recordkeeping
- Registration
- Renewable energy certificates
- Reporting
    - Electricity
- Rule process
- Scope
- SAF
- Verification

List of commenters

We accepted comments during a formal public comment period that ran from July 18 to August 31, 2022. We received 694 comment submissions during the formal public comment period. Most submissions included several unique comments. We also held a public hearing on August 23, 2022, where we accepted oral testimony. This document responds to the public comments we received during the formal public comment period, including those received during the public hearing. We summarized comments or provided them verbatim under each topic, with edits for clarity. You can see the original content of the comments we received at our online comments website[2]. These comments remain available online for two years after the rule adoption date. We grouped comments and organized them by topic. This is a complex rulemaking and many issues and questions span multiple topics. We made great effort to group and respond to comments in an organized manner.

[2] https://aq.ecology.commentinput.com/comment/extra?id=KTPeV

Affiliation	Commenter Name	Topics	Associated Comment numbers
Individual			
	Anonymous	Clarifications	I-74-4
	Anonymous	Applicability	I-74-3
	Anonymous	Scope	I-74-1
	Anonymous	Credit trading	I-74-5
	Anonymous	Reporting	I-74-2
	SUSAN ALLEN	General opposition	I-1-1
	Jason Bowen	General opposition	I-71-1
	Jeannine Lish	EV purchase incentives	I-12-1
	S. Jacky	EV purchase incentives	I-13-1
	Deborah Boyd	General support	I-4-1
	Stephan Classen	Scope	I-80-1
	Elly Claus-McGahan	Carbon intensity reduction target	I-81-1
	Veronica D'Orazio	General support	I-124-1
	Susan Finley	General support	I-72-1
	Allen Flaa	Environmental justice	I-73-1
	Rick Fritz	Fuel pathways: Hydrogen	I-69-1
	Max Gerloff	Scope	I-86-1
	CHERYL GREENE	Scope	I-92-1
	Colin Gregg	Against	I-10-1
	Judy Hallisey	Environmental justice	I-3-3
	Judy Hallisey	Compliance period	I-3-2
	Judy Hallisey	General support	I-3-1
	Matt Hamilton	Scope	I-151-1
	Michelle Fairow	Scope	I-11-1
	Lorraine Hartmann	General support	I-111-1
	Cynthia Jones	General support	I-9-1
	J K	Carbon intensity reduction target	I-89-1
	Lee Keim	Environmental justice	I-568-1
	Lee Keim	Carbon intensity reduction target	I-568-2
	Terri Lindeke	Environmental justice	I-148-1
	Jessica A Lisovsky	General support	I-5-1
	Kate Lunceford	Fuel pathways: RNG	I-8-2
	Kate Lunceford	CCS	I-8-1
	Annie Phillips	Environmental justice	I-147-1

Affiliation	Commenter Name	Topics	Associated Comment numbers
	Annie Phillips	Carbon intensity/GREET model	I-147-2
	Lora Rathbone	Carbon intensity reduction target	I-177-1
	Lora Rathbone	Carbon intensity/GREET model	I-177-2
	Marjorie Reinig	Carbon intensity reduction target	I-178-1
	Marjorie Reinig	Carbon intensity/GREET model	I-178-2
	Matthew Riggen	Carbon intensity reduction target	I-149-1
	David Robison	General support	I-6-1
	Gary Seeman	Environmental justice	I-389-2
	Gary Seeman	General support	I-389-1
	Eric Shaw	Scope	I-79-1
	Mary Siciliano	Carbon intensity reduction target	I-388-1
	Don Steinke	General support	I-150-1
	Andrew Stevens	General opposition	I-2-1
	Clifford Wentworth	General support	I-7-1
	Lucinda and Donald Wingard	Carbon intensity reduction target	I-120-1
Agency			
King County	Rachel Brombaugh	Carbon intensity reduction target	A-2-1
King County	Rachel Brombaugh	Environmental justice	A-2-4
King County	Rachel Brombaugh	Advance credits	A-2-2
King County	Rachel Brombaugh	Carbon intensity/GREET model: iLUC	A-2-3
King County	Rachel Brombaugh	Renewable energy certificates	A-2-5
King County	Rachel Brombaugh	Credit generation: Fixed guideway	A-2-6
King County	Rachel Brombaugh	Reporting: Electricity	A-2-7
King County	Rachel Brombaugh	Definitions	A-2-8
King County	Rachel Brombaugh	Credit generation: FSE/EVSE	A-2-9
Port of Seattle	Eric ffitch	Environmental justice	A-4-4

Affiliation	Commenter Name	Topics	Associated Comment numbers
Port of Seattle	Eric ffitch	Definitions	A-4-11
Port of Seattle	Eric ffitch	Clarifications	A-4-12
Port of Seattle	Eric ffitch	EER	A-4-16
Port of Seattle	Eric ffitch	Capacity credits: FCI	A-4-15
Port of Seattle	Eric ffitch	Compliance period	A-4-1
Port of Seattle	Eric ffitch	Credit generation: eOGV/Shorepower	A-4-2
Port of Seattle	Eric ffitch	Credit generation: eCHE	A-4-3
Port of Seattle	Eric ffitch	Fuel pathways: SAF	A-4-5
Port of Seattle	Eric ffitch	Fuel pathways: Tier 2	A-4-6
Port of Seattle	Eric ffitch	Applicability	A-4-7
Port of Seattle	Eric ffitch	EV purchase incentives	A-4-8
Port of Seattle	Eric ffitch	Fuel pathways: Co-processed fuels	A-4-9
Port of Seattle	Eric ffitch	Program fees	A-4-10
Port of Seattle	Eric ffitch	Registration	A-4-13
Port of Seattle	Eric ffitch	Book and claim accounting	A-4-17
Port of Seattle	Eric ffitch	Credit generation: General	A-4-14
Puget Sound Clean Air Agency	Isha Khanna	Carbon intensity reduction target	A-1-1
Puget Sound Clean Air Agency	Isha Khanna	Environmental justice	A-1-2
Puget Sound Clean Air Agency	Erik Saganic	Carbon intensity reduction target	A-5-2
Puget Sound Clean Air Agency	Erik Saganic	Environmental justice	A-5-3
Puget Sound Clean Air Agency	Erik Saganic	Advance credits	A-5-4
Puget Sound Clean Air Agency	Erik Saganic	EV purchase incentives	A-5-5
Puget Sound Clean Air Agency	Erik Saganic	General support	A-5-1
Washington State Department of Transportation	Jonathan Olds	Advance credits	A-3-4

Affiliation	Commenter Name	Topics	Associated Comment numbers
Washington State Department of Transportation	Jonathan Olds	Credit generation: Fixed guideway	A-3-3
Washington State Department of Transportation	Jonathan Olds	Definitions	A-3-1
Washington State Department of Transportation	Jonathan Olds	Clarifications	A-3-2
Washington State Department of Transportation	Jonathan Olds	EER	A-3-5
Washington State Department of Transportation	Jonathan Olds	Capacity credits: FCI	A-3-6
Business			
Valero	Deepak Garg	Carbon intensity/GREET model: iLUC	B-12-9
Valero	Deepak Garg	Fuel pathways: Co-processed fuels	B-12-11
Valero	Deepak Garg	Program fees	B-12-1
Valero	Deepak Garg	Book and claim accounting	B-12-10
Valero	Deepak Garg	Carbon intensity/GREET model	B-12-2
Valero	Deepak Garg	Recordkeeping	B-12-3
Valero	Deepak Garg	Fuel pathway codes	B-12-4
Valero	Deepak Garg	Credit generation: General	B-12-5
Valero	Deepak Garg	Carbon intensity/GREET model: Electricity	B-12-6
Valero	Deepak Garg	Fuel pathways: Application	B-12-7

Affiliation	Commenter Name	Topics	Associated Comment numbers
Valero	Deepak Garg	Fuel pathways: Administrative	B-12-8
Valero	Deepak Garg	Guidance documents	B-12-12
3Degrees	Maya Kelty	Carbon intensity reduction target	B-20-11
3Degrees	Maya Kelty	Environmental justice	B-20-4
3Degrees	Maya Kelty	Renewable energy certificates	B-20-2
3Degrees	Maya Kelty	Definitions	B-20-8
3Degrees	Maya Kelty	Clarifications	B-20-12
3Degrees	Maya Kelty	Capacity credits: FCI	B-20-5
3Degrees	Maya Kelty	Registration	B-20-7
3Degrees	Maya Kelty	Capacity credits: HRI	B-20-6
3Degrees	Maya Kelty	Credit aggregator requirements	B-20-1
3Degrees	Maya Kelty	Credit generation: Residential EV	B-20-3
3Degrees	Maya Kelty	Fuel pathways: Tier 1	B-20-9
3Degrees	Maya Kelty	Carbon intensity/GREET model: Hydrogen	B-20-10
Air Products	Miles Heller	Advance credits	B-2-1
Air Products	Miles Heller	Applicability	B-2-3
Air Products	Miles Heller	Capacity credits: HRI	B-2-2
Air Products	Miles Heller	Fuel pathways: Hydrogen	B-2-4
Alaska Airlines	Scott Kennedy	Book and claim accounting	B-24-3
Alaska Airlines	Scott Kennedy	Fuel pathways: Tier 2	B-24-2
Alaska Airlines	Scott Kennedy	Applicability	B-24-1
Alaska Airlines	Scott Kennedy	SAF	B-24-4
bp America Inc.	Mark Bunch	Carbon intensity reduction target	B-3-1
bp America Inc.	Mark Bunch	Carbon intensity/GREET model: iLUC	B-3-4
bp America Inc.	Mark Bunch	Clarifications	B-3-8
bp America Inc.	Mark Bunch	Fuel pathways: Tier 2	B-3-7
bp America Inc.	Mark Bunch	Applicability	B-3-6

Affiliation	Commenter Name	Topics	Associated Comment numbers
bp America Inc.	Mark Bunch	Book and claim accounting	B-3-2
bp America Inc.	Mark Bunch	Project based crediting	B-3-3
bp America Inc.	Mark Bunch	E15 and E85	B-3-5
bp America Inc.	Mark Bunch	Carbon intensity/GREET model	B-3-9
ChargePoint	Evan Neyland	Carbon intensity reduction target	B-4-1
ChargePoint	Evan Neyland	Environmental justice	B-4-3
ChargePoint	Evan Neyland	Advance credits	B-4-6
ChargePoint	Evan Neyland	Capacity credits: FCI	B-4-5
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ChargePoint	Evan Neyland	Credit generation: Nonresidential EV	B-4-2
Charm Industrial, Inc.	Nora Brown	CCS: Geologic	B-13-1
Charm Industrial, Inc.	Nora Brown	Preliminary Regulatory Analyses	B-13-2
e-Mission Control	Elaine O'Byrne	Credit generation: Fixed guideway	B-29-5
e-Mission Control	Elaine O'Byrne	Credit generation: eOGV/Shorepower	B-29-4
e-Mission Control	Elaine O'Byrne	Credit generation: eCHE	B-29-3
e-Mission Control	Elaine O'Byrne	Registration	B-29-6
e-Mission Control	Elaine O'Byrne	Credit generation: Forklifts	B-29-1
e-Mission Control	Elaine O'Byrne	Credit generation: eTRUs	B-29-2
Electrify America, LLC	Ethan Hintz	Carbon intensity reduction target	B-18-1
Electrify America, LLC	Ethan Hintz	Capacity credits: FCI	B-18-2
Farmers Business Network	Steele Lorenz	Carbon intensity/GREET model: Farm level accounting	B-27-1
FirstElement Fuel	Matt Miyasato	Capacity credits: HRI	B-17-1

Affiliation	Commenter Name	Topics	Associated Comment numbers
FirstElement Fuel	Matt Miyasato	Capacity credits: HRI	B-6-1
Generate Capital, PBC	Suzanne Hunt	Carbon intensity reduction target	B-11-1
Generate Capital, PBC	Suzanne Hunt	Book and claim accounting	B-11-3
Generate Capital, PBC	Suzanne Hunt	Fuel pathways: RNG	B-11-2
Gevo, Inc	Kent Hartwig	Carbon intensity reduction target	B-10-1
Gevo, Inc	Kent Hartwig	Carbon intensity/GREET model: iLUC	B-10-3
Gevo, Inc	Kent Hartwig	Program fees	B-10-5
Gevo, Inc	Kent Hartwig	Book and claim accounting	B-10-4
Gevo, Inc	Kent Hartwig	CCS: Agriculture	B-10-2
Gevo, Inc	Kent Hartwig	Verification of co-processed renewable content	B-10-6
Gevo, Inc	Kent Hartwig	CCS	B-10-7
LanzaJet	Marianne Csaky	Fuel pathways: Tier 2	B-26-2
LanzaJet	Marianne Csaky	Applicability	B-26-1
LanzaJet	Marianne Csaky	SAF	B-26-3
Neste	Oscar Garcia	Carbon intensity reduction target	B-21-1
Neste	Oscar Garcia	Fuel pathways: Tier 2	B-21-2
Neste	Oscar Garcia	Applicability	B-21-6
Neste	Oscar Garcia	Program fees	B-21-4
Neste	Oscar Garcia	Carbon intensity/GREET model	B-21-5
Neste	Oscar Garcia	Fuel pathways: Application	B-21-8
Neste	Oscar Garcia	Fuel pathways: Administrative	B-21-7
Neste	Oscar Garcia	Guidance documents	B-21-9
Neste	Oscar Garcia	SAF	B-21-3

Affiliation	Commenter Name	Topics	Associated Comment numbers
North West Handling Systems Inc. (NWHS)	Rupesh Sansgiri	Renewable energy certificates	B-28-6
North West Handling Systems Inc. (NWHS)	Rupesh Sansgiri	Credit generation: Fixed guideway	B-28-7
North West Handling Systems Inc. (NWHS)	Rupesh Sansgiri	Credit generation: eOGV/Shorepower	B-28-5
North West Handling Systems Inc. (NWHS)	Rupesh Sansgiri	Credit generation: eCHE	B-28-4
North West Handling Systems Inc. (NWHS)	Rupesh Sansgiri	Registration	B-28-8
North West Handling Systems Inc. (NWHS)	Rupesh Sansgiri	Credit generation: Forklifts	B-28-2
North West Handling Systems Inc. (NWHS)	Rupesh Sansgiri	Credit generation: Nonresidential EV	B-28-1
North West Handling Systems Inc. (NWHS)	Rupesh Sansgiri	Credit generation: eTRUs	B-28-3
Noyes Law Corporation on behalf of CleanFuture, Inc.	Graham Noyes	Renewable energy certificates	B-25-7
Noyes Law Corporation on behalf of CleanFuture, Inc.	Graham Noyes	Credit generation: Fixed guideway	B-25-10

Affiliation	Commenter Name	Topics	Associated Comment numbers
Noyes Law Corporation on behalf of CleanFuture, Inc.	Graham Noyes	Definitions	B-25-8
Noyes Law Corporation on behalf of CleanFuture, Inc.	Graham Noyes	EER	B-25-11
Noyes Law Corporation on behalf of CleanFuture, Inc.	Graham Noyes	Credit generation: eOGV/Shorepower	B-25-5
Noyes Law Corporation on behalf of CleanFuture, Inc.	Graham Noyes	Credit generation: eCHE	B-25-4
Noyes Law Corporation on behalf of CleanFuture, Inc.	Graham Noyes	Fuel pathways: Tier 2	B-25-9
Noyes Law Corporation on behalf of CleanFuture, Inc.	Graham Noyes	Credit generation: Forklifts	B-25-2
Noyes Law Corporation on behalf of CleanFuture, Inc.	Graham Noyes	Credit generation: Nonresidential EV	B-25-1
Noyes Law Corporation on behalf of CleanFuture, Inc.	Graham Noyes	Credit generation: eTRUs	B-25-3
Noyes Law Corporation on behalf of CleanFuture, Inc.	Graham Noyes	Fuel pathways: RNG	B-25-6
NW Natural	Mary Moerlins	Advance credits	B-15-4
NW Natural	Mary Moerlins	Capacity credits: HRI	B-15-2
NW Natural	Mary Moerlins	Book and claim accounting	B-15-1

Affiliation	Commenter Name	Topics	Associated Comment numbers
NW Natural	Mary Moerlins	Carbon intensity/GREET model: Natural gas	B-15-3
Pacific Ag Renewables	Harrison Pettit	Book and claim accounting	B-32-1
Pacific Ag Renewables	Harrison Pettit	CCS: Agriculture	B-32-4
Pacific Ag Renewables	Harrison Pettit	Carbon intensity/GREET model: Electricity	B-32-2
Pacific Ag Renewables	Harrison Pettit	CCS	B-32-3
Phillips 66 Company	Marc Ventura	Carbon intensity reduction target	B-7-2
Phillips 66 Company	Marc Ventura	Rule process	B-7-1
Phillips 66 Company	Marc Ventura	Carbon intensity reduction target	B-19-1
Phillips 66 Company	Marc Ventura	Fuel pathways: Tier 2	B-19-4
Phillips 66 Company	Marc Ventura	Project based crediting	B-19-2
Phillips 66 Company	Marc Ventura	Fuel pathways: Application	B-19-3
Phillips 66 Company	Marc Ventura	Scope	B-19-5
PineSpire	Ryan Huggins	Carbon intensity reduction target	B-9-1
PineSpire	Ryan Huggins	Renewable energy certificates	B-9-6
PineSpire	Ryan Huggins	Definitions	B-9-2
PineSpire	Ryan Huggins	Registration	B-9-5
PineSpire	Ryan Huggins	Credit generation: Forklifts	B-9-3
PineSpire	Ryan Huggins	Credit generation: eTRUs	B-9-4
PineSpire	Ryan Huggins	IT systems	B-9-7
POET, LLC	Janie Kilgore	Environmental justice	B-23-8

Affiliation	Commenter Name	Topics	Associated Comment numbers
POET, LLC	Janie Kilgore	Carbon intensity/GREET model: iLUC	B-23-1
POET, LLC	Janie Kilgore	Renewable energy certificates	B-23-3
POET, LLC	Janie Kilgore	Fuel pathways: Tier 2	B-23-5
POET, LLC	Janie Kilgore	E15 and E85	B-23-7
POET, LLC	Janie Kilgore	Carbon intensity/GREET model	B-23-2
POET, LLC	Janie Kilgore	Fuel pathways: Tier 1	B-23-4
POET, LLC	Janie Kilgore	CCS	B-23-6
POET, LLC	Janie Kilgore	Preliminary Regulatory Analyses	B-23-9
Puget Sound Energy	Malcolm McCulloch	Advance credits	B-31-4
Puget Sound Energy	Malcolm McCulloch	Fuel pathways: RNG	B-31-2
Puget Sound Energy	Malcolm McCulloch	Carbon intensity/GREET model: Electricity	B-31-1
Puget Sound Energy	Malcolm McCulloch	Program linkage	B-31-3
Regenis LLC	Bryan Van Loo	Renewable energy certificates	B-22-2
Regenis LLC	Bryan Van Loo	Fuel pathways: RNG	B-22-1
Rivian Automotive, LLC	Tom Van Heeke	Renewable energy certificates	B-8-3
Rivian Automotive, LLC	Tom Van Heeke	Capacity credits: FCI	B-8-2
Rivian Automotive, LLC	Tom Van Heeke	Credit generation: Residential EV	B-8-1
Rivian Automotive, LLC	Tom Van Heeke	Renewable energy certificates	B-14-2
Rivian Automotive, LLC	Tom Van Heeke	Credit generation: Residential EV	B-14-1
Shell – Hydrogen Mobility	Neil Bhagia	Program fees	B-33-2
Shell – Hydrogen Mobility	Neil Bhagia	Capacity credits: HRI	B-33-1

Affiliation	Commenter Name	Topics	Associated Comment numbers
Shell – Hydrogen Mobility	Neil Bhagia	Fuel pathways: Hydrogen	B-33-3
SkyNRG Americas	John Plaza	Book and claim accounting	B-30-1
SkyNRG Americas	John Plaza	Fuel pathways: Tier 2	B-30-2
SkyNRG Americas	John Plaza	SAF	B-30-3
Smart Charging Technologies	Man Altaher	Renewable energy certificates	B-5-7
Smart Charging Technologies	Man Altaher	EER	B-5-8
Smart Charging Technologies	Man Altaher	Credit generation: eCHE	B-5-4
Smart Charging Technologies	Man Altaher	Credit generation: General	B-5-1
Smart Charging Technologies	Man Altaher	Credit generation: Forklifts	B-5-2
Smart Charging Technologies	Man Altaher	Credit generation: eTRUs	B-5-3
Smart Charging Technologies	Man Altaher	Credit aggregator requirements	B-5-5
Smart Charging Technologies	Man Altaher	Credit/deficit calculation	B-5-6
Suburban Propane	Paul Rozenberg	Credit generation: Forklifts	B-1-1
The Avista Corporation	Rendall Farley	Renewable energy certificates	B-16-8
The Avista Corporation	Rendall Farley	Credit generation: Fixed guideway	B-16-2
The Avista Corporation	Rendall Farley	Reporting: Electricity	B-16-5
The Avista Corporation	Rendall Farley	Definitions	B-16-1
The Avista Corporation	Rendall Farley	Capacity credits: FCI	B-16-6
The Avista Corporation	Rendall Farley	Credit generation: Nonresidential EV	B-16-4

Affiliation	Commenter Name	Topics	Associated Comment numbers
The Avista Corporation	Rendall Farley	Carbon intensity/GREET model: Electricity	B-16-7
The Avista Corporation	Rendall Farley	Credit generation: GSE	B-16-3
Organization			
Airlines for America	Brandon Graver	Clarifications	O-10-6
Airlines for America	Brandon Graver	EER	O-10-4
Airlines for America	Brandon Graver	Fuel pathways: Tier 2	O-10-5
Airlines for America	Brandon Graver	Applicability	O-10-2
Airlines for America	Brandon Graver	Credit generation: GSE	O-10-3
Airlines for America	Brandon Graver	Carbon intensity/GREET model: SAF	O-10-1
Alliance for Automotive Innovation	Dan Bowerson	Renewable energy certificates	O-16-8
Alliance for Automotive Innovation	Dan Bowerson	Definitions	O-16-6
Alliance for Automotive Innovation	Dan Bowerson	Capacity credits: FCI	O-16-5
Alliance for Automotive Innovation	Dan Bowerson	EV purchase incentives	O-16-3
Alliance for Automotive Innovation	Dan Bowerson	Registration	O-16-4
Alliance for Automotive Innovation	Dan Bowerson	Capacity credits: HRI	O-16-7
Alliance for Automotive Innovation	Dan Bowerson	Credit generation: Residential EV	O-16-1

Affiliation	Commenter Name	Topics	Associated Comment numbers
Alliance for Automotive Innovation	Dan Bowerson	Carbon intensity/GREET model: Electricity	O-16-2
Biotechnology Innovation Organization	Gene Harrington	Carbon intensity reduction target	O-25-1
Biotechnology Innovation Organization	Gene Harrington	Carbon intensity/GREET model: iLUC	O-25-3
Biotechnology Innovation Organization	Gene Harrington	CCS: Agriculture	O-25-2
Biotechnology Innovation Organization	Gene Harrington	Carbon intensity/GREET model	O-25-4
California Electric Transportation Coalition	Dean Taylor	Environmental justice	O-23-12
California Electric Transportation Coalition	Dean Taylor	Credit generation: Fixed guideway	O-23-10
California Electric Transportation Coalition	Dean Taylor	Reporting: Electricity	O-23-2
California Electric Transportation Coalition	Dean Taylor	EER	O-23-8
California Electric Transportation Coalition	Dean Taylor	Capacity credits: FCI	O-23-6
California Electric Transportation Coalition	Dean Taylor	Credit generation: eCHE	O-23-9

Affiliation	Commenter Name	Topics	Associated Comment numbers
California Electric Transportation Coalition	Dean Taylor	Capacity credits: HRI	O-23-5
California Electric Transportation Coalition	Dean Taylor	Credit generation: Nonresidential EV	O-23-4
California Electric Transportation Coalition	Dean Taylor	Credit generation: eTRUs	O-23-11
California Electric Transportation Coalition	Dean Taylor	Credit generation: Residential EV	O-23-1
California Electric Transportation Coalition	Dean Taylor	Guidance documents	O-23-3
California Electric Transportation Coalition	Dean Taylor	Verification	O-23-7
California Electric Transportation Coalition	Dean Taylor	Credit generation: General	O-23-14
California Electric Transportation Coalition	Dean Taylor	Registration	O-23-13
CHAdeMO Association	David Patterson	Capacity credits: FCI	O-22-1
Clean Fuels Alliance America	Scott Richards	Carbon intensity/GREET model: iLUC	O-9-1
Clean Fuels Alliance America	Scott Richards	CCS: Agriculture	O-9-2

Affiliation	Commenter Name	Topics	Associated Comment numbers
Clean Fuels Alliance America	Scott Richards	Carbon intensity/GREET model	O-9-3
Clean Fuels Alliance America	Floyd Vergara	Carbon intensity reduction	O-32-1
Clean Fuels Alliance America	Floyd Vergara	Carbon intensity/GREET model: iLUC	O-32-6
Clean Fuels Alliance America	Floyd Vergara	Fuel pathways: Tier 2	O-32-2
Clean Fuels Alliance America	Floyd Vergara	Fuel pathways: Co-processed fuels	O-32-8
Clean Fuels Alliance America	Floyd Vergara	Program fees	O-32-5
Clean Fuels Alliance America	Floyd Vergara	Book and claim accounting	O-32-9
Clean Fuels Alliance America	Floyd Vergara	CCS: Agriculture	O-32-7
Clean Fuels Alliance America	Floyd Vergara	Carbon intensity/GREET model	O-32-3
Clean Fuels Alliance America	Floyd Vergara	Credit estimation	O-32-4
Climate Solutions	Leah Missik	Carbon intensity reduction target	O-21-1
Climate Solutions	Leah Missik	Environmental justice	O-21-6
Climate Solutions	Leah Missik	Advance credits	O-21-12
Climate Solutions	Leah Missik	Carbon intensity/GREET model: iLUC	O-21-18
Climate Solutions	Leah Missik	Renewable energy certificates	O-21-8
Climate Solutions	Leah Missik	Credit generation: Fixed guideway	O-21-9
Climate Solutions	Leah Missik	Definitions	O-21-2
Climate Solutions	Leah Missik	Clarifications	O-21-11
Climate Solutions	Leah Missik	EER	O-21-17

Affiliation	Commenter Name	Topics	Associated Comment numbers
Climate Solutions	Leah Missik	Fuel pathways: SAF	O-21-14
Climate Solutions	Leah Missik	Credit generation: Forklifts	O-21-10
Climate Solutions	Leah Missik	Capacity credits: HRI	O-21-13
Climate Solutions	Leah Missik	Book and claim accounting	O-21-7
Climate Solutions	Leah Missik	Credit generation: Nonresidential EV	O-21-3
Climate Solutions	Leah Missik	Credit generation: Residential EV	O-21-4
Climate Solutions	Leah Missik	Carbon intensity/GREET model: Electricity	O-21-15
Climate Solutions	Leah Missik	Carbon intensity/GREET model: Natural gas	O-21-19
Climate Solutions	Leah Missik	Backstop aggregator	O-21-5
Climate Solutions	Leah Missik	Public disclosure	O-21-16
Coalition for Renewable Natural Gas	Sam Lehr	Carbon intensity reduction target	O-14-1
Coalition for Renewable Natural Gas	Sam Lehr	Compliance period	O-14-2
Coalition for Renewable Natural Gas	Sam Lehr	Book and claim accounting	O-14-3
Coalition for Renewable Natural Gas	Sam Lehr	Credit estimation	O-14-4
Coalition for Renewable Natural Gas	Sam Lehr	Fuel pathways: RNG	O-14-5
Coalition for Renewable Natural Gas	Sam Wade	Carbon intensity reduction target	O-6-1

Affiliation	Commenter Name	Topics	Associated Comment numbers
Coalition for Renewable Natural Gas	Sam Wade	Book and claim accounting	O-6-2
Earth Ministry	Jessica Zimmerle	Carbon intensity reduction target	O-7-3
Earth Ministry	Jessica Zimmerle	Environmental justice	O-7-1
Earth Ministry	Jessica Zimmerle	General support	O-7-4
Earth Ministry	Jessica Zimmerle	Carbon intensity/GREET model: iLUC	O-7-2
Electric Vehicle Charging Association	Natalie Nax	Carbon intensity reduction target	O-19-1
Electric Vehicle Charging Association	Natalie Nax	Environmental justice	O-19-4
Electric Vehicle Charging Association	Natalie Nax	Advance credits	O-19-6
Electric Vehicle Charging Association	Natalie Nax	Capacity credits: FCI	O-19-5
Electric Vehicle Charging Association	Natalie Nax	Registration	O-19-3
Electric Vehicle Charging Association	Natalie Nax	Credit generation: Nonresidential EV	O-19-2
Growth Energy	Chris Bliley	Carbon intensity/GREET model: iLUC	O-17-1
Growth Energy	Chris Bliley	CCS: Agriculture	O-17-2
Growth Energy	Chris Bliley	Carbon intensity/GREET model	O-17-4
Growth Energy	Chris Bliley	CCS	O-17-3
Growth Energy	Chris Bliley	Bioethanol/fuel cell technology	O-17-5
Hydrogen Coalition	Dave Warren	Definitions	O-28-1

Affiliation	Commenter Name	Topics	Associated Comment numbers
Hydrogen Coalition	Dave Warren	Applicability	O-28-3
Hydrogen Coalition	Dave Warren	Capacity credits: HRI	O-28-2
Joint Washington Utilities	Christine Brewer	Environmental justice	O-20-6
Joint Washington Utilities	Christine Brewer	Reporting: Electricity	O-20-2
Joint Washington Utilities	Christine Brewer	Definitions	O-20-1
Joint Washington Utilities	Christine Brewer	EER	O-20-13
Joint Washington Utilities	Christine Brewer	Capacity credits: FCI	O-20-7
Joint Washington Utilities	Christine Brewer	Registration	O-20-3
Joint Washington Utilities	Christine Brewer	Credit generation: Forklifts	O-20-14
Joint Washington Utilities	Christine Brewer	Capacity credits: HRI	O-20-10
Joint Washington Utilities	Christine Brewer	Credit generation: Nonresidential EV	O-20-4
Joint Washington Utilities	Christine Brewer	Credit generation: eTRUs	O-20-12
Joint Washington Utilities	Christine Brewer	Recordkeeping	O-20-15
Joint Washington Utilities	Christine Brewer	Carbon intensity/GREET model: Electricity	O-20-9

Affiliation	Commenter Name	Topics	Associated Comment numbers
Joint Washington Utilities	Christine Brewer	Guidance documents	O-20-5
Joint Washington Utilities	Christine Brewer	Backstop aggregator	O-20-8
Joint Washington Utilities	Christine Brewer	Verification	O-20-11
Northwest Alliance for Clean Transportation	Alex Schay	Advance credits	O-8-1
Northwest Alliance for Clean Transportation	Alex Schay	EER	O-8-2
Northwest Alliance for Clean Transportation	Alex Schay	Advance credits	O-2-1
Northwest Alliance for Clean Transportation	Alex Schay	EER	O-2-2
Northwest Alliance for Clean Transportation	Alex Schay	Guidance documents	O-2-3
NW Energy Coalition	Annabel Drayton	Carbon intensity reduction target	O-26-1
NW Energy Coalition	Annabel Drayton	Environmental justice	O-26-8
NW Energy Coalition	Annabel Drayton	Advance credits	O-26-11
NW Energy Coalition	Annabel Drayton	Renewable energy certificates	O-26-15
NW Energy Coalition	Annabel Drayton	Credit generation: Fixed guideway	O-26-9

Affiliation	Commenter Name	Topics	Associated Comment numbers
NW Energy Coalition	Annabel Drayton	Reporting: Electricity	O-26-7
NW Energy Coalition	Annabel Drayton	Definitions	O-26-2
NW Energy Coalition	Annabel Drayton	Capacity credits: FCI	O-26-12
NW Energy Coalition	Annabel Drayton	Registration	O-26-6
NW Energy Coalition	Annabel Drayton	Credit generation: Nonresidential EV	O-26-3
NW Energy Coalition	Annabel Drayton	Credit generation: Residential EV	O-26-4
NW Energy Coalition	Annabel Drayton	Carbon intensity/GREET model: Electricity	O-26-14
NW Energy Coalition	Annabel Drayton	Guidance documents	O-26-16
NW Energy Coalition	Annabel Drayton	Credit estimation	O-26-10
NW Energy Coalition	Annabel Drayton	Backstop aggregator	O-26-5
NW Energy Coalition	Annabel Drayton	Clarifications	O-26-13
Pacific Merchant Shipping Association	Thomas Jelenić	Definitions	O-4-1
Pacific Merchant Shipping Association	Thomas Jelenić	Clarifications	O-4-4
Pacific Merchant Shipping Association	Thomas Jelenić	Credit generation: eOGV/Shorepower	O-4-2
Pacific Merchant Shipping Association	Thomas Jelenić	Credit generation: eCHE	O-4-3
Pacific Propane Gas Association	Matthew Solak	Credit generation: Forklifts	O-12-1
Parallax Perspectives	Glen Anderson	Carbon intensity reduction target	O-3-1

Affiliation	Commenter Name	Topics	Associated Comment numbers
Renewable Fuels Association	Kelly Davis	Carbon intensity reduction target	O-15-1
Renewable Fuels Association	Kelly Davis	Carbon intensity/GREET model: iLUC	O-15-2
Renewable Fuels Association	Kelly Davis	Book and claim accounting	O-15-3
Renewable Fuels Association	Kelly Davis	CCS: Agriculture	O-15-4
SRECTrade, Inc	Iman Nordin	Renewable energy certificates	O-11-3
SRECTrade, Inc	Iman Nordin	Program fees	O-11-2
SRECTrade, Inc	Iman Nordin	Credit aggregator requirements	O-11-1
SRECTrade, Inc	Iman Nordin	IT systems	O-11-5
SRECTrade, Inc	Iman Nordin	Credit trading	O-11-4
Sustainable Aviation Technologies and Energies (SATE) Cluster	Misha Lujan	Fuel pathways: Tier 2	O-27-1
Tacoma Power	Kyle Frankiewich	Carbon intensity reduction target	O-18-1
Tacoma Power	Kyle Frankiewich	Renewable energy certificates	O-18-2
Tacoma Power	Kyle Frankiewich	Reporting: Electricity	O-18-3
Tacoma Power	Kyle Frankiewich	Carbon intensity/GREET model: Electricity	O-18-4
Tacoma Power	Kyle Frankiewich	Capacity credit: HRI	O-18-5
The International Emissions Trading Association	Joey Hoekstra	Program linkage	O-5-2
The International Emissions Trading Association	Joey Hoekstra	CCA/CFS Interaction	O-5-1

Affiliation	Commenter Name	Topics	Associated Comment numbers
The Northwest Seaport Alliance	Jason Jordan	Advance credits	O-13-6
The Northwest Seaport Alliance	Jason Jordan	Definitions	O-13-5
The Northwest Seaport Alliance	Jason Jordan	Credit generation: eOGV/Shorepower	O-13-1
The Northwest Seaport Alliance	Jason Jordan	Credit generation: eCHE	O-13-4
The Northwest Seaport Alliance	Jason Jordan	Fuel pathways: Tier 2	O-13-9
The Northwest Seaport Alliance	Jason Jordan	Applicability	O-13-8
The Northwest Seaport Alliance	Jason Jordan	Credit generation: Forklifts	O-13-2
The Northwest Seaport Alliance	Jason Jordan	Credit generation: Nonresidential EV	O-13-7
The Northwest Seaport Alliance	Jason Jordan	Credit generation: eTRUs	O-13-3
WA Forest Protection Association	Jason Spadaro	CCS	O-1-1
Washington Environmental Council	Caitlin Krenn	Carbon intensity reduction target	O-24-7
Washington Environmental Council	Caitlin Krenn	Environmental justice	O-24-1
Washington Environmental Council	Caitlin Krenn	Carbon intensity/GREET model: iLUC	O-24-3
Washington Environmental Council	Caitlin Krenn	Renewable energy certificates	O-24-6
Washington Environmental Council	Caitlin Krenn	Definitions	O-24-2
Washington Environmental Council	Caitlin Krenn	Book and claim accounting	O-24-5

Affiliation	Commenter Name	Topics	Associated Comment numbers
Washington Environmental Council	Caitlin Krenn	Carbon intensity/GREET model	O-24-8
Washington Environmental Council	Caitlin Krenn	Recordkeeping	O-24-9
Washington Environmental Council	Caitlin Krenn	Carbon intensity/GREET model: GWP	O-24-4
Washington Environmental Council	Caitlin Krenn	Backstop aggregator	O-24-10
Washington Policy Center	Todd Myers	Carbon intensity/GREET model	O-29-3
Washington Policy Center	Todd Myers	Program linkage	O-29-2
Washington Policy Center	Todd Myers	CCA/CFS Interaction	O-29-1
Washington Public Ports Association	Patsy Martin	Advance credits	O-31-9
Washington Public Ports Association	Patsy Martin	Definitions	O-31-5
Washington Public Ports Association	Patsy Martin	Credit generation: eOGV/Shorepower	O-31-1
Washington Public Ports Association	Patsy Martin	Credit generation: eCHE	O-31-4
Washington Public Ports Association	Patsy Martin	Fuel pathways: Tier 2	O-31-8
Washington Public Ports Association	Patsy Martin	Applicability	O-31-7
Washington Public Ports Association	Patsy Martin	Program fees	O-31-6

Affiliation	Commenter Name	Topics	Associated Comment numbers
Washington Public Ports Association	Patsy Martin	Credit generation: Forklifts	O-31-2
Washington Public Ports Association	Patsy Martin	Credit generation: eTRUs	O-31-3
WSPA	Jim Verburg	Carbon intensity reduction target	O-30-5
WSPA	Jim Verburg	Advance credits	O-30-19
WSPA	Jim Verburg	Definitions	O-30-8
WSPA	Jim Verburg	Clarifications	O-30-17
WSPA	Jim Verburg	Capacity credits: FCI	O-30-20
WSPA	Jim Verburg	Compliance period	O-30-6
WSPA	Jim Verburg	Applicability	O-30-12
WSPA	Jim Verburg	Program fees	O-30-4
WSPA	Jim Verburg	Registration	O-30-14
WSPA	Jim Verburg	Project based crediting	O-30-2
WSPA	Jim Verburg	Credit/deficit calculation	O-30-18
WSPA	Jim Verburg	Rule process	O-30-1
WSPA	Jim Verburg	Carbon intensity/GREET model	O-30-10
WSPA	Jim Verburg	Recordkeeping	O-30-15
WSPA	Jim Verburg	Fuel pathways: Application	O-30-3
WSPA	Jim Verburg	Fuel pathways: Administrative	O-30-22
WSPA	Jim Verburg	Carbon intensity/GREET model: SAF	O-30-7
WSPA	Jim Verburg	Verification	O-30-11
WSPA	Jim Verburg	Designation	O-30-13
WSPA	Jim Verburg	Reporting	O-30-16
WSPA	Jim Verburg	Credit clearance market	O-30-21
WSPA	Jim Verburg	Forecast deferral	O-30-23
WSPA	Jim Verburg	Economic analysis	O-30-9
Other			

Affiliation	Commenter Name	Topics	Associated Comment numbers
34 non-profits, businesses, and community groups and 25 local elected officials	Leah Missik	Carbon intensity reduction target	OTH-6-1
Carbon Removal Companies	Annie Gilleo	CCS	OTH-5-1
City of Everett, WA	Tony Cademarti	IT systems	OTH-1-1
City of Everett, WA	Tony Cademarti	Registration	OTH-2-1
City of Everett, WA	Tony Cademarti	Registration	OTH-3-1
City of Everett, WA	Tony Cademarti	Credit trading	OTH-4-1
Various Aviation Entities	Eric ffitch	Carbon intensity reduction target	OTH-8-5
Various Aviation Entities	Eric ffitch	Fuel pathways: SAF	OTH-8-1
Various Aviation Entities	Eric ffitch	Applicability	OTH-8-4
Various Aviation Entities	Eric ffitch	Program fees	OTH-8-2
Various Aviation Entities	Eric ffitch	Book and claim accounting	OTH-8-3
Witcover, Murphy, Ro of the UC Davis Policy Institute for Energy, Environment, and the Economy	Julie Witcover	Advance credits	OTH-7-9

Affiliation	Commenter Name	Topics	Associated Comment numbers
Witcover, Murphy, Ro of the UC Davis Policy Institute for Energy, Environment, and the Economy	Julie Witcover	Definitions	OTH-7-8
Witcover, Murphy, Ro of the UC Davis Policy Institute for Energy, Environment, and the Economy	Julie Witcover	Clarifications	OTH-7-6
Witcover, Murphy, Ro of the UC Davis Policy Institute for Energy, Environment, and the Economy	Julie Witcover	EER	OTH-7-11
Witcover, Murphy, Ro of the UC Davis Policy Institute for Energy, Environment, and the Economy	Julie Witcover	Capacity credits: FCI	OTH-7-1
Witcover, Murphy, Ro of the UC Davis Policy Institute for Energy, Environment, and the Economy	Julie Witcover	Applicability	OTH-7-3

Affiliation	Commenter Name	Topics	Associated Comment numbers
Witcover, Murphy, Ro of the UC Davis Policy Institute for Energy, Environment, and the Economy	Julie Witcover	Capacity credits: HRI	OTH-7-2
Witcover, Murphy, Ro of the UC Davis Policy Institute for Energy, Environment, and the Economy	Julie Witcover	Credit/deficit calculation	OTH-7-7
Witcover, Murphy, Ro of the UC Davis Policy Institute for Energy, Environment, and the Economy	Julie Witcover	Credit generation: Residential EV	OTH-7-4
Witcover, Murphy, Ro of the UC Davis Policy Institute for Energy, Environment, and the Economy	Julie Witcover	Carbon intensity/GREET model	OTH-7-10
Witcover, Murphy, Ro of the UC Davis Policy Institute for Energy, Environment, and the Economy	Julie Witcover	Carbon intensity/GREET model: Electricity	OTH-7-12

Affiliation	Commenter Name	Topics	Associated Comment numbers
Witcover, Murphy, Ro of the UC Davis Policy Institute for Energy, Environment, and the Economy	Julie Witcover	Fuel pathways: Administrative	OTH-7-13
Witcover, Murphy, Ro of the UC Davis Policy Institute for Energy, Environment, and the Economy	Julie Witcover	Backstop aggregator	OTH-7-5
Yale Carbon Containment Lab	Anastasia Orourke	CCS	OTH-9-1

Response to comments

We organized comments and responses by grouping them together by topic. Under each topic heading, you can see a summary of comments Ecology received for that topic followed by Ecology's response to comments on that topic.

Advance credits

Commenters: King County (comment A-2-2), Washington Department of Transportation (comment A-3-4), Puget Sound Clean Air Agency (comment A-5-4), Air Products (comment B-2-1), ChargePoint (comment B-4-6), NW Natural (comment B-15-4), Puget Sound Energy (comment B-31-4), NW Alliance for Clean Transportation (comment O-2-1), Northwest Alliance for Clean Transportation (comment O-8-1), Northwest Seaport Alliance (comment O-13-6), Electric Vehicle Charging Association (comment O-19-6), Climate Solutions (comment O-21-12), NW Energy Coalition (comment O-26-11), WSPA (comment O-30-19), Washington Public Ports Association (comment O-31-9), Witcover, Murphy, Ro of the UC Davis Policy Institute for Energy, Environment, and the Economy (comment OTH-7-9).

Summary: Support

Many commenters expressed support for advance crediting. One commenter highlighted the benefits to air quality and public health, especially for near-road communities impacted by diesel pollution. Five commenters supported the inclusion of a provision including the purchase of heavy-duty trucks as eligible for advance credits.

Response: Support

Thank you for your comment and your support.

Summary: Expanding eligibility

Several commenters recommended that the Department of Ecology expand eligibility for advance crediting to include more projects beyond what is outlined in the statute. Some of the suggestions for expanded eligibility include:

- More than projects funded through an omnibus transportation appropriations act
- Any public fleet, similar to the Oregon Clean Fuels Program
- All alternative fuel pathways
- The purchase of heavy-duty trucks

Response: Expanding eligibility

Ecology updated the types of projects eligible to generate advance credits based on this feedback, and for consistency with Oregon's Clean Fuels Program. However, we cannot deviate from the requirement that projects be funded through an omnibus transportation appropriations act, as this is in statute. The expanded eligibility includes: public transit agencies, political subdivisions of Washington State, Tribal governments, school districts, and companies under contract to provide services to a political subdivision of the State of Washington or a Washington School District if the political subdivision endorses the application and if the vehicles covered by the application are intended to provide contracted services to the public. These entities will all be eligible as long as they meet the other criteria in WAC 173-424-550 (2).

Summary: Clarifications and fixes

Commenters suggested to:

- Remove "through transportation electrification" in WAC 173-424-550(1)
- Include language that specifies medium- and heavy-duty vehicles should be electrified through the use of advance credits.
- Include language to specify that advance crediting applies to projects and programs "partially funded through an omnibus transportation appropriations act", not only those fully funded.

The Western States Petroleum Association suggested a language change relating to situations when the ownership of a project or program is transferred prior to the end of the payback period.

UC Davis raised a question as to how advance crediting would account for the lowering of the carbon intensity standard over time for the period in which credits are being advanced, and recommended providing details in a guidance document. They also asked for clarification on the meaning of "retired the payback period" in this context, and asked if this means when the payback period has been completed. They also recommended streamlining the language in the section relating to the approval of advance credits. UC Davis also asked whether the provision against additional credit generation pre-payback applies company-wide or on a project-basis. Similarly, the Washington Department of Transportation asked for clarification on whether credits may be generated across phased investments at the same time.

One commenter encouraged Ecology and WSDOT to engage with stakeholders when developing the application criteria for advance crediting.

Response: Clarifications and fixes

The rule text does not exclude types of projects other than electrification that Ecology may identify that would reduce GHG emissions and also generate credit (See 173-424-550 (2)(b)(v)). Additionally, Ecology will not add "electrification of" to (2)(b)(i) as it would exclude other low-carbon fuel types relating to medium- and heavy-duty vehicles.

Regarding the recommendation to say projects or programs "partially" funded by the omnibus transportation appropriations act, Ecology will not be adding this language as this is already allowed by the current rule language.

Ecology intends for advance credits to be granted on a project basis, not on a company-wide basis, and updated the language in 173-424-550 (7)(b) to better reflect that.

One commenter requested the deletion of WAC 173-424-550(2)(b)(iv), but Ecology will not adopt this change as the current language meets statutory intent and maintains flexibility for projects that meet the statutory intent but may not be captured in the list of project types in this section.

Ecology changed (3)(b)(iii) 'retired payback period' to 'exited the payback period' in alignment with Oregon, and to streamline the language relating to approval for advance credits. In regards to advance crediting's interaction with the carbon intensity standard: Ecology will work to address this in guidance documentation.

Ecology appreciates the suggestion to engage with stakeholders on developing criteria for advance crediting, and will explore the possibility of doing so pending availability of staff time and resources after the rule is adopted.

Summary: Advance crediting and EER provisions be technology-agnostic

The NW Alliance for Clean Transportation does not believe that the proposed approach with regard both to Advance Crediting, and to applying for new EER scores, is compatible with The Department's technology-agnostic approach, because The Department is favoring battery-electric and hydrogen fuel cell technologies over other propulsion technologies that reduce GHG emissions in the transportation sector. They suggest that all propulsion technologies that reduce GHG emissions on a CO2e / MJ basis below the current CFS-compliance level be considered eligible to apply both for Advance Credits, and in the event that new technologies are developed, for their own defensible EER score. The NW Alliance for Clean Transportation further requests that the Washington State Department of Ecology insert language confirming that such applications will be judged exclusively on the merits of the project's, or the technology's, ability to reduce GHG emissions.

Response: Advance crediting and EER provisions be technology-agnostic

The advance crediting provision is intended to allow for credit generation from state transportation investment funded projects, as directed by the law. RCW 70A.535.050(3) identifies potentially eligible project types for advance crediting. The credit generating potential through advance crediting is limited to five percent of the prior year's deficits, and the projects are expected to pay back the advance credits before generating additional revenue. See the topic "EER" for a response to the EER portion of this comment.

Applicability

Commenters: Anonymous (comment I-74-3), Port of Seattle (comment A-4-7), Air Products (comment B-2-3), bp America (comment B-3-6), Neste (comment B-21-6), Alaska Airlines (comment B-24-1), LanzaJet (comment B-26-1), Airlines for America (comment O-10-2), Northwest Seaport Alliance (comment O-13-8), Hydrogen Coalition (comment O-28-3), WSPA (comment O-30-12), Washington Public Ports Association (comment O-31-7), UC Davis (comment OTH-7-3), Various Aviation Entities (comment OTH-8-4).

Summary: General applicability

- Clarify how electricity can be regulated as a fuel by Washington, while it is also subject to federal regulation.
- If the emissions from the use of a hydrogen fuel cell are water vapor, please clarify why hydrogen fuels are included in the proposed rule.
- Agricultural and logging fuels should be exempted permanently, as these vehicles represent a relatively small footprint, and are becoming more automated and efficient.
- Recommend WAC 173-424-130(3) contain more specific language describing the documentation that would meet Ecology's approval for exempted fuel uses.
- Remove any "other liquid or nonliquid transportation fuels as determined by Ecology." from WAC 173-424-120(b)(2)(j)

- The CFS rule only allows the providers of "(i) Electricity; (ii) Bio-CNG; (iii) Bio-LNG; (iv) Bio-L-CNG; (v) Alternative jet fuel; and (vi) Renewable propane or renewable LPG" to opt-in to the program. See WAC 173-424-120(3)(b). By contrast, the CFS statute does not provide that only certain lower carbon alternative fuels may opt-in, but rather that any "exempt fuel" with emissions lower than the per-unit standard may opt-in. The commenter recommends expanding the list of opt-in fuels "to include alternative fuels that can be demonstrated to provide lower lifecycle carbon emissions, or to include all other fuels with an approved Tier-2 pathway under WAC 173-424- 600(5)(b)".

Response: General applicability

- Electricity is not a regulated fuel under the program. Rather, it is an opt-in fuel, and suppliers that voluntarily participate in the program can generate credits by supplying electricity as a transportation fuel.
- The Clean Fuels Program regulates the carbon intensity of transportation fuel, which includes greenhouse gas emissions over the full lifecycle of the fuel. This includes the emissions during raw material production, transportation of the raw material to the fuel production facility, fuel production, transportation of the fuel to the fueling facility, and the use of the fuel. Hydrogen can be produced in a number of different ways, with a wide range of associated GHG emissions. Therefore, hydrogen is regulated for the GHG emissions during its lifecycle stages, even though zero GHG emissions occur during the use of hydrogen in a fuel cell.
- The Clean Fuels Program law (RCW 70A.535.040) exempts the following special fuels until January 1, 2028: special fuels used in off-road vehicles used primarily to transport logs, construction work (mining, timber harvesting operations, etc), and for agricultural purposes. These fuels cannot be exempted indefinitely as this is not allowed by the statute. However, in the period up to January 2028, these fuels may generate credits provided that they have a carbon intensity lower than the standard for the specific year.
- Staff amended the proposed rule to provide more specific documentation requirements for exempted fuels.
- Staff maintain the inclusion of "other liquid or nonliquid transportation fuels as determined by Ecology" in WAC 173-424-120(b)(2)(j) as it is consistent with Oregon and California.
- Staff will maintain the current language as we do not believe the current language for opt-in fuels excludes other fuels with a carbon intensity below the standard for that compliance period.

Summary: Maritime/ocean-going vessels

- Clarify that clean maritime fuels that meet the carbon intensity standard are allowed to opt-in and generate credits. Ecology must also establish other requirements for these vessel types (reporting, record keeping, etc.) to demonstrate compliance with the CI standard.

- Ecology should clarify whether it intends to exempt all fuel used in all watercraft/marine vessels, consistent with the Oregon CFP or fuel used in ocean-going vessels, consistent with the California LCFS.
- One commenter wrote that it is critical to develop and provide cleaner "drop-in" fuels that can replace bunker fuel in the existing maritime fleet. They are concerned that the CFS rule is narrower than the Legislature intended by allowing only six fuels to opt-in to the program. They note that new ocean-going vessels will likely be capable of using lower carbon, drop-in fuels and feedstocks which are not included on Ecology's list as opt-in fuels. They suggest the list of opt-in fuels be expanded to include alternative fuels that can be demonstrated to provide lower lifecycle carbon emissions or to include all other fuels with an approved Tier-2 pathway under WAC 173-424- 600(5)(b).

Response: Maritime/ocean-going vessels

- Ecology removed the qualifier "marine" to clarify that fuels used in all types of vessels are exempted, consistent with the law under RCW 70A.535.010(1)(b).
- The CFP rule applies to all transportation fuels, except the exempted fuels and fuel uses under WAC 173-424-130. These transportation fuels are categorized into regulated, opt-in, and exempt fuels and fuel uses. The opt-in fuels are presumed to have carbon intensities lower than the annual standards throughout the program implementation period (2023-2038). However, the term regulated fuels includes all transportation fuels other than opt-in and exempted fuels. Regulated and exempt fuels may have carbon intensities greater than, less than, or equal to the annual carbon intensity standard. So, an exempt fuel is allowed to generate credits if the carbon intensity of the fuel is lower than the carbon intensity standard for a specific year, even though it cannot be categorized as an opt-in fuel.

Summary: Low-volume threshold

Clarify that the 360,000 gallon per year threshold is for liquid gallon equivalents and that it applies to both liquid and gaseous fuels.

Response: Low-volume threshold

Staff amended the rule in WAC 173-424-130(1) to clarify that the regulation does not apply to transportation fuels supplied in Washington in volumes less than 360,000 gallons of liquid fuel equivalent per year.

Summary: Applicability on Tribal lands

- Clarify whether the CFP applies on tribal lands

Response: Applicability on Tribal lands

Generally, state law does not apply to Tribal governments or members on Tribal lands. However, Tribes may choose to opt-in and generate credits within the Clean Fuel Standard.

Summary: Renewable Diesel

- Ecology should add stationary backup generators as an opt-in use of renewable diesel.
- Ecology should allow the rail sector to opt-in to the CFP and generate credits for using renewable diesel.

Response: Renewable Diesel

- Staff recognize the GHG reduction benefit of using renewable diesel in stationary backup generators. Ecology's authority under the Clean Fuels Program law is to reduce the carbon intensity of transportation fuels used in Washington and does not apply to stationary fuel use.
- Fuels (including renewable diesel) used in the rail sector may generate credits as opt-in fuels under the CFS program as long as their carbon intensities are lower than the standard and they meet the other requirements in the rule.

Summary: Alternative Jet Fuel

Some commenters support the inclusion of alternative jet fuel as an opt-in fuel for the purpose of generating credits under the CFS program, as this is consistent with the statute. Commenters also support setting the baseline for aviation fuel at the same level as the baseline for diesel, even if this results in overstating the baseline emissions for these fuels. Commenters suggest that the aviation sector is harder to decarbonize than other sectors and will benefit from being allowed to use the diesel baseline.

LanzaJet suggests that a provision be added to the rule to periodically revisit the status of aviation fuels as exempt fuels and examine options for including aviation fuels as regulated fuels under the Clean Fuels Program. They state that merely allowing voluntary opt-in for AJF provides insufficient incentive to significantly reduce aviation emissions. Specifically, they suggest that a new section be added to WAC 173-424-130 (3) to read as follows: "(c) Opt-in fuels related to aviation and other hard to decarbonize industries will be reviewed for inclusion on a biennial basis." They suggest that the lack of an obligation for jet fuel also contributes to lower prices for fossil jet fuel as compared to obligated fuels like diesel, making it less advantageous for fuel producers to offer low carbon replacements for those fuels. California and British Columbia are considering including aviation fuels under their LCFS programs.

Response: Alternative Jet Fuel

Thank you for your support for the inclusion of alternative jet fuel as an opt-in fuel.

Staff recognizes that including conventional aviation fuels as regulated fuels would increase the demand (and the price) for alternative aviation fuels. However, the Clean Fuels Program law directs Ecology to exempt aircraft fuels from obligation to reduce their carbon intensities, and

to allow them to generate credit as opt-in fuels. The law further directs Ecology to conduct a biennial review of innovative technologies and pathways that reduce carbon emissions and increase credit generation opportunities, including but not limited to AJF or SAF, and to modify the rule or guidance documents as needed to encourage new pathways and maintain a stable credit market. Ecology will also closely monitor the efforts in neighboring states and provinces to decarbonize the aviation sector.

Summary: Hydrogen

- One commenter expressed concern that including hydrogen as a regulated fuel under the assumption that its CI is higher than gas places renewable or non-fossil hydrogen in a category in which it doesn't belong. They requested that hydrogen be changed to an opt-in fuel. They also expressed concern that duplicative reporting would result from the requirement that both the producer of the hydrogen and the fuel dispenser owner report under the program. They assert that the reporting requirement for hydrogen should be only with the fuel dispenser owner.
- One commenter recommended designating the fuel reporting entity for hydrogen fuel based on how the hydrogen was produced, differentiating between electrolytic hydrogen, liquid hydrogen, and liquid organic hydrogen carriers such as formic acid, methanol and ammonia. WAC 173-424-210(1) establishes the designation of the fuel reporting entity for hydrogen used for transportation purposes, without specifying the source and state of the fuel. Additionally, WAC 173-424-210(2) designates the fuel reporting entity based on the vehicle that uses the hydrogen fuel, again without specifying the source and the state of the fuel.

Response: Hydrogen

As established in WAC 173-424-120(3)(a) "opt-in fuels" are presumed to have carbon intensities lower than the annual standards. Hydrogen is a tier 2 fuel that has multiple pathways for production and a wide range of carbon intensity values, extending from close to zero to above the carbon intensity of gasoline and diesel. Thus, hydrogen does not meet the opt-in fuel criteria. However, hydrogen suppliers and users may generate credits if the carbon intensity of their fuel is lower than the standard for a specific year. Staff do not feel that the reporting requirement for hydrogen is duplicative. The producer of the hydrogen is the entity that has the necessary data to establish the full lifecycle GHG emissions of the fuel, and therefore it is necessary for them to report to Ecology, in addition to the fuel dispenser owner.

Summary: Gasoline

WSPA notes that WAC 173-424-120(2)(a) lists "gasoline" as an applicable transportation fuel, while WAC 173-424-110(77) defines "gasoline" as meeting ASTM D4814. ASTM D4814 allows up to 15 percent ethanol. Thus, WSPA recommends that Ecology remove WAC 173-424-120(2)(e) that lists 'a fuel blend containing greater than 10 percent ethanol by volume'.

Response: Gasoline

The regulated fuel listed in WAC 173-424-120(2)(e) or 'a fuel blend containing greater than 10 percent ethanol by volume' includes fuels outside the ethanol blend range in ASTM D4814. Therefore, the rule maintains the list in (2)(e).

Summary: Opt-in definition

- While producers deciding to opt-in under this option would surely have fuels that generate credits in a given year, one commenter notes that the definition seems unnecessarily sweeping, and may imply, for example, that alternative jet fuel from palm oil might meet the benchmarks.
- The use of alternative jet fuel as an opt-in fuel may have the potential to lead to equity issues and challenges in balancing the market over the long term. Under the Washington CFP, revenue flows from consumers of deficit generating fuels to fuels that generate credits. Without a compliance obligation on conventional jet fuel, this means the flow of revenue is entirely from deficit-generating on-road fuels, to alternative aviation fuels. The presence of a compliance obligation on conventional jet fuel would ensure that aviation fuel consumers bear part of the cost of supporting sustainable aviation fuels, and also that any market conditions that would affect the consumption of conventional and/or sustainable aviation fuel are likely to result in correlating changes in both credit and deficit generation.

Response: Opt-in definition

- Staff amended the rule to avoid the conclusion that these fuels meet the CI standard throughout the CFP implementation period (up to 2038).
- The Clean Fuels Program law requires Ecology to exempt aircraft fuels from obligation to reduce their carbon intensities, and to allow them to generate credits as an opt-in fuels.

Summary: Opt-in fuel pathways

Ecology could simplify the opt-in process by basing the acceptability of a fuel on its carbon intensity score and existing ASTM standards, rather than potentially dismissing a helpful fuel alternative/blend or creating an onerous and prescriptive definition process to add a new fuel.

Response: Opt-in fuel pathways

Ecology supports the goal of simplifying the opt-in process and working with stakeholders to find ways to do so, while ensuring that the opt-in fuels are contributing to GHG reduction. Additionally, the CFP law directs Ecology to conduct a biennial review of innovative technologies and pathways that reduce carbon emissions and increase credit generation opportunities, and to modify the rule or guidance documents as needed to maintain a stable credit market.

Backstop aggregator

Commenters: Joint Washington Utilities (comment O-20-8), Climate Solutions (comment O-21-5), NW Energy Coalition (comment O-26-5), UC Davis (comment OTH-7-5), Washington Environmental Council (comment O-24-10).

Summary: Designation of backstop aggregator

Prior to the identification of a backstop aggregator, there may be up to 5 months of credit generation occurring. Credits generated prior to the naming of a backstop aggregator should be reserved and made available for the backstop aggregator once they are under contract. Recommend adding language to WAC 173-424- 220(11) to ensure the backstop aggregator is eligible to claim credits beginning January 1, 2023. General support shared for the alignment of eligibility requirements and approval process for the backstop aggregator with those under the Oregon CFP.

Response: Designation of backstop aggregator

Ecology did not change this language because the suggested change does not align with the current reporting structure outlined in the rule, which was developed with extensive stakeholder input: The first right to generate base credits from residential electric vehicle charging is given to the electric utilities, then to the backstop aggregator. If the utility does not opt to generate credits and a backstop aggregator is not yet identified, then the opportunity for credit generation falls to the electric vehicle manufacturers. Electric vehicle manufacturers play a role in transportation electrification and, by statute, must be allowed to generate credits from residential electric vehicle charging. As soon as the backstop aggregator is named, the automakers stop generating base credits from residential electric vehicle charging.

Summary: Reinvestments

Washington Environmental Council (WEC) writes that the rule does not provide guidance to utilities or backstop aggregators regarding the expenditure of credit revenues according to RCW 70A.535.080(1)(b). They strongly encourage Ecology to seek recommendations from the Environmental Justice Council regarding development of these elements and to consider performing an environmental justice assessment as described in RCW 70A.02.060 for this purpose.

Climate Solutions urged Ecology to create further guidance for reinvestments by the backstop aggregator. They write that although the rules state that Ecology will evaluate applications based on the applicant maximizing benefits and prioritizing projects that benefit disproportionately impacted communities, neither the application nor the annual report amount to any enforceable parameters or oversight. They recommend that the Department see if the Environmental Justice Council would like to participate in this process. They also requested Ecology require that a minimum percentage (at least 40%) of aggregator reinvestments directly benefit overburdened communities, while other investments benefit communities in non-participating utility areas, and the aggregator must detail how this was achieved in its annual report.

Response: Reinvestment

Ecology is eager to advance environmental justice through the Clean Fuel Standard and staff will listen to the guidance of the Environmental Justice Council and will work closely with Ecology's Office of Equity and Environmental Justice to ensure that we implement the regulatory program in ways that are compliant with the requirements of the HEAL Act (Chapter 70A.02 RCW).

Summary: Reporting

Ecology should modify the rule to impose the same reporting requirements on utilities as those imposed on backstop aggregators about the expenditure of credit revenues. Ecology should add requirements to the rule for the review and assessment of the reports required by WAC 173-424-420(7) and WAC 173-424-220(11). This is the only way to ensure that utilities and backstop aggregators are delivering the environmental justice benefits required by the statute.

Response: Reporting

The difference in reporting requirements for electric utilities and the backstop aggregator stems from the CFS statute. The backstop aggregator has more specific reporting requirements outlined in statute. However, Ecology will work with the Washington State Department of Transportation (WSDOT) to develop a list of eligible project types that will provide guidance to electric utilities as they reinvest credit revenue generated through the CFS. Electric utilities must report to Ecology how they have spent their revenue, as is required by the CFS statute, and Ecology will work to create guidance on reporting requirements and provide direction for credit reinvestment through the list of projects developed with WSDOT. Ecology intends to require both the backstop aggregator and electric utilities to report sufficient information to ensure that they are delivering the environmental justice benefits required by the statute.

Bioethanol/fuel cell technology

Commenter: Growth Energy (comment O-17-5).

Summary: Bioethanol/fuel cell technology

Direct Bioethanol Fuel Cells for use in motor vehicle transportation have been in development by Nissan for some time. As recently as January of 2020, Nissan and Lawrence Berkeley National Laboratory have published research on the use of 100 percent bioethanol in fuel cell technologies and innovations. This technology not only meets zero emission vehicle requirements, but further eliminates particulates from tailpipe emissions. Using bioethanol in conjunction with a fuel cell would require less infrastructure change and investment and would help the state meet its ambitious climate goals. As the Department considers policies on zero emission vehicles in conjunction with the CFP, we strongly encourage you to consider ways to further develop this technology for consideration.

Response: Bioethanol/fuel cell technology

As new technologies are developed, gathering information on the performance of these new technologies is important to developing the model for estimating the carbon intensity of new fuel-vehicle technology. Fuel suppliers may also propose methodologies for estimating the carbon intensity of their fuel-vehicle technologies. Staff would like to work with you to gather information and develop credible methodology.

Book and claim accounting

Commenters: bp America (comment B-3-2), Gevo (comment B-10-4), Generate Capital (comment B-11-3), Valero (comment B-12-10), NW Natural (comment B-15-1), Pacific Ag Renewables (comment B-32-1), Renewable Fuels Association (comment O-15-3), Climate Solutions (comment O-21-7), Washington Environmental Council (comment O-24-5), Clean Fuels Alliance America (comment O-32-9), Coalition for Renewable Natural Gas (comments O-6-2; O-14-3), Various Aviation Entities (comment OTH-8-3), Port of Seattle (comment A-4-17), Alaska Airlines (comment B-24-3), SkyNRG Americas (comment B-30-1).

Summary: Broader application of book and claim accounting

Pacific Ag Renewables recommends the rule allow fuel producers to use book-and-claim RNG delivered through a pipeline as an energy source or feedstock to a broader set of uses to include sustainable aviation fuel (SAF) and renewable diesel in addition to CNG, LNG, L-CNG and hydrogen production. They believe this would encourage more low carbon fuel production in Washington State and the region.

Bp America suggests that the CFP should allow broader application of book-and-claim methodologies, including but not limited to facilities that use renewable natural gas (“RNG”) in the production of renewable fuels either for hydrogen or as a process energy. This is of great significance because, in order to be exempt from compliance obligations under the CCA, biofuels must achieve a 40% CI reduction as compared to substitute petroleum fuels. Under both the CCA and the CFP rules, Ecology should recognize in their lifecycle analysis the real CI reductions associated with the use of RNG through a book and claim accounting system. They encouraged Ecology to provide regulated parties with greater certainty about when these features will be implemented as part of the program.

Climate Solutions believes that allowing fossil natural gas providers to claim a lower carbon intensity (CI) via the purchase of environmental attributes for biomethane that is used out-of-state is inconsistent with the intent of the law, and they strongly oppose including unbundled environmental attributes in calculating the CI of liquid fuels. There should be a match with fuel delivered and used in-state to rectify this potential issue. After all, the statute includes requirements for local clean fuels production, so it is counter to the intent of the law to allow credit for clean fuels that may not be delivered to Washington. It would also be inconsistent as other fuels have deliverability and use requirements.

Gevo is requesting clarification of the ability to book and claim RNG for all production inputs, including process energy. Gevo will be utilizing both low CI hydrogen and RNG for process inputs in converting carbohydrates to sustainable aviation fuel. Having the ability to book and claim RNG for both purposes allows the renewable fuels industry the ability to significantly reduce the carbon intensity of fuel for the Washington market.

Washington Environmental Council states that the tracking systems established under the Clean Fuel Standard should be coordinated and consistent with other state policies governing how environmental attributes for these fuels are calculated and verified. They appreciate the proposed rule's requirements for the use of independent tracking systems for hydrogen and pipeline-delivered biomethane and encourage Ecology to add requirements for continued review and revision of these tracking systems to ensure their sufficiency and their alignment with other regulatory requirements across state agencies.

Generate Capital comments that the proposed rule's "book and claim" accounting methods—currently allowed primarily for tracking the origin of renewable gases used in natural gas vehicles (NGV)—should be extended to all possible end uses of RNG. If such appropriate flexibility is offered in the Final Rule, the RNG industry will be able to expand beyond its currently proposed role as a fuel for the small (but growing) Washington NGV fleet to also serve as a key clean input into making a more robust variety of low carbon fuels including SAF and other liquid fuels, hydrogen, and electricity for electric vehicles. Such a change would align well with recently enacted federal tax credits for electric vehicles, alternative jet fuel and renewable gas (including hydrogen and biomethane) production in the Inflation Reduction Act.

Valero comments that the CFP currently allows reporting entities to use indirect accounting mechanisms for low-carbon intensity electricity supplied as either a transportation fuel or to produce hydrogen for transportation purposes. Ecology should extend indirect accounting to feedstocks such as low carbon electricity, low carbon hydrogen, or renewable natural gas utilized in the production of renewable transportation fuels such as renewable diesel and low CI ethanol as doing so would aid in further decarbonization of the grid and further encourage investment in low-CI fuels. Ecology should also make considerations that best fit its market and the goals of the LCFS and look for specific opportunities to drive technological advancement in the transportation fuels sector. Valero requests that Ecology expand the permissibility of book-and-claim accounting for feedstocks or utility inputs for the production of biofuels, such as "dispatchable" low-CI electricity supplied to an independently-operated grid and low-CI hydrogen or renewable natural gas injected into regional pipeline networks. Additionally, indirect accounting should be available to low-CI electricity, low-CI hydrogen, and renewable natural gas used in the production of biofuels.

NW Natural comments that hydrogen, synthetic methane, and any other gas that can be used to displace fossil gas use, regardless of where this occurs to produce renewable thermal credits (RTCs) should be eligible for book and claim accounting. Any gas that displaces fossil gas at lower carbon intensities can produce RTCs in M-RETS. Since one RTC is simply a measure of energy any RTC pathway should apply to any Washington CFP pathway. In the current draft rule

language only renewable electricity and biomethane qualify for book and claim, and expanding this definition could allow for lower-cost fuels to be used and add flexibility for clean fuels program participants.

Renewable Fuels Association wrote that, consistent with technology neutrality, book and claim accounting should be allowed in the production of all low carbon fuels utilizing the offsite production of renewable electricity and renewable natural gas for onsite process energy.

Clean Fuels Alliance America recommends expansion of the regulation's use of book-and-claim accounting to other alternative fuels beyond electricity, hydrogen, and renewable natural gas. The goal for the program should be to drive innovations that lower carbon emissions for all alternative fuels, but especially those alternative fuels like biodiesel, renewable diesel, and sustainable aviation fuel, which can provide significant GHG and other pollutant reductions immediately, not years or decades down the road.

The Coalition for Renewable Natural Gas advocates for all sustainable production pathways and end uses for RNG and believe that RNG could do more to help Washington achieve its low carbon goals in the CFS. The current Draft limits the use of the flexible RNG guarantee of origin accounting method (known as "book-and-claim") to only cases where the end use of RNG is a natural gas vehicle (CNG, LNG, L-CNG) or as a feedstock in hydrogen production. Indeed, these applications have historically dominated demand for RNG in analogous programs. However, important decarbonization opportunities exist where renewable gas can be used as a feedstock or input to lower the CI of many other clean fuel technologies. This is another opportunity to further align the CFS with provisions in the Renewable Fuel Standard and Inflation Reduction Act designed to support the production of such fuels, helping to reinforce RNG developers' interest in investing in these key strategies.

The Port of Seattle believes that adding book and claim biomethane as a feedstock for renewable diesel and alternative jet fuel similar to the treatment of biomethane as a feedstock for hydrogen production is a feasible approach. The Port requests the addition of renewable diesel and alternative jet fuel as eligible to use biomethane as a feedstock.

There are several pathways for producing AJF, and Alaska Airlines believes the state should support all pathways in order to bring this nascent industry to commercial scale and provide space for future innovation. Use of biomethane for AJF production can help capture harmful emissions from methane and capitalize on the climate benefits of biomethane to further enable the state to meet its climate goals. Under the proposed rule, the Clean Fuels Program currently lists book and claim biomethane as an eligible feedstock to produce certain fuels, and they strongly encourage Ecology to include book and claim biomethane as an eligible feedstock for alternative jet fuel as well.

SkyNRG Americas believes that the use of biomethane via book-and-claim as a feedstock to produce alternative jet fuel is one of the most sustainable and scalable solutions to help meet Washington's goals to decarbonize the aviation sector. Currently the Clean Fuels Program proposes to recognize book-and-claim accounting for biomethane as an eligible feedstock to produce transportation fuels such as CNG, LNG, L-CNG as well as a feedstock for hydrogen

production. SkyNRG Americas believes that adding book-and-claim options for biomethane as a feedstock for renewable diesel and alternative jet fuel production, similar to the treatment of biomethane as a feedstock for hydrogen production, is a feasible approach.

Response: Broader application of book and claim accounting

Staff recognizes the potential benefits of allowing the use of RNG for the production of renewable fuels through the broader application of book and claim accounting. The rule allows for the use of book and claim or indirect accounting of RNG as a feedstock for hydrogen production, in a similar way as it is allowed for RNG as a feedstock for CNG, LNG, and L-CNG, and electricity used as transport fuel. The rule also allows for the use of renewable energy (including RNG) that is directly supplied to the fuel production plant. However, consistent with CARB and OR-DEQ rules, Ecology's rule does not allow indirect accounting for use of biomethane to lower the carbon intensity of other alternative fuel pathways. Ecology is committed to work with stakeholders towards increasing the demand for low-carbon fuels and recognizes GHG benefits from directly using low carbon fuels and electricity as process energy in alternative fuel production. However, at this early stage of program implementation, Ecology has chosen to follow the policies being implemented in California and Oregon to avoid unintentionally slowing the transition to cleaner transportation fuel-vehicle technologies. Ecology may consider these measures in future cycles of rulemaking, and will communicate with stakeholders if and when we consider the inclusion of these program elements. Similarly, Ecology is not expanding thermal energy credits other than natural gas because the program focus is on the use of transportation fuel.

Capacity credits

Hydrogen Refueling Infrastructure (HRI)

Commenters: Air Products (comment B-2-2), FirstElement Fuel (comments B-6-1; B-17-1), NW Natural (comment B-15-2), 3Degrees (comment B-20-6), Shell (comment B-33-1), Alliance for Automotive Innovation (comment O-16-7), Joint Washington Utilities (comment O-20-10), Climate Solutions (comment O-21-13), California Electric Transportation Coalition (comment O-23-5), UC Davis (comment OTH-7-2) Tacoma Power (comment O-18-5).

Summary: HRI capacity limit, percentage for capacity crediting, and total available credit

Shell Hydrogen Mobility recommends adoption of an 800 kg/day station capacity with full capacity eligibility for hydrogen refueling stations serving light duty vehicles (LDV); and a 6000 kg/day station capacity cap with 3000 kg/d crediting eligibility cap for HRI serving medium and heavy duty vehicles (MHDV); and an overall cap of 5 percent of prior quarter deficits.

Factors to consider in evaluating the recommendation for the 800kg/d capacity for LDV HRI include:

- Fill quantity: average LDV fill is 3.2 kg/fill
- Stations take time to build, many taking longer than 2 years.
- Redundancy: Typically two dispensers have a capacity of 800 kg/day.

If stations were built with a 500kg/day cap vs 800kg/day cap that would mean about 93 fewer cars would be serviced per station, and up to 60% more stations would be required to serve the same population.

HDVs currently average 50kg/fill and require daily fill. The 6000 kg/day HRI capacity allows 120 trucks refuel per day. The proposed 2300 kg/day capacity would allow only fill 46 trucks per day. Without right sized stations, commercial trucking will struggle to adopt fuel cell vehicles.

To ensure there is effective network coverage of both LDVs and MHDVs stations they recommend equal allocation of HRI capacity credits equal to 2.5% of deficits in the prior quarter for each vehicle categories, or a total HRI available credits equal to 5% of deficit in the prior quarter.

Experience in California has shown hydrogen refueling station coverage and capacity are essential precursors to introduction and adoption of hydrogen fuel cell electric vehicles, and to the good experience amongst early adopters that will support growth into early majority customers.

FirstElement Fuel suggests reconsidering both the capacity cap, and 50% capacity crediting for both the light duty, and medium and heavy duty. As learned in California, their original deployments with the small amount of incentive funding that was offered really just deployed small stations that became unsustainable from a business perspective. The stations were fairly small, 250 kilograms, so about half the size Ecology proposed, but even now today, they are not deploying any stations that are smaller than 1,200 kilograms per day. That is a four-dispenser liquid hydrogen delivery station that provides a customer experience that's very similar to what they're doing now in gasoline. It makes the transition rather seamless for them as they visit a refueling depot. Similarly, for heavy-duty, the 2,300 kilograms per day that Ecology suggested is even smaller than what California Air Resources Board is suggesting. They're proposing a 3,000 kilogram per day with a 50% capacity cap. Even that FirstElement Fuel believes is too small. The industry is coalescing around at least a 6,000 kilogram per day station. That's just due to the size and throughput that you would expect from a well-used truck refueling outlet.

Rather than imposing a low station capacity cap, one methodology could be to limit credit generation with the opportunity to expand, or re-certify, to a larger, full station capacity once a threshold of 50% hydrogen sales is reached. This is similar to the pathway allowed in the current California light-duty HRI program.

As recommended by staff, a simple methodology to limit over-credit generation would be to limit the capacity credit to 50% of the station capacity. Although simple in concept, the implementation at a station that has both light-duty and medium-duty vehicles refueling at the same dispenser will likely be a challenge for accurate reporting. However, FirstElement Fuel believes this reporting challenge can be overcome and would support this option as long as the station capacity is raised to 6,000 kg/d with the credit generation limit at 50% (3,000 kg/d).

Another option to limit over-crediting is to establish a band of 2,000 kg/d credits that remains constant until the hydrogen sales reach 4,000 kg/d (i.e., credit + sales < capacity cap). This approach provides a stable HRI credit during the initial station deployment thereby enabling

market confidence and investment to deploy stations. The credit "self-sunsets" when the hydrogen sales and capacity credits reach the station capacity limit of 6,000 kg/d.

If Ecology has reasons for a more cautious approach, Joint Washington Utilities still recommends a 6000 kW cap per site for exceptions on a case-by-case basis and a phase in where 2500 kW per day is reached in 2024 or 2025.

3Degrees applauds the work done by Ecology to design these specialized systems. They have concerns, however, related to the crediting and capacity limits outlined in the rule. Washington's cap on DCFC capacity credits seems arbitrarily limited. They believe the cap on station size is too small for interested credit generators to make a compelling business case. They request that Ecology revise these provisions to mirror those in California, which were designed to enable developers to deploy more sites while also encouraging economies of scale.

The Alliance for Automotive Innovation comments that HRI is a very important provision to address the fundamental requirement that hydrogen infrastructure is built out in advance of vehicle deployment. The success of California's LD HRI Pathway can be seen in the average hydrogen station capacity increasing 2.5 times and station development programs underway that are 5 times larger than all prior developments. Based on Washington's market size and demand and the experience in California, they recommend adopting 800kg/day cap with full capacity eligibility for Light Duty, and 6,000 kg/d station cap with 3,000 kg/day crediting eligibility for Heavy and Medium Duty vehicle.

To ensure that adequate network coverage of both light- and heavy-duty vehicles the Alliance for Automotive Innovation recommends separate caps for light-and heavy-duty stations, and that each cap be set at 2.5 percent. California is currently in the process of proposing the same allocation.

Response: HRI capacity limit, percentage for capacity crediting, and total available credit

Staff understand that Washington State currently has no or very few fuel-cell vehicles that use hydrogen as fuel. We anticipate a small number of deficits will be generated in the early years of the program, which will result in a smaller number of available HRI capacity credits. We have also considered the history of HRI capacity in California, especially in the early years of their program. Considering these factors and stakeholders' comments on the proposed rule, staff amended the capacity limit of HRIs to be 800 kg/day for the LDVs and 3000 kg/day for MHDVs, with 50 percent of this capacity eligible for capacity credits generation. This will allow HRI owners to generate stable HRI credit equal to 50 percent of the capacity credit until the HRI capacity utilization exceeds 50 percent, in addition to the generation of credits for dispensing hydrogen fuel to vehicles. After the HRI capacity utilization for that station exceeds 50 percent, the capacity credit starts to decline; and the reduced capacity credit from that station will allow for the installation of another HRI or expand the capacities of existing HRIs. The rule allows capacity expansion of HRI if the original capacity utilization reaches 50%, based on market demand.

Ecology is directed by the law to allow for ZEV infrastructure capacity credits and advance credits to accelerate the transition towards cleaner transportation, and thus increase the demand for cleaner fuels, though they are not directly related to the reduction of carbon

intensity of transportation fuels, which is the primary goal of the program. However, HRI capacity credits are important in promoting the expansion of HRI infrastructure. Staff believe the proposed HRI capacity equivalent to 2.5% (and total credits that are not related to fuel consumption equal 10%) of the deficits in the prior quarter provides balance between the current incentive level for fuels and the incentive level to increase future demand of clean fuels.

Summary: Hydrogen carbon intensity and renewable content

Hydrogen applicability should be determined by carbon intensity (CI), consistent with the other fuels in the program, and should not have an additional renewable content requirement. The purpose of the CFP as stated in WAC 173-424-100 is to "to reduce the lifecycle greenhouse gas emissions per unit energy (carbon intensity) of transportation fuels used in the state." Any additional requirements on top of CI are inconsistent with the treatment of the other fuels and have the potential to limit innovation without producing additional greenhouse gas emissions savings. NW Natural is requesting the removal of the proposed renewable content requirement in WAC 173-424-560(d)(vi).

For HRI pathways, only fueling stations dispensing green electrolytic hydrogen should be eligible. This is consistent with state law when it comes to the approach to hydrogen as a fuel being taken. An analysis of California's approved fuel pathways and hydrogen fueling stations generating capacity credits show that at least one of the registered entities uses fossil natural gas as a feedstock for its hydrogen. Since capacity credits do not necessarily represent additionality of clean fuels or the displacement of dirty fuels, it is especially important to ensure that these credits encourage fueling stations that will dispense clean fuels.

Response: Hydrogen carbon intensity and renewable content

Staff appreciate the commenter's insight on the overlapping goal of renewable content and carbon intensity of hydrogen. Staff believes the renewable content requirement provides easier to understand and implement safeguard in addition to the carbon intensity limit for the hydrogen to be supplied through the HRI capacity credits. This allows the promotion of the expansion of hydrogen refueling infrastructure together with the low carbon hydrogen supply.

Ecology is directed by the law to allow capacity-based credits for ZEV infrastructure, including HRI capacity credits, to accelerate the transition towards cleaner transportation, and thus increase the demand for cleaner fuels. Staff recognizes HRI and FCI capacity credits are not directly related to the reduction of carbon intensity in transportation fuels, which is the primary goal of the program. However, the HRI and FCI capacity credits play an important role in accelerating the transition to cleaner transportation. Staff recognize the importance of having sustainable cleaner hydrogen together with promoting the availability of hydrogen refueling infrastructure. Thus, staff believes setting carbon intensity limits (120 gCO2e/MJ) and renewability content (50%) to hydrogen is the preferred approach to accelerating the transition, instead of limiting the supply to hydrolytic hydrogen. This will ensure the supply of cleaner hydrogen by setting the renewable content threshold as a safeguard, as some of the electrolytic hydrogen could have a higher carbon intensity limit than provided in the rule.

Summary: New multi-modal HRI additive cap

Shell recommends the creation of a multi-modal calculation that accounts for stations that have shared FSE components and are able to fuel a combination of weight classes or vehicle types (i.e. HD + LD, Cars + Buses) at different dispenser locations simultaneously. This station archetype will be crucial for freeway destinations that fill cars and class 8 trucks. Shell recommends an allocation approach for multi-modal stations that is additive for the capacity cap (i.e., up to 800 kg/day for the dispenser serving LD + up to 6,000 kg/day with 3,000 kg/day crediting eligibility for dispensers serving HD).

HRI crediting (1)(b)(vi): The crediting can apply to light-duty and medium- or heavy-duty stations. Is there a provision for stations that service both types of vehicles (where a priori determination of use may be difficult)?

Estimated HRI credits: The equation assumes displacement of gasoline, more likely in the light-duty space; is the same equation meant to apply to medium- and heavy-duty uses that are more likely to displace diesel fuel? The relevant standard and applicable EER would both vary by duty sector. Ecology may have reasons for using only the gasoline-displacing information for the purpose of this provision; if so, that could be made clearer.

Response: New multi-modal HRI additive cap

Staff recognizes the benefit of refueling both light-duty vehicles and medium- and heavy-duty vehicles in one hydrogen refueling station to optimize service. At this early stage of CFS implementation, the amount of available HRI credits is expected to be small, so Ecology chose to focus on distributing the HRI credits throughout Washington State to encourage broader adoption of hydrogen as a fuel. This will also cause additional challenges in meeting the reporting requirements, as the rule requires the amount of hydrogen dispensed per each vehicle class category. Optimizing HRI by serving all vehicle classes may be addressed in a future rulemaking. Staff will continue to consult with stakeholders including hydrogen industry representatives in the development of requirements for multi-modal HRI.

Staff amended the HRI and FCI capacity credit calculations formulae to make them applicable to both light-duty, and medium- and heavy-duty vehicles that are replacing gasoline or diesel fuel.

Summary: Simple reporting of total kg dispensed by station classification

WAC 173-424-420(4)(a) requires that reporting entities report the quantity of hydrogen fuel dispensed “by vehicle weight category: LDV & MDV and HDV.” This requirement is impractical at commercial filling stations. To comply, station operators would need to categorize every vehicle fueling at the station and match the quantity of fuel to each vehicle, an onerous process that is unlikely to result in accurate data. Tacoma Power recommends removing this requirement or adding language to exempt publicly accessible hydrogen fueling stations.

As current ‘station to vehicle’ interfaces do not record vehicle weight class, meeting the reporting requirements for HRI in WAC 173-424-420 require significant technology development and/or implementation of inaccurate manual tracking. Therefore, Shell encourages Ecology adopt simplified reporting of hydrogen that accounts for 1) vehicle class the station was certified for, and 2) quantity dispensed.

Response: Simple reporting of total kg dispensed by station classification

Staff amended WAC 173-424-420(4)(a) to accommodate this technology limitation.

Summary: Adoption of an update to HySCapE 1.0 in a version 2.0 of this tool

Shell encourages Ecology adopt an update to the HySCapE 1.0 model in a version 2.0 of this tool, as HySCapE 1.0 does not account for more recent technology developments and is limited to light duty vehicles. They say CARB has engaged with the National Renewable Energy Laboratory (NREL) for the purpose of updating the HySCapE model as part of the current LCFS rulemaking and encourage Ecology to contact CARB on the topic.

Summary: Adoption of an update to HySCapE 1.0 in a version 2.0 of this tool

Staff added "The application for medium and heavy duty vehicles shall not be accepted until HySCapE model or equivalent model or capacity estimation methodology is approved by ecology for these vehicle size categories" for further clarity around the development of future HySCapE models.

Fast Charging Infrastructure (FCI)

Commenters: Washington State Department of Transportation (comment A-3-6), Port of Seattle (comment A-4-15), ChargePoint (comment B-4-5), Rivian (comment B-8-2), Avista (comment B-16-6), Electrify America (comment B-18-2), 3Degrees (comment B-20-5), Alliance for Automotive Innovation (comment O-16-5), Electric Vehicle Charging Association (comment O-19-5), Joint Washington Utilities (comment O-20-7), CHAdeMO Association (comment O-22-1), California Electric Transportation Coalition (comment O-23-6), NW Energy Coalition (comment O-26-12), WSPA (comment O-30-20), UC Davis (comment OTH-7-1).

Summary: Induction fueling infrastructure

We would like clarifications on how induction fueling infrastructure fits into proposed rule.

Response: Induction fueling infrastructure

CFS credit generation is based on the amount of electricity used for charging and the energy economy ratio of the vehicle. The CFS program provides charging capacity-based credits to encourage the installation of direct current fast charging infrastructure to promote the use of electric vehicles. The charging capacity-based credits are expected to decline as the utilization of the charging infrastructure increases. However, the program does not differentiate electric charging technologies for credit generation based on the amount of fuel/energy consumed.

Summary: FCI credit generating right and use of PIN codes for prioritizing access to FCI

The Port of Seattle appreciates that DCFC permitted prior to January 1, 2023 are not eligible for capacity credits. The Port would also support preventing utilities from generating credits for residential charging of electric vehicles for vehicles registered prior to January 1, 2023 in WAC 173-424-540 section 3 for the same reasons.

Allow airport FCI the exception to use PIN codes or prioritization access during peak times of airport activity.

Response: FCI credit generating right and use of PIN codes for prioritizing access to FCI

Staff appreciates the commenter's support for making FCI after January 1, 2023 eligible for capacity credit generation. The purpose of this is to expand the availability of charging infrastructure in the early part of EV adoption by providing incentives. Already permitted FCIs are not incentivized, because the decision to install FCI has already been made. Conversely, the CFS credit is for fuels consumed during a specific period after January 2023. Thus, staff believe it is consistent with the intent of the law to allow credit generation for EVs that are registered prior to 2023, as they continue to reduce GHG emissions compared to the gasoline/diesel vehicles throughout the life of the vehicle.

Capacity credits are intended to support investment on FCI when their utilization level is low. The purpose of the requirement in WAC 173-424-560(2)(d)(ii) is to maximize the utilization of FCI. The rule lists the potential obstructions that may hinder the maximum utilization of FCI. The commenter's request seems to prioritize the airport ground transport service providers during peak time. This issue may be addressed during program implementation, once the Port has identified the specific conditions for the exceptions.

Summary: FCI credit and crediting period to start the first quarter the station is activated

ChargePoint supports the FCI pathway and applauds the Department for including it in the initial rule. The one adjustment ChargePoint recommends the Department make is to begin FCI crediting the first quarter the station is activated following application approval, instead of commencing crediting the quarter following application approval, as currently written.

Electrify America is grateful to the Agency for considering the company's previously submitted comments and accepting the suggested change around the FCI crediting eligibility restriction.

By starting the quarter following Ecology approval regardless of activation status, some projects that pre-applied but are not yet active essentially get penalized by missing out on a quarter(s) of credits. This small change will prevent that.

Response: FCI credit and crediting period to start the first quarter the station is activated

Staff appreciates the commenter's support for FCI crediting.

Staff believe making the start of the crediting period the quarter following Ecology's approval of the application is consistent in setting boundaries on the crediting period, and with California's rule. Therefore, Ecology is not changing the rule due to these comments.

Summary: Type of connector eligible for FCI credit

Rivian believes Ecology should align its requirements for qualifying DCFC infrastructure under the capacity-based credit pathway with proposed federal NETI guidelines. Specifically, Ecology should allow only the CCS connector for infrastructure to be creditable under the program, including a CHAdeMO connector should not be required. Only one BEV model sold nationally in the US is ever reliant on CHAdeMO for fast charging. More than half of those sold to date were sold between model years 2010 and 2015. Requiring CHAdeMO connectors will increase infrastructure costs without any meaningful benefit for EV uptake in the current market. The

CCS connector should be sufficient on its own to qualifying installation for capacity-based credits.

The Alliance for Automotive Innovation recommends that all charging stations must have at least one SAE CCS connector. This requirement aligns with Advanced Clean Car II requirements for on-vehicle charging receptacles and proposed minimum standards for the Federal National Electric Vehicle Infrastructure (NEVI) for all federally funded charging stations to be equipped with an SAE CCS connector.

As the EV market continues to evolve, electric vehicle manufacturers besides Tesla are moving away from the CHAdeMO standard and instead relying on CCS for DCFC charging, and Tesla is expected to provide an adapter for Tesla owners to utilize CCS. Of all the currently available and known upcoming EV models in North America, the only model still using CHAdeMO is the Nissan LEAF, which will be discontinued by mid-decade. Nissan LEAF vehicles currently represent 18% of EVs registered by the DOL, a market share that will further decline over time. However, EVs such as the LEAF are attractive, affordable, and reliable used options for lower- and middle-income households. Prevalence of EVs using CHAdeMO is strong in certain markets within Washington and likely will continue to be strong for several years due to the models' abilities to meet urban and certain suburban driving conditions. Utilities and partners must build infrastructure to support future market conditions while also supporting vehicle populations based on historical market dynamics. Thus, Joint Washington Utilities recommends Ecology only mandate CCS connection standards for DCFC while permitting the inclusion of CHAdeMO based on market or regional needs and as requested by applicants for the infrastructure capacity credits.

Both ChargePoint and EVgo, two of the U.S.'s largest charge point operators (CPO) have publicly committed to supporting CHAdeMO chargers for the benefit of their customers.

The CHAdeMO Association comments that funding CHAdeMO chargers will not result in stranded assets. Nissan and Mitsubishi Motors are currently equipping vehicles CHAdeMO charging standard and will continue to be sold until at least 2025. Additionally, Tesla drivers utilize CHAdeMO chargers using the Tesla brand adaptor. Reviewing current statistics, Tesla and Nissan combined account for the majority of EVs in Washington. Further, as the average durability of vehicles is greater than 10 years, there will be a significant demand for CHAdeMO charging stations through 2035. EVs, such as the Nissan LEAF, are becoming even more affordable as used EVs for low income consumers. In addition, new Nissan LEAFs are one of the most affordable EVs and one of the few that will continue to receive the new federal EV tax credit for new EVs (as well as for used EVs) in the near-term. We predict this will result in continued robust sales for Nissan LEAFs in Washington and that charging plazas in Washington funded by the proposed CFP capacity credits will be well used by LEAFs and other EVs with CHAdeMO connectors for the life of the charger.

Contrary to popular belief, it is not possible to adapt a CCS-1 charger to charge a CHAdeMO equipped vehicle.

- The CCS-1 charging system utilizes Power Line Communication (PLC) to communication between the vehicle and EVSE.

- Originally designed for SAE J1772 Level 2 charging, CCS-1's PLC is not capable of CANbus communication utilized by the CHAdeMO system.
- Though an adaptor can physically connect between CCS-1 and CHAdeMO, a CCS1 cannot properly communicate with a CHAdeMO system and CHAdeMO system will not allow charging.
- Therefore, there is no safe and functional adaptor between CCS-1 and CHAdeMO

The future is bright as EVs will support the electric grid. Since 2012, CHAdeMO has included the specification for bidirectional (V2G/VGI) power flow. Nearly all CHAdeMO equipped EVs are capable for bidirectional power flow without any modifications. CCS standard does not provide this functionality. Globally, EVs are beginning to help the electricity grid with bidirectional power flows especially where EVs dwell for longer times (e.g., destination centers, multi-unit dwellings, curbside charging, and other public charging). Once the benefits of V2G/VGI core technology are realized, CHAdeMO believes automakers will begin switch to CHAdeMO charging systems for North American market.

Response: Type of connector eligible for FCI credit

Ecology appreciates the comments on the types of connectors eligible for FCI credit. Staff considered the range of comments on the proposed connector types. Recognizing that CCS is the connector type used by most manufacturers, staff amended the rule to require that at least 75 percent of the FSE on-site must have CCS connectors. Because CHAdeMO connectors are present in about 18% of the EV stock, Ecology maintained CHAdeMO as well as Tesla connectors as additional options, based on the market demand. Ecology also requires the applicant to support all three types of connector at each site, if adapter technology is available, enabling interconnection between connector types.

Summary: Impact of ZEV fueling infrastructure on credit market

NWEC has significant concerns that infrastructure credits will compromise the integrity of the CFP given that an infrastructure credit does not equal one metric ton of carbon dioxide equivalent less than the applicable standard adopted under RCW 70A.535.020. We recommend removing WAC 173-424-560 in its entirety. If Ecology chooses to move forward with infrastructure credits, NWEC requests Ecology:

- Review projects to evaluate the potential impacts to vulnerable populations and disproportionately impacted communities and create a process to address those impacts if they are identified;
- Establish a minimum uptime requirement for DC fast charging infrastructure to increase reliability of DC fast chargers;
- Establish overall limitations on ZEV fueling infrastructure pathways that would take effect in the scenario that there is a significant surplus of credits resulting in deflated credit prices; and,
- Plan to phase out ZEV fueling infrastructure pathways

Part of the compliance portfolio for this program is intended to come from provisions to allow advancing of credits and hydrogen and electricity fueling capacity credits, as laid out in statute, similar to the Hydrogen Refueling Infrastructure (HRI) and Fast Charging Infrastructure (FCI) provisions in California's LCFS. Under the current proposal, credits like these can generate credits in an amount up to 10% of a prior quarter's deficits. The HRI and FCI provisions in California have not yet seen these opportunities fully used, so close attention is warranted to understand how this level of crediting could impact the overall credit market. Additionally, offering infrastructure capacity credits weakens the link between actual GHG reductions and incentive level. This link supports the efficacy of programs like the LCFS and it is unknown whether weakening it could reduce the program's primary function to lower transport fuels' rated CI.

Response: Impact of ZEV fueling infrastructure on credit market

Staff appreciate the commenters' insights and recommendations on monitoring the impact of ZEV fueling infrastructure and advance credits on the overall credit market. However, the law directs Ecology to allow credit generation for ZEV fueling infrastructure and advance credits. Though these credits do not directly contribute to reducing the CI of transportation fuel, these non-fuel consumption credits expand the availability of ZEV fueling infrastructure and ultimately facilitate the adoption of cleaner transportation.

The amount of FCI and HRI credits is based on the available capacity of the infrastructure for charging/fueling. Similarly, advance credits are intended to generate revenue for projects to be funded through state transportation investment. The FCI and HRI credits will only be offered for a limited time period: until 2030. We will monitor the impact of these non-fuel consumption credits on the credit market.

Summary: Limitations in ZEV fueling infrastructure pathways requirements

WAC 173-424-560 (1) and (2) – These sections of the rules set parameters for earning credits from hydrogen refueling (HRI) and DC fast charging infrastructure (FCI). The rule caps credits for each of these activities to 2.5 percent of deficits in the most recent quarter.

Additionally, the rule limits the HRI crediting to 15 years while limiting credits for FCI to five years from the time an application is approved. Avista requests that Ecology clarify the purpose for these limitations and the outcomes it is seeking to achieve. FCI installed in the coming years will be contributing to CFP goals throughout the useful life of the equipment and should be eligible to earn credits as long as it is contributing to the statutory carbon intensity reductions.

This section of the rule limits total nameplate power ratings for FCI at a single site to 1,500 kw with the option of applying for equipment totaling 3,600 kw at a single site. Avista notes that this is different than California which has a single-site limit of 2,500 kw with the opportunity to apply for single side nameplate power rating up to 6,000 kw. Avista would be interested to know why Ecology set the single-site power rating limits at a lower threshold than California.

The rule also limits credits generated in each quarter to the capital expenditures made in each quarter minus any grants or other funding reported. Capital expenditures are typically made in large upfront sums, not spread out over the life of the equipment. This provision of the rule

would limit the ability to earn credits while equipment owners will continue to incur administrative, energy and maintenance costs over the equipment's useful life. Avista would propose eliminating this limitation on FCI credits generated. If such a limit is included in the final rule, we would propose that a utility be allowed to amortize its capital expenditures over the credit generating period allowed for this infrastructure. This would permit credits to be generated throughout the period and not just in a quarter subsequent to when a capital expenditure is made.

WAC 173-424-560(1)(b)(vi)(A) and (B): WSPA is concerned that the restrictions detailed in these sections may discourage projects with realistic commercial capacities. WSPA encourages Ecology to work with medium- and heavy-duty vehicle Original Equipment Manufacturers (OEMs) to determine appropriate daily capacity maximums. These vehicles require significantly more fuel than light-duty vehicles to fill up their tanks. Additionally, WSPA encourages Ecology to work with the hydrogen fueling industry to identify an appropriate method for modeling stations that serve both light- and heavy-duty vehicles. Maintaining separate crediting for each may lead to inefficient use of capital and may slow growth.

WAC 173-424-560(1)(d)(vi)(A) and (B): Generating and Calculating Credits for ZEV fueling infrastructure pathways. As the Hydrogen Refueling Infrastructure (HRI) provisions have been modeled after the CARB LCFS program, WSPA suggests that this section be modified to reflect the basis utilized for the CARB LCFS program - 150 gCO2e/MJ or less and 40% renewable content. Barring specific analysis demonstrating different conditions in Washington, this suggested change ensures consistency between Washington and California programs.

WAC 173-424-560(1)(d)(vii) - Generating and Calculating Credits for ZEV fueling infrastructure pathways. Similar to above, the CARB LCFS program allows for 10 years of crediting. Consistency between programs will enable better decisions as infrastructure investors determine the optimal location for new locations.

In draft WAC 173-424-560(b)(vi), the draft rules clearly describe the eligibility of hydrogen fueling infrastructure capacity crediting for light-, medium and heavy-duty hydrogen fuel cell vehicles. However, a clear description of capacity credit eligibility is not provided for DCFC capacity credits for light-, medium-, and heavy-duty EVs. Proposed solution: Joint Washington Utilities encourage Ecology clarify that DCFC capacity credits are permissible for medium- and heavy-duty vehicle infrastructure, just as it is for light-duty EVs, and, if needed, make this explicit in the final CFP rules.

Shell recommends that Ecology use the same time period as California for the HRI pathway application period: which allows ten years of crediting in the event an applicant reapplies for the same station.

Response: Limitations in ZEV fueling infrastructure pathways requirements.

The HRI and FCI capacity-based credits are not directly related to lowering the carbon intensity of fuel consumed; instead the purpose is to support investment in HRI and FCI as the population of EVs and fuel cell vehicles and their demand for low-carbon fuel is still growing.

The rule limits the HRI capacity-based crediting period to 15 years from the time an application is approved, and limits credits for FCI to five years. There is no limitation for the credits from the fuel supplied using the HRI and FCI. This is to allow the investors on HRI and FCI to recover their capital expenditures in these periods, when the demand for the refueling is low.

Capacity-based credits are capped so as not to exceed the capital expenditure minus any grant received. This cap comes from the California LCFS rule based on their experience with HRI capacity credits. Ongoing operational and maintenance costs need to be supported by fuel consumption credits after the infrastructure is operational. The rule does not set a cap on the revenue to be generated from the fuel supplied by the ZEV infrastructure.

This was established based on the experience in CARB's LCFS rule, taking into account stakeholder input and the expertise of CARB, and adapted certain program elements to fit Washington. Staff also reviewed the comments on hydrogen refueling infrastructure capacity crediting requirements in the proposed rule. Ecology is creating the mechanism to incentivize installation of ZEV infrastructure to accelerate ZEV adoption in Washington, as directed by statute. Staff will continue to learn from the experience in California and Oregon to achieve the policy intent in consultation with stakeholders.

As the rule under WAC 173-424-560(2) does not establish separate requirements for different vehicle weight classes, the rule applies to light-duty, and medium- and heavy-duty vehicle categories. While the ZEV infrastructure capacity crediting requirements are adapted from CARB, staff has considered conditions specific to Washington, including the carbon intensity of hydrogen and electricity in the state. The maximum carbon intensity of hydrogen in Washington is estimated to be 120 gCO2e/MJ. Based on consultation with stakeholders and CARB, staff believe the 50% renewable content threshold adopted from California's LCFS will not be difficult to attain in Washington, especially in the early phases of HRI installation.

The purpose of the ZEV infrastructure capacity-based crediting program is to accelerate ZEV adoption in Washington. If an applicant approved to install HRI fails to demonstrate the operability of the station within 24 months, the application is cancelled. The proposed rule allows the applicant to reapply for capacity credits for the same station, but the station is then only eligible for eight years of capacity crediting, taking into account the 24 months during the reapplication process when the station was not in use. However, staff amended the credit period for reapplication to be nine years, splitting the difference between commenters' requests and the original language.

Ecology established caps on the capacity of HRI and FCI somewhat differently than California. The amount of capacity credits available is based on the number of deficits in the prior quarter. Ecology is just starting implementation of the program, and the amount of deficits from regulated fuels is much lower than CARB's deficits, even at the start CARB's program. In order to distribute this smaller number of HRI capacity credits in Washington, we need to lower the capacity limits for FCIs and HRIs. Staff have considered input from the industry and consultants, and consulted with CARB on the initial capacity seen in the HRI installed in California. Staff amended the capacity limits for HRI based on these inputs and believe the FCI limits are reasonable.

Carbon capture and sequestration

Commenters: Kate Lunceford (comment I-8-1), POET (comment B-23-6), Pacific Ag Renewables (comment B-32-3), WA Forest Protection Association (comment O-1-1), Growth Energy (comment O-17-3), Carbon Removal Companies (comment OTH-5-1), Yale Carbon Containment Lab (comment OTH-9-1), Gevo (comment B-10-7).

Summary: Inclusion of carbon capture and sequestration technologies in Clean Fuel Program

We received several comments that recommend including various technologies and actions within the Clean Fuel Program, summarized below:

- Carbon capture and reuse (CCR) should be considered in calculating a fuel's carbon intensity.
- Carbon capture and sequestration (CCS) must be allowed in the Clean Fuel Program.
- Include CCS as a Tier-2 pathway, and include language in the rule allowing Ecology to develop protocols to enable the generation of credits by 2025.
- Measurable and verifiable CCS should be reflected in carbon intensity scoring for biofuel production facilities.
- All forms of bioenergy with carbon capture and storage (BECCS) must be allowed to participate in the program.
- Include credit generation from carbon capture, utilization, and storage (CCUS).
- Incorporate standalone credit-generating pathways for carbon capture, utilization, and sequestration (CCUS) and carbon dioxide removal (CDR) as soon as possible, but at least by 2025.

Response: Inclusion of carbon capture and sequestration technologies in Clean Fuel Program

Ecology may, under RCW 70A.535.050, allow generation for credits from activities including but not limited to carbon capture and sequestration projects. The protocols and procedures necessary for including carbon capture and sequestration activities require study and consultation to implement, and one of the ways Ecology is moving forward to do so is through the Agricultural & Forestry Carbon Capture and Sequestration Advisory Panel, as required under RCW 70A.535.060. Ecology will consider the inclusion of these technologies in future cycles of rulemaking.

Summary: Avoiding negative unintended consequences of carbon capture and sequestration

One commenter applauds establishing a high standard for clean fuel and expresses concern about the variability in sustainability of biomass projects, and requests provisions to ensure feedstock is from waste or byproduct and not new biomass.

Response: Avoiding negative unintended consequences of carbon capture and sequestration

Ecology appreciates your concern and is mindful that regulatory programs may result in unintended and undesirable consequences. The program's use of lifecycle analysis methodology is in part intended to accurately reflect the true costs of a feedstock over the full life of the fuel and to encourage the use of fuels with lower carbon intensity over their lifecycle. In establishing pathways, and regularly reviewing them, Ecology aims to minimize or avoid such unintended consequences.

Summary: Areas of study for the advisory panel

One commenter recommended that the Agriculture and Forestry Carbon Capture and Sequestration Advisory Panel study and consider the following approaches: carbon capture, usage and storage; and carbon dioxide removal.

Response: Areas of study for the advisory panel

RCW 70A.535.060 requires Ecology to establish and periodically consult a stakeholder advisory panel. Ecology has begun this work with the establishment of the Agriculture & Forestry Carbon Capture and Sequestration Advisory Panel (AF-CCSAP), and expects the panel to study, consider, and provide input on how to best incentivize and allot credits for the sequestration of greenhouse gases through activities on agricultural and forestlands. These suggestions will be shared with the advisory panel and taken into consideration as they develop their work plans.

Summary: Carbon dioxide removal

Carbon Removal Companies propose modifying the rule so that carbon dioxide removal (CDR) technologies can generate credits under a standalone pathway, and recommend that language is added to the rule to allow Ecology to begin working toward developing this framework in 2023.

Response: Carbon dioxide removal

Staff recognize the urgency to facilitate the implementation of innovative GHG reducing technologies including carbon removal, reuse and sequestration technologies. The rule, under WAC 173-424-600(5)(b)(viii), allows the use of Tier 1 fuels with innovative technologies, including carbon capture and sequestration technologies as Tier-2 fuel pathways. Thus, the rule does not limit the use of the carbon removal technologies to fossil fuels. The next step will be to establish the methods and models to reliably quantify the carbon intensity from those pathways. The proposed rule text already gave Ecology the authority to develop pathway protocols, therefore staff did not make any changes to this provision in the final rule.

Ecology staff will involve stakeholders and experts in future protocol development efforts. Ecology will also benefit from the efforts and experience of the neighboring clean fuels jurisdictions as they work to develop protocols of their own. Priorities for future protocol development will be determined by the department's staff and leadership, and through stakeholder engagement.

Agriculture

Commenters: Gevo (comment B-10-2), Pacific Ag Renewables (comment B-32-4), Clean Fuels Alliance America (comments O-9-2; O-32-7), Renewable Fuels Association (comment O-15-4), Growth Energy (comment O-17-2), Biotechnology Innovation Organization (comment O-25-2).

Summary: Accounting for agricultural practices in the Clean Fuel Program

Gevo, Inc comments that carbon reductions at the level of individual farms should be included in the lifecycle analysis that Washington uses, to incentivize grower participation. Gevo also urges Ecology in future rule proceedings to include carbon accounting for reduced agricultural carbon, and review of indirect land use change (ILUC) assessment for crop-based biofuels. Clean Fuels Alliance America would like the rule to include a mechanism in Washington's grid to reduce the carbon intensity of fuels for feedstocks that use agricultural practices such as no-till. Renewable Fuels Association supports incorporating site specific agricultural inputs – cover cropping, no till, and other agricultural practices – into fuel pathways. Growth Energy strongly supports the appropriate crediting of on-the-farm field practices in the CFP.

Response: Accounting for agricultural practices in the Clean Fuel Program

The statute specifies that Ecology may allow for credit generation from carbon capture and sequestration projects in the Clean Fuels Program statute (RCW 70A.535.050) as Tier 2 pathways, and signals that agriculture and forestry carbon capture and sequestration practices are to be considered (RCW 70A.535.060). Ecology has included indirect land use change (ILUC) factors in this rulemaking as part of the Washington GREET model, and will look to update these factors as the scientific understanding of ILUC improves over time. Ecology does not currently have the capacity to include specific agricultural inputs in lifecycle accounting, but will work to enhance the program's lifecycle accounting and the GREET model over the life of the program.

Additionally, Ecology has launched, as required under RCW 70A.535.060, the Agricultural & Forestry Carbon Capture and Sequestration Advisory Panel (AF-CCSAP), for the purpose of seeking input on how best to allow credits for sequestration of greenhouse gases through activities on agricultural and forestlands, and these comments highlight topics on which Ecology expects the advisory panel to research, learn, discuss, and provide input on.

Summary: Advisory panel areas of study and discussion

Gevo recommends two topics for study by the Agriculture & Forestry Carbon Capture and Sequestration Advisory Panel (AF-CCSAP) of Ecology: the inclusion of farm-level carbon emissions reduction in lifecycle analysis, and how the Clean Fuel Program might employ the Department of Energy Argonne National Laboratory's GREET model to count all carbon with a fuel's lifecycle.

Biotechnology Innovation Organization recommends involving corn, canola, timber, and sugar been producers in the development and implementation of the CFP, to ensure that the CFP considers agricultural carbon reduction practices in calculating carbon intensity scores.

Response: Advisory panel areas of study and discussion

RCW 70A.535.060 requires Ecology to establish, as it has, a stakeholder advisory panel, for the purposes of soliciting input on how to best incentivize and allot credits for the sequestration of greenhouse gases through activities on agricultural and forestlands. The Agriculture & Forestry Carbon Capture and Sequestration Advisory Panel will study and discuss agriculture and forestry practices that sequester greenhouse gases and provide input to Ecology. These suggestions will be shared with the advisory panel and taken into consideration as they develop their work plans.

Ecology has adopted Washington GREET, adapted from California's version of the national Argonne GREET model. We feel it is best to closely align with other state clean fuels jurisdictions to better harmonize our programs, and to use a GREET model specific to our jurisdiction rather than the national model.

Summary: Avoided greenhouse gas emissions from crop burning

Pacific Ag Renewables requests that the rule allow the recognition of avoided greenhouse gas emissions from crop burning in the use of crop residues as a feedstock for RNG.

Response: Avoided greenhouse gas emissions from crop burning

Ecology's Agriculture & Forestry Carbon Capture and Sequestration Advisory Panel (AF-CCSAP), as required by RCW 70A.535.060, provides Ecology input on how best to incentive and allot credits for the sequestration of greenhouse gases through activities on agricultural and forestlands. Activities need to be quantifiable and verifiable, and as the panel researches, discusses, and provides input on various agricultural and forestry practices, these criteria will be central to the recognition of a practice in a pathway. Ecology will take this suggestion into consideration as more data on the burning of crop residue becomes available and is able to be verified.

Geologic

Commenter: Charm Industrial (comment B-13-1).

Summary:

Charm Industrial, Inc. expresses general support of the draft Clean Fuel Standard rule, as well as concern at the lack of an independent credit pathway for carbon dioxide removal projects. The commenter urges Ecology to begin at once with rulemaking that incorporates carbon dioxide removal and requests the addition of language to Part 2 to provide Ecology with the authority to begin developing carbon dioxide removal protocols in mid-2023 or 2024.

Response:

Ecology believes it has authority to develop pathway protocols without adding language to the draft rule and will not be including any additional language to this effect in this rule.

Carbon intensity/GREET model

Commenters: Annie Phillips (comment I-147-2), Lora Rathbone (comment I-177-2), Marjorie Reinig (comment I-178-2), Valero (comment B-12-2), Neste (comment B-21-5), POET (comment B-23-2), Clean Fuels Alliance America (comments O-9-3; O-32-3), Growth Energy (comment O-17-4), Washington Environmental Council (comment O-24-8), Biotechnology Innovation Organization (comment O-25-4), Washington Policy Center (comment O-29-3), WSPA (comment O-30-10), UC Davis (comment OTH-7-10), bp America (comment B-3-9).

Summary: Biofuels

Some commenters wrote that biofuels should only be derived by agricultural waste, not by crops.

POET LLC writes that biofuels such as bioethanol can significantly reduce greenhouse gas emissions and thus contribute to Washington's goal to reduce carbon pollution from the transportation sector and help achieve the state's greenhouse gas ("GHG") emissions targets. Accurately accounting for their value will not only provide more precise market signals to fuel producers, but also generate positive benefits beyond the confines of the Clean Fuels Program.

Response: Biofuels

Staff recognizes the potential concern from increasing the use of agricultural crops for biofuels production. Thus, the use of available excess agricultural and forest resources to meet the GHG reduction goals, including for the cultivation of crops for biofuels, may be logical. However, the CFS program does not have authority in directly limiting biofuel production using crops, as it is market-based program. On the other hand, the CFS program accounts the land use change impact of biofuel production in the calculation of carbon intensity of biofuels, and aims to incentivize low-CI biofuels.

Staff recognizes the importance of accurate accounting of lifecycle GHG emissions of fuels, including biofuels, to meet the intent of the program. However, lifecycle assessment and some emissions factors involve significant uncertainties, which require choices to minimize risk while meeting the policy intent. Staff will work to refine the lifecycle accounting for CI of fuels over the life of the program.

Summary: Miscellaneous

- Renewable Naphtha should be considered consistently across the regulation. It is included in the definitions and in Table 3 only.

- Factors included in the GREET models that are determined to be in error should not be considered a Tier 2 pathway. If a review of the GREET model finds that an emission factor or other standardized value included in any of the GREET models is determined to be in error, this should not result in an application being a Tier 2, if the application would otherwise have been a Tier 1 model. This should be stated in WAC 173-424-600(5).
- Enhance regulatory certainty for complying with, and clarify the enforceability of, the CFP program by adopting (1) a force majeure clause for operational CI calculations and (2) a de minimis threshold for variations in operational CI score.
- Reflect technological and other advancements including the carbon emissions related to EV battery production and disposal as part of the electricity pathways and the lifecycle GHG carbon intensity calculation.

Response: Miscellaneous

- Staff will consider including the requirements for renewable naphtha in a future rulemaking. In this first rulemaking, Ecology was focused on providing the foundational components of the program. However, this does not prevent fuel suppliers from working with Ecology staff towards applying for a Tier 2 pathway application for renewable naphtha from renewable natural gas. The WA-GREET model supports the carbon intensity calculation for renewable naphtha.
- The classification of Tier 1 versus Tier 2 fuel pathways is based on how well a fuel pathway is known and the availability of established data on the feedstocks, process inputs and outputs, transportation, and the use of the fuel. It is not based on a potential error that may be identified in the emission factors.
- The rule has a force majeure clause under the missing data provisions in WAC 173-424-610(13). It had also established that the fuel pathways holder is out of compliance if the operational CI is greater than its certified CI. However, this provision was moved to WAC 173-424-610(14), and clarified that it is applicable for non-provisional pathways.
- Staff recognizes the full lifecycle GHG emissions of using an EV should also include the GHG emissions over the lifecycle of the vehicles. However, accounting for both the fuel and the vehicle emissions in one program complicates program management. That is also true in the design of the GREET model: it has separate components to estimate the lifecycle GHG emissions from vehicles and fuels. The CFS program is focused on reducing the lifecycle GHG emissions of fuels, and so does not consider the lifecycle GHG emissions of the vehicles.

Summary: Up-to-date GREET Model

Commenters encourage Ecology to use the most up-to-date GREET model developed by Argonne National Laboratory (ANL) and other best available data to establish the Washington GREET (WA-GREET) model. One major improvement opportunity in the WA-GREET is how the vessel transport emissions for renewable diesel and associated feedstocks are calculated.

Response: Up-to-date GREET Model

Ecology chose to use CA-GREET3.0 (August 2018) because it is used in a similar regulatory program in California; and the California Air Resources Board (CARB) modified the ANL GREET to make it suitable for the state program. Thank you for your specific comment on vessel transport emissions; we will consider your specific comments in the future update of the model.

Summary: Choice between CA-GREET or OR-GREET

Ecology should clarify that entities may opt to use WA-GREET to determine their fuel CI, even if it is possible to use a California or Oregon based CI value. The commenter suggested that this would allow for more accurately accounting for the GHG reduction benefits of biofuels.

Response: Choice between CA-GREET or OR-GREET

In the initial CFS program implementation years, the CFS program will depend on CARB and OR-DEQ certified fuel pathways, especially for tier 2 fuel pathways. The rule requires entities to submit CARB or OR-DEQ approved fuel pathways, together with the fuel pathway application based on WA-GREET. The adjustment from CA-GREET or OR-GREET to WA-GREET may include electricity CI, land use change CI, transportation distance, and other factors depending on the type of fuel.

Staff recognizes the importance of accurate accounting of lifecycle GHG emissions of fuels, including biofuels, to meet the intent of the program. However, lifecycle assessment and some emissions factors involve significant uncertainties, which require choices to minimize risk while meeting the policy intent.

Summary: Indirect Accounting

The rules should provide a mechanism for indirect accounting of electricity, hydrogen and renewable natural gas used in renewable fuel production facilities to allow them to pursue low carbon inputs that reduce their carbon intensity without having a direct connection with these fuels.

Response: Indirect Accounting

Staff recognizes the potential benefits of credit generation opportunities by allowing the application of book and claim accounting to use electricity, hydrogen, and RNG in reducing the carbon intensities of renewable fuels. The CFP rule allows the use of electricity, hydrogen and renewable natural gas when they are directly supplied to a renewable fuel producing facility as a feedstock or process energy. However, consistent with CARB and OR-DEQ rules, Ecology's CFP rule does not allow indirect accounting for use of low carbon electricity, hydrogen, and biomethane to lower the carbon intensity of other renewable fuels. The main reason is that the focus of the CFS program is to incentivize the direct use of alternative fuels in transportation.

The other reason is the difficulty of tracking and verifying the use of these three fuels to produce renewable fuels across locations out of state for consumption in Washington.

Summary: Energy Allocation among co-products

Many bioethanol producers have continued to innovate their biorefineries and are producing varying grades of bioethanol for applications beyond fuel. Some of these grades and specifications require additional processing and energy. A commenter encouraged the Department to clarify that its carbon intensity model does not allocate the energy used for non-fuel production inappropriately to biofuels.

The Washington GREET model currently distinguishes between wet and dry distiller's dried grains with solubles (DDGS) pathways for thermal energy but does not do so with regard to electricity use. Electricity use between wet and dry DDGS production is quite different. They recommend that the Department further distinguish electricity use as it does with thermal energy in its GREET model.

Response: Energy Allocation among co-products

Staff appreciates the comments to improve the quality of the GREET model for ethanol. Staff would like to learn about the types of co-products and their material and energy requirements and the GHG emissions from the additional processes. Staff would like to work with the commenter and other stakeholders on better understanding the allocation of materials, electricity and GHG emissions among co-products and multiple feedstocks in the future update of the GREET model.

Summary: WA-GREET Updates

We appreciate Ecology's efforts to make the rulemaking process open, transparent, and adaptive to feedback. We would like to express our support for the following elements of the draft rule: WAC 173-424-600(2): Requiring the review of carbon intensities every three years or sooner, if new information becomes available.

Response: WA-GREET Updates

Staff appreciates the commenter's support for the plan to reviewing the carbon intensities every three years.

Summary: Land use impact of battery production

In the interest of technology neutrality and with the rapid increase in battery-electric vehicles, the land use impacts of mineral extraction for battery production should also be evaluated, along with the land use implications of expanded wind and solar electricity generation. The commenter recommends that this can be done by aligning with the Argonne GREET model, as Argonne updates its model regularly (typically on an annual basis) to incorporate the best science on all variables.

Response: Land use impact of battery production

Ecology appreciates the regular updates that Argonne National Laboratory (ANL) does to improve the GREET model. Ecology chose to use CA-GREET3.0 that California modified in August 2018 because it is used for LCFS implementation.

ANL GREET models the fuel lifecycle and vehicle lifecycle as two interacting models. The clean fuel programs use GREET1 that models fuel lifecycle emissions because the programs focus on fuels. The impact of vehicle lifecycle assessment, including the land use impact of mineral extraction for battery production, is addressed in ANL's GREET2 model, and are generally not addressed in clean fuels programs in California and Oregon. Staff will continue to evaluate if the inclusion of embodied GHG emissions is appropriate given the additional complexity in modeling.

Summary: Uncertainty of assessing environmental benefits & impacts

Assessment of the environmental benefits and impacts of various technologies, including different biofuels, hydrogen fuels, and other fuels, is always uncertain and always changing. A restrictive approach to this uncertainty in innovation would delay the development of new technologies and drive costs up, without providing additional environmental benefit. This encouragement of new innovation should be codified in the rule to make it clear that when uncertainty exists, regulators should favor innovative approaches to reducing emissions.

Response: Uncertainty of assessing environmental benefits & impacts

Staff recognize the uncertainty in the environmental impact assessment of fuel-vehicle technologies. As the CFS program's primary focus is to incentivize the use of clean fuels based on their carbon intensity, it is important we have reasonably acceptable level of certainty in estimating the carbon intensity of the fuel and that the use of the fuel reduces GHG emissions.

Summary: Incremental Deficits and MCON Reporting

Ecology should remove all references to incremental deficits and MCON (crude oil) reports from the regulatory language. The modeling of crude oil CI is very approximate, with a significant portion of the crude oil processed not identified, as discussed in prior webinars, and the errors in the modeling will cause "noise" in the crude CI that do not warrant creating incremental deficit burden.

WAC 173-424-900 - Table 3 (Energy Densities). Washington gasoline, blended at 10% ethanol, energy density should be 118.38 MJ/gallon, not 117.73 MJ/gallon.

Response: Incremental Deficits and MCON Reporting

Staff removed the reference to 'incremental deficit' from the proposed rule, as Ecology is not planning to do incremental deficit calculation at this stage. However, Ecology will require

MCON reporting to more accurately estimate and monitor the carbon intensity of fossil-based fuels, which was not possible during the initial carbon intensity modeling work.

The energy density of Washington gasoline is corrected to be 118.38 MJ/gallon, consistent with updated WA-GREET model.

Summary: Operational CI

Clean Fuels Alliance America recommends removing the rule text in WAC 173-424-600(7) and (8) that can be interpreted as prohibiting the generation of credits on fuel that has operational carbon intensity calculated above the certified carbon intensity value. It makes little sense to prohibit the generation of any and all credits from fuels that have carbon intensity below the annual CI standard for that compliance period.

UC Davis Policy Institute writes: The provision could usefully specify how the CI value is calculated from the 24 months of data, and the rationale for that choice. (E.g., is the high point used, given that fuels delivered at higher than the certified CI value trigger violations?)

Response: Operational CI

Staff revised the rule to include clarification that the margin of safety in the calculation of carbon intensity of a fuel is determined by the fuel pathway holder to account for potential process variability and diminish the risk of non-compliance with the certified CI. However, the pathway holder is required to ensure that the certified CI label of the fuel is equal or larger than the operational CI of the fuel. Otherwise, it becomes non-compliant with the certified carbon intensity. We believe it is appropriate to protect the public or fuel user from buying fuel that does not meet the CI value in the label. We also believe it is fair for the fuel pathway holder to have the right to determine the margin of safety based on the variability of their process to avoid non-compliance with the CI label.

More detail has been added to WAC 173-424-600 (7) to clarify how the CI value is calculated in this instance. If additional rationale is needed, that may be covered in guidance documentation or refined in future rulemakings.

Summary: Reduced carbon intensity & provisional CI score

The provision states that “waste, residues, byproducts” may be eligible for a “reduced carbon intensity” value, but does not specify relative to what (and how the amount of the reduction will be estimated/evaluated). A more precise definition of the terms “waste,” “residue,” and “byproduct” would help reduce ambiguity. In particular, aligning definitions with concepts used in lifecycle analysis can help build a stronger conceptual understanding among stakeholders.

Applicants seeking a provisional CI score. If actual data suggest a lower CI score than the provisional, Ecology could consider creating a buffer account into which the balance of credits can be deposited, to be drawn on/retired in the case of invalid, unrecoverable credits. While

this aspect has not yet become important in any program, it might at some point in the CI reduction trajectory

Response: Reduced carbon intensity & provisional CI score

Staff appreciates the commenter's insight to define "waste, residues and byproducts." WAC 173-424-110(130) defines 'specified source feedstock' to include these feedstocks. WAC 173-424-600(6)(a) also defines these feedstocks as non-primary products of commercial or industrial processes for food, fuel, or other consumer products. Consistent with your comment, these feedstocks are specified source feedstocks, as non-primary product, and are expected to have lower financial values and thus allocation of impact compared to primary products.

As the commenter indicated, the positive balance of credits due to the difference between the provisional CI and actual CI of the fuel has not yet become important in any of the clean fuels programs. At this early stage of program implementation, Ecology chooses not to include it in the program to optimize program resources.

Summary: Ethanol blend level and energy density

bp appreciates that the Proposed Rule's 2017 Washington gasoline baseline reflects a realistic 10.0% ethanol blend value when setting the carbon intensity value of 98.85 gCO2e per MJ within WAC 173-424-900, Table 6, as we previously suggested. In light of this change, for consistency, the corresponding energy density in WAC 173-424-900, Table 3 requires updating to reflect 10.0% ethanol content, as it currently represents 11.6% ethanol content.

In order to remove any ambiguity as to what "Diesel fuel" represents in WAC 173-424-900, Table 3, bp recommends that the value in the table is referenced as "neat" or "fossil" diesel. Diesel without any further qualification could have up to 5% renewable content and meet the ASTM D975 definition.

Response:

Staff amended the Washington gasoline energy density to be 118.38 MJ/gallon. We also amended table 3 by adding 'fossil' as qualifier to 'diesel fuel'. Thank you for your comments and your support on the use 10% ethanol blend level.

Electricity

Commenters: Valero (comment B-12-6), Avista (comment B-16-7), Puget Sound Energy (comment B-31-1), Pacific Ag Renewables (comment B-32-2), Alliance for Automotive Innovation (comment O-16-2), Tacoma Power (comment O-18-4), Joint Washington Utilities (comment O-20-9), Climate Solutions (comment O-21-15), NW Energy Coalition (comment O-26-14), UC Davis (comment OTH-7-12).

Summary: Same Update Cycle for Electricity & GREET

The carbon intensity of electricity should be on the same updated cycle as the GREET updates. After establishing a cohesive timeline, Ecology should update the associated GREET and Tier 1

models to account for the grid emission factor changes. This would ensure equity for renewable transportation fuels across geographic regions.

Response: Same Update Cycle for Electricity & GREET

Ecology proposed to annually update the carbon intensity of electricity based on annual Fuel Mix Disclosure Report that Washington State Department of Commerce publishes. The application of the updated carbon intensity of electricity is limited for charging and electrolysis, not for other fuels that use WA-GREET. Ecology does not have the resources to annually update the electricity for fuels that are produced outside of Washington State, and thus the annual update will not address the equity issue. Rather it will widen the equity issue between fuels produced in Washington versus imported fuels. Therefore, Ecology will explore this in future rulemaking with additional input from stakeholders.

Summary: GHG emission rate for unspecified electricity

WAC 173-424-630(3) states unspecified electricity shall be assumed to be generated using natural gas. Natural gas generation can occur at a variety of emission rates, depending on the age and type of equipment. This is inconsistent with the definition of "unspecified source of electricity" in section 110 (124) of the rule, which assigns an emissions rate of 0.437 metric tons per megawatt-hour. Avista recommends subsection 630 (3) be consistent with the definition for "unspecified source of electricity.

We also support updating this calculation annually to reflect the most recent and therefore the most accurate values for utility-specific carbon intensity.

Response: GHG emission rate for unspecified electricity

Staff amended the rule text in WAC 173-424-630(3) to make the emission rate of unspecified electricity clearer and consistent with the definition in WAC 173-424-110(124), as 0.437 metric tons per megawatt-hour.

Staff appreciates commenter's support for the annual update of the carbon intensity of utility specific electricity. Ecology staff plans to calculate the utility specific CI based on the annual Fuel Mix report that Department of Commerce publishes based on reports submitted by each utility, and this will not cause additional reporting burden on electric utilities. Staff appreciates similar feedback on the calculated utility specific carbon intensity of electricity to correct data and/or calculation errors.

Summary: Statewide Average vs. Utility-Specific Electricity CI

PSE supports the use of the statewide annual average generation mix as the sole approach for calculating electricity carbon intensity. In addition to being rooted in and supported by statute, a statewide annual average approach is administratively less resource-intensive and will more broadly incentivize investments into low-carbon electricity resources because it will encourage more parties to participate in the program. Accordingly, PSE encourages Ecology to adopt a statewide annual average generating mix for calculating the default electricity carbon intensity.

Avista strongly supports the provisions that allow a utility to use either the statewide average or utility specific carbon intensity values for the purposes of calculating credit generated for electric vehicle charging.

Alliance for Automotive Innovation requests explanation if the rule is to be amended to allow a choice of electricity carbon intensity from a statewide mix or utility-specific mix.

Joint Washington Utilities requests Ecology clarify in rules about whether, and if so, where, when, and how utilities can select the utility-specific or statewide average carbon intensity. The proposed rules do not explicitly indicate whether utilities have the ability to choose which carbon intensity they use for dispensed electricity.

Tacoma Power comments that the CFP should not allow the use of a statewide carbon intensity factor if doing so limits or erodes the use of a utility-specific CI. The establishment and use of a utility-specific carbon intensity (CI) factor is clearly supported by the CFP statute. Climate Solutions understands that utilities must use a utility-specific carbon intensity and may not elect to instead use the statewide electricity mix. However, there has been misunderstanding among stakeholders so they recommend that the rule more clearly state this.

NW Energy Coalition understands that Ecology intends for utilities to solely use the utility-specific electricity mix established under WAC 173-424-630(1). While NW Energy Coalition supports the requirement for utilities to use the utility-specific electricity mix, the rules do not appear to make this explicitly clear.

UC Davis Policy Institute commented the proposed provision is not clear on whether this section applies only to electricity for use as an end-fuel, or also for use as a process energy in the production of other fuels or inputs to fuels. There is also ambiguity on the circumstances under which a utility-specific CI score is applied, vs. a state-wide CI score. It is not clear if this is an annual choice, as in Oregon. Note that that approach allows utilities to "cherry-pick" the most beneficial CI score in a given year.

Response: Statewide Average vs. Utility-Specific Electricity CI

Ecology amended the rule so that the utility-specific carbon intensity of electricity is used for calculating credits from vehicle charging. This is because RCW 70A.535.030(1)(b)(ii) directs Ecology to adopt rules that measure the carbon intensity of electricity based on the mix of generation resources specific to each electric utility. This makes the assignment of the GHG emissions for the electricity distributed in each specific utility district more accurate. While California uses statewide average carbon intensity of electricity used as transportation fuel, Oregon uses statewide average or utility-specific carbon intensity based on the choice of electric utilities. Staff believes the utility-specific electricity in the credit calculation for charging of vehicles incentivizes utilities with higher carbon intensity electricity to improve the carbon intensity of the electricity consumed in their service district.

Summary: Utility-Specific CI for Renewable Fuels Production

Pacific Ag Renewables recommends allowing the application of the actual electricity power source CI to apply to renewable hydrocarbon fuel producers rather than applying the “Washington Mix.” This would be consistent with the draft rule as applied in credit generation

for electric car charging. The Oregon Clean Fuels Program allows the option for a utility-specific carbon intensity. An electric utility may apply to obtain a utility-specific carbon intensity under OAR 340-253-0470 (3) that reflects the average carbon intensity of electricity served in that utility district. We ask that the Department follow the Oregon CFS example and allow for a utility-specific carbon intensity for electricity that will serve a biofuels plant.

Response: Utility-Specific CI for Renewable Fuels Production

Carbon intensity calculation of renewable transportation fuels is to be done using the WA-GREET based on the statewide average grid electricity. Allowing lower utility carbon intensity in some utility districts will result in underestimation of the statewide GHG emissions. This would require the WA-GREET and Tier 1 calculators be updated annually, which would require additional staff resources. Therefore, Ecology did not amend the proposed rule in response to the comment.

Summary: Utility-Specific Electricity

Table 10 in the proposed draft rules is using fuel mix data from 2018, which is not the latest nor most representative of current utility generation resources. Ecology should update Table 10 using the latest Department of Commerce fuel mix data, which is from 2020.

Avista believes the utility-specific carbon intensity assigned to its generation mix is inaccurate.

Response:

Ecology amended the year in Table 10 to 2020, as the utility-specific carbon intensity of electricity is calculated based on the up-to-date 2020 Fuel Mix Disclosure report. Life Cycle Associates used the 2018 fuel mix disclosure report to estimate the statewide average carbon intensity as an input to the WA-GREET.

Ecology staff plans to calculate the utility-specific CI based on the 2021 annual Fuel Mix report that Department of Commerce publishes based on reports submitted by each utility. Staff appreciate similar feedback on the calculated utility specific carbon intensity of electricity to correct data and/or calculation errors. We recommend that utilities review the upcoming utility-specific carbon intensity calculation.

Farm level accounting

Commenter: Farmers Business Network (comment B-27-1).

Summary: Farm-level CI accounting

Farmers Business Network supports alignment of Washington State's Clean Fuels Program with those of California, Oregon, and Canada. However, wholesale adoption of California's system may require more difficult program adjustments down the road and it would not reflect recent industry advances that allow for a more precise and effective program. We encourage your consideration of incorporating farm-level carbon accounting.

Response: Farm level CI accounting

Ecology is just starting to implement the Clean Fuel Standard program by establishing the foundational components of the program based on the experience of California and Oregon. Ecology has not yet established verification requirements. However, Ecology is exploring opportunities to incentivize carbon sequestration on agricultural and forestlands through establishing an advisory panel. Therefore, Ecology may address the farm-level accounting in a future rulemaking based on the work of advisory panel, and other states' experiences.

Global warming potentials (GWP)

Commenter: Washington Environmental Council (comment O-24-4).

Summary: GWP

We urge Ecology to take advantage of the opportunity to lead the way on integrating the most up-to-date climate science into its calculation of global warming potential values. While we understand the need for an apples-to-apples approach to compare the carbon intensities of different transportation fuels, traditional global warming potential (GWP) values fall short in accurately accounting for both near-term and long-term climate impacts. For this reason, we urge Ecology to consider the approaches discussed in the IPCC's Sixth Assessment Report (AR6)15, such as GWP and combined-GTP.

Response: GWP

For consistency with existing state laws and regulations such as the GHG Reporting Program (Chapter 173-441 WAC), as well as to harmonize with neighboring states implementing similar programs, Ecology is using the 100-year global warming potential values (GWP) from the IPCC 4th Assessment Report, as established in Table A-1 in WAC 173-441-040. The WA-GREET3.0, which was modified from CA-GREET3.0, uses the global warming potentials from AR4, and this may be addressed as part of a future WA-GREET model update.

Hydrogen

Commenter: 3Degrees (comment B-20-10).

Summary: Off-site Renewable electricity

3Degrees recommend that Ecology revise WAC 173-424-610(9)(g)(iii)(C)(I) to state: Provide the attestation regarding environmental attributes or proof of nongeneration or retirement of any RECs as required by WAC 173-424-420 (2)(e) or WAC 173-424-630 (4)(d) or WAC 173-424-630 (5). As currently drafted, the rule does not allow off-site renewable electricity to be used to reduce the CI of hydrogen used as a transportation fuel. California and Oregon have both introduced this option in order to maximize the decarbonization potential of hydrogen under their respective programs.

Response: Off-site Renewable electricity

Ecology amended the rule, under WAC 173-424-610(9)(g)(iii)(C)(I) to allow the use of RECs and RTCs if they meet the reporting requirements under WAC 173-424-420. The rule, under WAC 173-424-610(9)(g)(iii)(D), allows the use of off-site renewable electricity to lower the carbon

intensity of electricity or hydrogen via electrolysis. Ecology also amended WAC 173-424-600(6) to allow the use of book and claim accounting of biomethane for hydrogen production.

Indirect land use change

Commenters: King County (comment A-2-3), bp America (comment B-3-4), Gevo (comment B-10-3), Valero (comment B-12-9), POET (comment B-23-1), Clean Fuels Alliance America (comments O-9-1; O-32-6), Renewable Fuels Association (comment O-15-2), Growth Energy (comment O-17-1), Climate Solutions (comment O-21-18), Washington Environmental Council (comment O-24-3), Biotechnology Innovation Organization (comment O-25-3), Earth Ministry (comment O-7-2).

Summary: Land Use Change

Gevo encourages Ecology to adopt Argonne GREET in future rule makings to continuously monitor and update ILUC values for crop-based feedstocks. The ILUC scores currently used in this rule should be updated to account for more accurate science the Argonne GREET model provides.

Valero commented that many of the current ILUC factors proposed in Table 5 by Ecology, such as that for soybean oil used in renewable diesel production, are based on modeling that is several years old and out of date. […] Ecology should adopt the ILUC factors in the Argonne GREET model for use in Table 5, and continue to update these Argonne ILUC factors as they are released.

POET commented the proposed rule indicates a LUC value (gCO2e/MJ) for corn ethanol of 19.80, significantly higher than the 7.6 value proposed by the Ecology-commissioned analysis of Life Cycle Associates and which is the same value currently used in Oregon. Chapter 70A.535 RCW also requires that Ecology's proposed rule harmonize the Clean Fuel Program with the rules and requirements of other states that have adopted low carbon fuel standards and that supply significant quantities of transportation fuel to Washington, or to which Washington supplies significant quantities of transportation fuel.

Renewable Fuels Association and Biotechnology Innovation Organization (BIO) commented that a recent analysis by a collaboration of researchers from Environmental Health Engineering, MIT, Tufts, and Harvard concluded that a LUC (direct and indirect) emissions value for corn ethanol of 3.9 g/MJ represents the most credible evolution of the science on the topic. Oregon's Clean Fuels Program uses the Argonne GREET model values of 7.6 g/MJ. These lower values are supported by recent analyses of land use patterns by Purdue University, the U.S. Departments of Energy and Agriculture, University of Illinois, and other institutions. Both values are well below California LUC value of 19.8 g/MJ which have not been updated since 2014. To that end, BIO strongly urges DOE to use updated science related to indirect land use changes for corn, canola, soy, and other plant-based biofuels.

Growth Energy urge Ecology to review the latest science with respect to lifecycle GHG emissions modeling of bioethanol that shows a nearly 50 percent decrease in GHG emissions. The latest science from Argonne National Laboratory, the U.S. Department of Agriculture,

Oregon Department of Environmental Quality, and Environmental Health and Engineering among others continues to show low and decreasing values for indirect land use change (ILUC).

King County supports the strengthening the following elements of the Department of Ecology's proposed rule: Using iLUC estimates for biofuels that align with those used by California.

Climate Solutions support matching the land use change CI values, as listed in Table 5, to those used by California's program rule. It will be important that these are periodically reevaluated as further research is done.

Earth Ministry commented that they would like to see the rule include a plan for ongoing review as that science advances so we can ensure that the biofuels being used towards the rule are holistically clean.

Washington Environmental Council urge Ecology to adjust the rule to account for a more rigorous and accurate accounting of iLUC values for crop-based biofuels at the outset of the program and to use the process proposed by WAC 173-424-600(2) to conduct an ongoing review of iLUC impacts with feedback from stakeholders, experts, and regulators in order to continue to correct the values as the science advances. While the adoption of another iLUC state's values may be expedient, these values likely need significant corrections in light of emerging science. Some of these corrections may fundamentally call into question whether specific crop-derived fuels have any utility in a program designed to reduce the carbon intensity of transportation fuels.

Clean Fuels Alliance America (CFAA) would like for methodologies to account for updated science related to indirect land use changes for canola production, similar to British Columbia's carbon intensity score for canola methyl Esters, and canola renewable diesel, along with the updated science for soil. CFAA questioned the use of different lifecycle assessment models for corn, ethanol and soy, and canola biodiesel, even though the same models have been updated by Argonne National Laboratory for both feedstocks. CFAA would like to the final rules to use Argonne's CCLUB approach for soy as it does for corn ethanol.

Biotechnology Innovation Organization strongly urges DOE to use updated science related to indirect land use changes for corn, canola, soy, and other plant-based biofuels.

Response: Land Use Change

Researchers in the field recognize the difficulty in accurately estimating the iLUC impact of biofuels and the significant uncertainty. Due to the amount of work and resources it would require and the limited time Ecology has to start the implementation of this program, Ecology could not conduct land use change modeling work during this rulemaking. Therefore, Ecology focused on the decision to adopt the iLUC value being used in California's clean fuels program or that used in Oregon's program.

Ecology hired Life Cycle Associates (LCA) as the consultant for the program's carbon intensity modeling, and the International Council on Clean Transportation (ICCT) as the peer reviewer of the work done by LCA. For corn ethanol iLUC, LCA recommended using the OR-DEQ value of 7.6 gCO2e/MJ of ethanol, with the main justification being the declining carbon intensity value of biofuel and land use change with updated models and data. Many stakeholders that

commented in favor of the OR-DEQ iLUC value also justified that with the declining CI of biofuel and iLUC, and argued that CARB's 2015 LUC value is outdated.

However, ICCT recommended using the CARB value of 19.8 gCO2e/MJ for corn ethanol. ICCT also recognized that the CARB iLUC assessment is older than more recent iLUC studies, but noted that the iLUC assessment was conducted by a regulatory body with a high level of expert review and stakeholder input; consequently, the assumptions and model inputs are therefore more closely aligned with ground-truthed scientific data. Several subsequent analyses, including the one cited by LCA, have not been held to the same level of scrutiny. ICCT's peer review notes several areas where updates to the model may be inconsistent with data on land-use and soil carbon stock change.

The researchers we heard from also recognized CARB's rigorous and transparent stakeholder engagement process in the modeling and determination of the iLUC emission factors. OR-DEQ also originally proposed to use the CARB iLUC value for corn ethanol against the Argonne National Laboratory's value, because of the rigorous and transparent stakeholder process in CARB's modeling and determination of the 2015 iLUC value.

In summary, Ecology is unable to do modeling to determine the iLUC value for biofuels due to the time constraint to do such work. Thus, the decision is to choose among existing LUC values in CARB and OR-DEQ rules. Both CARB and OR-DEQ agree on the iLUC values for three biodiesel and renewable diesel feedstock (soybean, canola, and palm) and two ethanol feedstock (sorghum and sugarcane). However, they differ on the corn ethanol iLUC values. Ecology recognizes both the 2015 CARB and OR-DEQ iLUC values for corn ethanol are not based on the most current model and data. It is evident that the CARB modeling and determination used a robust and transparent stakeholder engagement process, and that provides a higher level of confidence. As a result, Ecology chose to use CARB's iLUC value for corn ethanol.

Ecology received very valuable detailed input towards the modeling of land use change impact of biofuels (especially corn and cover crops). We highly appreciate the depth of the comments and the references provided, and we will benefit from this in the planning and development of future work to assess the land use change impact of biofuels. We requested ICCT respond to the public comment received from HHE on their peer-review report during the informal comment period, and we have attached it as an appendix because it will respond to the most specific comments provided.

Summary: Cover crops

Bp America comments that the CFP should recognize Cover Crop Indirect Land Use Change ("ILUC") values. Despite the welcome inclusion of carinata within the table of recommended values in Ecology's early rulemaking engagement, this important biofuel feedstock opportunity has been overlooked in the proposed rule language.

Response: Cover crops

Life Cycle Associates (LCA), as Ecology's consultant, recommended a conservative zero iLUC value for carinata. The reason for this recommendation is that if it can be grown as secondary or cover crop, then it does not necessarily increase the demand for cropland area. However,

International Council on Clean Transportation (ICCT, who served as the peer reviewer to LCA's work) recommended against including zero iLUC for carinata, because the rule does not include a clear definition and mechanism to verify if the carinata is grown as a cover crop. In the absence of the definition and verification system, ICCT recommended that an iLUC estimation for carinata and other cover crops as if they are purpose grown as a feedstock.

Natural gas

Commenters: NW Natural (comment B-15-3), Climate Solutions (comment O-21-19).

Summary: Utility-specific CI for natural gas

The current draft does not consider the carbon intensity of natural gas in light of the mandated Climate Commitment Act (CCA) decarbonization schedule. Similar to the proposed methodology for utility-specific electricity mixes, the CI of CNG should be utility-specific and change over time to reflect the energy mix of the utilities. Ecology should use similar CI methodology for both electricity and CNG.

Response: Utility-specific CI for natural gas

Currently, staff do not have information on the variability of carbon intensity of natural gas among utilities. You may contact Clean Fuels Standard program staff to share information including the method to quantify utility specific carbon intensity of natural gas.

Summary: Biomethane CI

It is important that WA GREET incorporates methodology to appropriately score the carbon intensity of a fuel's lifecycle while not incentivizing environmental harm. For this reason, it is critical that biomethane is scored appropriately. The counterfactual included in the scoring should be set so that it encourages methane capture for existing entities, but that revenue from potential Clean Fuels credit sales itself is not a driver for consolidation or creation of new concentrated animal feeding operations, which cause a lot of environmental harm. Table 8 in the rule matches the CI value for dairy and swine manure-derived biomethane to California's. Climate Solutions strongly suggests reevaluating this frequently and monitoring for adverse impacts or perverse incentives.

Response: Biomethane CI

Staff recognizes the commenter's caution not to incentivize environmental harm due to lack of appropriate methodology for quantifying the carbon intensity of biomethane. The temporary carbon intensity of biomethane from dairy and swine manure was set based on the experience of other states. Ecology plans to review the WA-GREET model and fuel-vehicle technologies in 2-3 year cycles, and staff encourages stakeholders to provide information and data on these topics to inform these reviews.

Sustainable aviation fuel (SAF)

Commenters: Airlines for America (comment O-10-1), WSPA (comment O-30-7).

Summary: Diesel CI as benchmark for alternative jet fuel

A4A is fully supportive of proposed WAC 173-424-110(8), which would (i) define the term "alternative jet fuel" to mean "a fuel made from petroleum or nonpetroleum sources that can be blended and used with conventional petroleum jet fuels without the need to modify aircraft engines and existing fuel distribution infrastructure," (ii) specify that for credit generation purposes, AJF is measured against the annual carbon intensity (CI) standard in Table 2 of proposed WAC 173-424-900 (i.e., the CI benchmark for diesel and diesel substitutes), and (iii) explicitly include "those jet fuels derived from co-processed feedstocks at a conventional petroleum refinery." We applaud Ecology for proposing to establish from the outset of the CFP a level playing field between AJF and renewable diesel by using the same CI benchmark for both alternative fuels.

WSPA believes that Ecology needs to clarify that the regulatory language does not have a specific table for the alternative jet fuel standards, in which case the description of Table 2 in WAC 173-424-900 should clearly spell out diesel standards and alternative jet fuel standards. The following sections should also indicate that the standards for alternative jet fuel are listed on Table 2:

- WAC 173-424-110(32).
- WAC 173-424-140(1)(c)(iv)(B).
- WAC 173-424-510(5)(a)(i)(B) and (5)(b)(i)(B).

Response:

Staff appreciates the commenter's support for defining alternative jet fuel and allowing the use of the diesel carbon intensity standard for credit generation purposes.

As listed in WAC 173-424-130(2)(a)(i), conventional jet fuel is an opt-in fuel, not a regulated fuel, and thus does not have to meet the standard. However, for credit generation purposes, alternative jet fuel is allowed to use the diesel fuel carbon intensity in table 2 under WAC 173-424-900. This is included in the definition under WAC 173-424-110(8). Staff believes the part of the rule that identifies the inclusion of 'alternative jet fuel' considers jet fuel as a regulated fuel. Thus, Ecology did not amend the rule in response to this comment.

Carbon intensity reduction target

Commenters: Elly Claus-McGahan (comment I-81-1), J K (comment I-89-1), Lucinda and Donald Wingard (comment I-120-1), Matthew Riggen (comment I-149-1), Lora Rathbone (comment I-177-1), Marjorie Reinig (comment I-178-1), Mary Siciliano (comment I-388-1), Lee Keim (comment I-960-1), Puget Sound Clean Air Agency (comment A-1-1), King County (comment A-2-1), Puget Sound Clean Air Agency (comment A-5-2), bp America Inc. (comment B-3-1), ChargePoint (comment B-4-1), Phillips 66 (comment B-7-2), PineSpire (comment B-9-1), Gevo, Inc (comment B-10-1), Generate Capital, PBC (comment B-11-1), Electrify America, LLC (comment B-18-1), Phillips 66 Company (comment B-19-1), 3Degrees (comment B-20-11), Neste (comment B-21-1), Parallax Perspectives (comment O-3-1), Coalition for Renewable Natural Gas (comment O-6-1), Earth Ministry (comment O-14-1), Coalition for Renewable Natural Gas (comment O-14-1), Renewable Fuels Association (comment O-15-1), Tacoma Power

(comment O-18-1), Electric Vehicle Charging Association (comment O-19-1), Climate Solutions (comment O-21-1), Washington Environmental Council (comment O-24-7), Biotechnology Innovation Organization (comment O-25-1), NW Energy Coalition (comment O-26-1), WSPA (comment O-30-5), Clean Fuels Alliance America (comment O-32-1), 34 non-profits, businesses, and community groups and 25 local elected officials (comment OTH-6-1), Various aviation entities (comment OTH-8-5)

Summary:

- **General support the strongest and fastest reduction in greenhouse gas emission**: Elly Claus-McGahan, JK, Matthew Riggen, Marjorie Reinig, Mary Siciliano, Lee Keim, Electrify America, PineSpire, Parallax Perspectives,
    - Reasons include: the urgent need to reduce emissions and address climate change; provides economic incentive to renewable biofuels; need to address air pollution from road travel; the 20% reduction by 2034 is still not strong enough;
- **Support 20% reduction in carbon intensity by 2034**: Lucinda and Donald Wingard, Lora Rathbone, Puget Sound Clean Air Agency, King County, Gevo Inc., Generate Capital PBC, Electrify America LLC, Neste, Coalition for Renewable Natural Gas, Earth Ministry, Renewable Fuels Association, Tacoma Power, Electric Vehicle Charging Association, Climate Solutions, Washington Environmental Council, Biotechnology Innovation Organization, NW Energy Coalition, Clean Fuels Alliance America, coalition of 34 non-profits, businesses, and community groups and 25 local elected officials, Various Aviation Entities
    - Reasons include: it is within the state's capacity to achieve this reduction in carbon intensity; providing critical mass to make the transition away from fossil fuels more affordable; spurring new fuels and technologies; getting closer to the carbon intensity reductions of neighboring clean fuels jurisdictions; will provide certainty to investors and accelerate investment in clean fuels and infrastructure; will help avoid a situation like California over the past year where supply of low-carbon fuels out-paced the carbon intensity reduction requirements; feasible because of the expected growth in low-carbon technologies over time; will lead to reinvestment in Washington State and support job growth and local economic development; necessary to meet statewide goal of 45% reduction in greenhouse gasses below 1990 levels by 2030, a 70% reduction by 2040, and a 95% reduction and net zero emissions by 2050;
- **Against 20% reduction in carbon intensity by 2034**: bp America Inc; Phillips 66; WSPA
    a. Reasons include: no other jurisdiction has required a 10% reduction in carbon intensity in one year before; concern that it will create market uncertainty and undermine long-term investment decisions; will add cost burden to consumers;

does not align with legislative intent to meet a 20% reduction by 2038; will drain the credit bank; the annual reduction shouldn't exceed 2%;

- **Urge Ecology to adopt an even stronger carbon intensity reduction:** Generate Capital PBC, Renewable Fuels Association
    a. Reasons include: modeling shows it is possible; will provide certainty to investors in clean fuels; Oregon has recently proposed a 37% reduction by 2034 and California is considering strengthening their carbon intensity standard as well – Washington should follow their lead; made possible by progressively lower carbon biofuels and electrification;

One commenter asked for clarification as to whether the chart showing a 10% decrease in carbon intensity in 2034 was a mistake.

Response:

The carbon intensity standard set in this rule, a 10% reduction below 2017 levels in 2034, is not a mistake and is intended to reduce the carbon intensity from transportation fuel as quickly as possible. Many commenters support this action, with some urging Ecology to require an even more rapid reduction. However, the carbon intensity reduction curve currently in the rule represents the earliest reductions allowed by statute. Ecology considers maximizing early emissions reductions necessary to address climate change as quickly as possible. It is true that no other clean fuels jurisdiction has yet required a 10% reduction in a single year, and Ecology takes these concerns seriously. However, an economic analysis and fuel supply forecast based on draft versions of the CFS rule found this reduction to be feasible given the anticipated abundance of credits in the early years of the program, the decade of lead-time for participants to prepare and bank credits.

Some commenters expressed concern about costs to consumers. Studies show that the biggest factor determining consumer gasoline and diesel prices is the price of crude oil, which in turn is impacted by business decisions by oil companies, global events such as the COVID 19 pandemic and the war in Ukraine, global shipping capacity, and other factors. Regulations have relatively little impact on consumer prices. One strength of market-based programs, such as the Clean Fuel Standard, is that businesses are empowered to reduce their emissions in any way they see fit, minimizing their costs and the costs for their customers.

Summary: Compliance curves shown in public hearing on August 23rd

Phillips 66 commented in the public hearing on August 23 that two slides showed two different carbon intensity standards: one showing the linear reduction and the other showing the 20% reduction by 2034. They also recommend that Ecology set the carbon intensity standard at a gradual, linear reduction over the lifespan of the program as in the first compliance curve shown in the hearing.

Response: Compliance curves shown in public hearing on August 23rd

In regards to the two compliance curves shown in the August 23rd hearing, one was intended to be an example compliance curve and the other was updated to show what had been proposed in the draft rule. Ecology clarified this in the slides that were posted to the webpage after the hearing.

Summary: Statutory biofuels requirements

Gevo Inc. noted that the statute forces the carbon intensity reduction to pause at 10% if the biofuels requirements in the statute are not met, and suggests including language as to how Ecology plans to meet those requirements.

Response: Statutory biofuels requirements

Ecology will work to meet the biofuels requirements in statute, but will not include any additional language to that effect in this rulemaking.

Summary: Technology neutral

One commenter encouraged Ecology to maintain a technology-neutral position.

Response: Technology neutral

Ecology will maintain a technology-neutral approach to implementing the Clean Fuel Standard.

Summary: Economic modeling

bp America requested that Ecology perform economic modeling for the "Least Cost" scenario from the ex-ante economic analysis performed as part of a report to the legislature because the "Least Cost" scenario analyzed a more linear carbon intensity reduction timeline and the "Accelerated Reduction" scenario showed the 20% reduction by 2034 timeline.

Response: Economic modeling

Ecology feels that the "Accelerated Reduction" scenario in the report sufficiently captured this carbon intensity reduction scenario and showed that such a carbon intensity reduction standard was feasible. The purpose of the two different scenarios was to study the different compliance paths and assess which best achieved the program's goals while also determining which was feasible. Based on this analysis, Ecology determined that the compliance path in the "Accelerated Reduction" scenario was both feasible and the best course for meeting the program's goals to reduce the carbon intensity of transportation fuels. The estimated price impacts of these scenarios, including the "Least Cost" scenario, are detailed in the report. Additionally, the economic analysis completed by BRG Energy & Climate is separate from the rulemaking process and outside the scope of this rule.

Clarifications

Commenters: 3Degrees (comment B-20-12), Airlines for America (O-10-6), Anonymous (comment I-74-4), bp America (comment B-3-8), Climate Solutions (comment O-21-11), Pacific Merchant Shipping Association (comment O-4-4), Port of Seattle (comment A-4-12), UC Davis (comment OTH-7-6), WSDOT (comment A-3-2), WSPA (comment O-30-17), NW Energy Coalition (comment O-26-13).

Summary: Abbreviations

- Ground support equipment is defined but not included in the list of abbreviations.
- The abbreviation for "RFS" is listed twice.
- An abbreviation for "eFV" should be added.

Response: Abbreviations

eGSE and eFV have been added to the list of abbreviations. The duplicate abbreviation for RFS has been removed.

Summary:

- WAC 173-424-220(7)(a) is missing the word "cargo" between "electric" and "handling."
- The definition of "illegitimate credits" contains errant text.
- WAC 173-424-220(6)(a) and WAC 173-424-500(4) contain typos.
- WAC 173-424-630(4)(b) should reference Table 6 instead of Table 7.
- WAC 173-424-600(5)(b) references the wrong subsection and contains a missing word.
- WAC 173-424-430(1)(a) should reference "WFRS" rather than "WA-RFS."
- WAC 173-424-560(1)(d)(viii)(B) should reference "HRI" rather than "FCI."
- The reference to subpart K in the definition of "Renewable Fuel Standard" should be removed since this subpart is now obsolete.

Response: All of these issues have been corrected in the rule.

Summary: The word "Ecology" should be capitalized in the proposed rule to clarify it refers to the Washington State Department of Ecology and not the term ecology generally.

Response: Rule language is filed with the Office of the Code Reviser through the Order Typing Service. The Office of the Code Reviser has specific formatting requirements and does not capitalize "Ecology."

Summary: WAC 173-424-540(4) uses the new term "incremental aggregator." Should this reference be to the backstop aggregator instead? The incremental aggregator should be subject to the requirements in WAC 173-424-220(11) and the backstop aggregator should be eligible to act as the incremental aggregator.

Also, WAC 173-424-220 doesn't reference the aggregator or credit aggregator, even though these terms are defined. These terms should be used as applicable for consistency.

Response: We have removed the two references to the term "incremental aggregator" in the rule, as we will not have an incremental aggregator. The term "aggregator" is used in WAC 173-424-220 and in other sections of the rule, as defined.

CCA/CFS interaction

Commenters: International Emissions Trading Association (comment O-5-1), Washington Policy Center (comment O-29-1)

Summary: The International Emissions Trading Association commented that the Climate Commitment Act, Washington State's cap-and-invest program, should drive the majority of the state's greenhouse gas reductions, with the Clean Fuel Standard supporting its goals.

The Washington Policy Center commented that the Clean Fuel Standard should be integrated with the Climate Commitment Act, and that the accounting of environmental benefits of other climate policies should not be double-counted in the Clean Fuel Standard. They state that the Clean Fuel Standard does not reduce emissions beyond what the Climate Commitment Act will achieve, and recommend that Ecology broaden the scope of the Clean Fuel Standard to encourage innovation and drive further reduction of greenhouse gases.

Response: The Clean Fuel Standard is intended to work side by side with other policies, including the Climate Commitment Act and the Zero Emission Vehicle standard, to reduce statewide greenhouse gas emissions according to state law. The policies are complementary and work together to target one of our highest-priority emission sources—transportation—and are necessary to avoid the worst impacts of climate change. Although they are complementary, the Clean Fuel Standard and the Climate Commitment Act are separate programs, and integrating or combining transportation-related emissions reductions between the two programs is outside the scope of this rulemaking.

Our statute does not require detailed quantitative accounting for GHG emission reductions or other environmental benefits attributable to specific regulatory programs, and doing so would be beyond the scope of this rulemaking.

Ecology appreciates the comment that the program encourage the innovation of technologies that reduce the carbon intensity of transportation fuels, and will work to do so in this and future rulemakings.

Compliance period

Commenters: Judy Hallisey (comment I-3-2), Port of Seattle (comment A-4-1), Coalition for Renewable Natural Gas (comment O-14-2), WSPA (comment O-30-6)

Summary: The Port of Seattle and Coalition for Renewable Natural Gas support the proposal to make 2023 a compliance year, with a carbon intensity reduction of 0.5%, and also to begin the credit market in 2023. The Western States Petroleum Association recommends 2023 be a reporting-only year with the carbon intensity reduction requirement beginning in 2024. Their concern is that the new program will take time to become fully operational and that regulated parties will need time to adjust to a new regulation.

Judy Hallisey writes that the compliance period for the fossil fuel industry should be faster than what is currently proposed.

Response: Ecology has proposed the most rapid reduction of carbon intensity possible under the department's regulatory authority, including making 2023 a compliance year instead of a reporting-only year, with a carbon intensity reduction requirement of 0.5%. Ecology aims to address climate change as quickly as possible, while balancing the challenges of program implementation and learning from the experience of clean fuels programs in California and Oregon. Learning from other jurisdictions will assist in making the first year of the program as smooth as possible, while Ecology works to address any challenges that arise. The proposed carbon intensity reduction and reporting period strike that balance, and as such Ecology maintained the compliance period outlined in the current rule text.

Credit aggregator requirements

Commenters: Smart Charging Technologies (comment B-5-5), 3Degrees (comment B-20-1), SRECTrade (comment O-11-1).

Summary: Timelines for credit aggregator credit generation and designation

Smart Charging Technologies comments that the draft rule, in its general requirements for credit aggregators in WAC 173-424-140(3)(b)(ii), delays credit generation for two whole quarters compared to regulations in California and Oregon. Smart Charging Technologies requests that the rule be revised to reflect the same timelines found in California and Oregon. Additionally, SRECTrade recommends that the designation of an aggregator be allowed to take affect the same calendar quarter as the designation request is received by Ecology.

Response: Timelines for credit aggregator credit generation and designation

The timeline for designating a credit aggregator aligns with Oregon's Clean Fuels Program, as Ecology has been directed to harmonize with other jurisdictions wherever possible, and as such Ecology will not adopt this requested change. This timeline reflects the pace at work Ecology will reliably be able to approve the designation request.

Summary: Credit aggregator designation form

SRECTrade, Inc recommends establishing a standardized Aggregator Designation Form similar to the Oregon Clean Fuel Program, to ensure that all parties are abiding by the same provisions.

Response: Credit aggregator designation form

Ecology will consider these comments during the development of the guidance documents and templates. As the department has been directed by statute to harmonize with other jurisdictions, the Washington form will likely be similar to those in Oregon and/or California.

Summary: Revisions clarifying credit aggregator opportunity across the program

3Degrees supports the credit aggregator opportunity and recommends revisions in the draft rule to clarify that any entity can designate a credit aggregator to act on its behalf, by removing reference and requirements related to credit aggregators from individual sections, and instead placing the details in WAC 173-424-140(3).

Response: Revisions clarifying credit aggregator opportunity across the program

Ecology has added language on aggregator designation to WAC 173-424-140(3)(b)(i) to improve clarity.

Credit clearance market

Commenter: WSPA (comment O-30-21).

Summary: WSPA requests that this section specify a date which Ecology will publish the new maximum price for each year. They also request that Ecology not inflate carry over deficits, and that carry over deficits should be moved as such in the following year entity's obligation, with no multiplier applied. The concern is that this places undue burden on entities buying credits in the Credit Clearance Market if not enough credits are offered in that market.

Response: Ecology will align with California's Low Carbon Fuel Standard and publish the new maximum price for the credit clearance market on the first Monday of April each year. This provision has been added to the rule language. Ecology will maintain inflating carry over deficits, in alignment with both California and Oregon.

The fuel supply forecast estimates that there will be a strong credit market in Washington, and there will likely be opportunity to both bank and sell credits. In both instances, Ecology aims to harmonize wherever possible with the other clean fuels jurisdictions.

Credit/deficit calculation

Commenters: Smart Charging Technologies (comment B-5-6), WSPA (comment O-30-18), UC Davis (comment OTH-7-7).

Summary: Determining the electricity use of forklifts

Ecology should specify how to determine the amount of electricity used by electric forklifts. CARB allows electricity use to be determined as measured per FSE, or as estimated using CARB approved methodology. Ecology is encouraged to adopt the same rule as CARB.

Response: Determining the electricity use of forklifts

WAC 173-424-420(3)(f) has been updated to specify acceptable methods of determining forklift electricity consumption. The primary method should be based on FSE measurement; however, we will also allow Ecology-approved estimation methods in some cases. To use an estimation method, reporting entities must demonstrate in writing that FSE measurement was either unavailable or less accurate than estimation. We intend for estimation methods to be used only when forklift chargers are not capable of providing accurate data, or when chargers are used for multiple types of equipment other than forklifts and disaggregation is not possible.

Summary: Residential EV charging estimation

Ecology should make the method they will use for EV charging estimation publicly available for feedback and improvement. It wasn't clear if the potential for proposing another method would apply broadly or on a case-by-case basis. Ecology should guard against a patchwork of inconsistent methods or asses its collective impact on the estimate.

Ecology should seek to switch away from estimation based methods in favor of direct measurement where possible.

Response: Residential EV charging estimation

We will publish our methodology for estimating non-metered residential EV charging to our CFS website and will consider informal feedback from stakeholders regarding the selected method. We will maintain the current flexibility in the rule allowing a credit generator or aggregator to propose an alternative method. There is a possibility that an alternative method with significantly higher accuracy could rely on data or technology that is not available to all credit generators. We will be consistently seeking to improve the accuracy of our approach throughout the life of the program and may decide to consider direct measurement in some way in future rulemakings.

Summary: Export and credit/deficit generation

WSPA recommends that the regulatory language in WAC 173-424-520(4)(b) and (c) be combined to read "(b) If the exporter purchased the fuel with or without the compliance obligation, the exporter will not incur credits or deficits, as appropriate, to balance out the credits or deficits originally generated."

WSPA believes that this section should make it clear that imports and exports must be reported in the quarter when they occur. WSPA recommends deleting WAC 173- 424-520(4)(d) from the regulation.

Response: Export and credit/deficit generation

Staff disagrees with the proposed combined sentence, because it does not clearly state the exporting conditions for generating or not generating credits or deficits. Therefore, staff maintains the proposed requirements.

Staff agrees with the comment to delete WAC 173-424-520(4)(d). Generally, the time (quarter) of occurrence of imports and exports is not a factor in the generation of credits and deficits. Thus, staff deleted WAC 173-424-520(4)(d).

Summary: Credit buyer should not be responsible to replace illegitimate credits

WSPA believes that a party that unknowingly purchases credits that were later found to be illegitimate should not be responsible to acquire more credits to make up for the invalidated credits.

Response: Credit buyer should not be responsible to replace illegitimate credits

According to the CFP rule, credits are recognized as soon as they are reported to avoid delay in credit transactions during review and verification. Therefore, and as with other business transactions, credit buyers are expected to perform due diligence in transacting credits. This requirement is consistent with the Oregon DEQ rule, and staff maintains the provision that requires registered parties to retire credits to replace illegitimate credits.

Summary: Credit calculation for non-metered residential EV

WSPA suggests that the order of WAC 173-424-540(3)(b)(i) and (ii) be reversed. This change would clarify the intent of the regulation to first utilize vehicle-specific methods of estimating charging and then only resort to broader averages if vehicle-specific data is unavailable.

Further, the new WAC 173-424-540(3)(b)(ii) can be modified to read "(ii) If charging data related to the specific vehicle types registered in the utility's service territory is unavailable, an average amount of electricity consumed by BEVs and PHEVs at residential chargers, based on local, state, regional, or national data."

Response: Credit calculation for non-metered residential EV

The intention of WAC 173-424-540(3)(b) is to provide alternative credit calculation methods for Ecology to choose from. Ecology will choose the preferred method considering the accuracy of the methods, availability of data, and the workload required to implement the method. Ecology also will publish the calculation method as guidance to get input from the public. Therefore, staff maintained the proposed language, and added a third method.

Credit estimation

Commenters: Coalition for Renewable Natural Gas (comment O-14-4), NW Energy Coalition (comment O-26-10), Clean Fuels Alliance America (comment O-32-4).

Summary: Reconciliation between verified operational and certified CI values

A key issue based on experience from existing CFS programs is the ability of fuel production facilities to reconcile CFS credit generation with the verified operational carbon intensity value for a given year if it is lower than the certified carbon intensity value for that year. In other words, facilities should be retroactively credited based on actual recorded CI data rather than relying on an a priori estimate for a given pathway. Doing so would ensure accurate crediting based on the actual GHG emission profile of a given energy resource.

The proposed rules state that if the verified operational carbon intensity is higher than the certified carbon intensity for a given reporting period Ecology will likely invalidate the resulting excess credits. Conversely, if the verified CI is lower than the certified CI, Ecology should issue additional credits in line with the actual GHG reduction benefit, to avoid undercounting. Pathway applicants will likely certify unnecessarily conservative CI scores (to avoid credit invalidation) and, consequently, if no reconciliation is provided, the system will underrepresent the overall GHG benefits of the CFS program. Finally, a reconciliation process would provide further incentive to lower CI scores (e.g., eliminate methane leaks, utilize clean energy, and increase process efficiency) as much as possible on an ongoing basis for each pathway, without requiring re-certification.

Ecology should include reconciliation language like that currently slated for inclusion under Oregon's ongoing Clean Fuels Program rulemaking. California has also discussed analogous true-up options in a recent pre-rulemaking workshop.

Allowing reconciliation would also facilitate the ability to look backward at the CI details of clean inputs (including RNG) used at fuel production facilities, rather than asking producers to commit firmly to what types of inputs they may buy (and from where) during the CI application process. This would allow for continuous improvements in CI performance over time, without the need for resubmittal of pathway applications.

While a "margin of safety" assigned by the producer is in line with the practices in California and Oregon, neither program prohibits the generation of any credit on a fuel that exceeds the margin. Instead, both states provide for an end-of-year reconciliation period in which a regulated party may reconcile the difference between the actual CI reported and the certified CI. Accordingly, Clean Fuels Alliance America recommends adding clarifying language to these sections to incorporate a year-end reconciliation or true up period to ensure biofuel producers are in compliance with the program. This would be similar in practice to the way in which California and Oregon handle this situation and would provide clear guidance to biofuel producers whose CI can vary throughout the year. Variance can occur in the short term for a variety of reasons (e.g., due to planned or unplanned downtime for maintenance, catalyst replacement, or switching to different grades of renewable diesel).

Clean Fuels Alliance America asks that these sections be clarified so that either an annual review of carbon intensity scores for facilities will be used to determine compliance for participants or that a minimum of 12 months will be used to evaluate the fuel carbon intensity and compliance.

Response: True-up between verified operational and certified CI values

Staff recognizes the commenters' interest in annually adjusting the carbon intensity of their fuel pathways to improve accuracy. Please refer to the response to O-32-3, under the topic 'carbon intensity/GREET model' for further information. The Clean Fuel Standard does not currently include third party verification as a requirement for fuel pathway reports, due to staff time and resource constraints. Because the certified carbon intensity of the fuel is the basis for credit generation, it needs to be conservative to avoid over-generation of credits. Staff believe that the fuel pathway holder is in the best position to determine the appropriate margin of safety to build into their CI score, based on their understanding of the variability of their process, to be appropriately conservative and avoid over-generating credits. It is also appropriate for Ecology to protect the public and consumers from buying fuel that does not meet the CI value in the label. Ecology plans to address the request for annual reconciliation of the carbon intensity of fuels, together with third party verification requirements, in future rulemakings.

Summary: Residential EV Credit Calculation

NWEC appreciates that direct metering is not a requirement to generate residential credits. We have not seen evidence that a nonmetered approach is inaccurate and unfortunately, we foresee direct metering pathways being overly burdensome for Ecology and participating entities. We understand Ecology is striving for the highest degree of accuracy for the Program and we support WAC 173-424- 540(3)(c) to allow for any necessary true-up in the event of a significant error. Credit calculations based on the total electricity dispensed, as measured through direct metering, is one area of the Program that warrants additional consideration and in the near term, we strongly recommend aligning with the Oregon CFP methodology to generating residential credits. Therefore, we support the methodology introduced in WAC 173-424-540(3)(b)(i) and encourage Ecology to consult stakeholders in the development of subsequent guidance related to calculating residential electric vehicle charging credits.

Response: Residential EV Credit Calculation

Staff appreciates the commenter's support for using non-metered credit calculation methods and Ecology's effort for higher accuracy in the credit calculation for residential EV charging. To improve accuracy, staff included a third alternative credit estimation method for residential EV charging based on publicly available information. Ecology will prepare guidance on the residential EV charging credit based on one of these three options.

Credit generation

General

Commenters: Port of Seattle (comment A-4-14), Smart Charging Technologies (comment B-5-1), California Electric Transportation Coalition (comment O-23-14), Valero (comment B-12-5).

Summary: General

It is not clear if fixed guideway buses, forklifts, etc. in use before Jan 1, 2023 will have the same credit value as those in use after Jan 1, 2023. Inexpensive equipment like forklifts and light duty vehicles that were decarbonized before implementation should be excluded because the incremental cost over their fossil counterpart was likely recovered quickly

Credit generation rights should always be given to the charging equipment owner. This would make the regulation less confusing. Different credit generators for some electricity applications is prone to conflicts and is subject to a cumbersome registration process.

Ecology should minimize unclaimed credits by adopting a methodology similar to the one CARB uses for estimating unclaimed forklift credits, and expanding it to other types of electricity credit generation. The estimated credits should be given to electric utilities.

WAC 173-424-510, and all sections that reference it, state that no credits may be claimed and no deficits may be eliminated retroactively. However, deficits may be added retroactively. The rule should provide Ecology staff with the flexibility to make case-by-case determinations to recognize credits and eliminate deficits retroactively under appropriate circumstances consistent with the objectives of the program.

Response: General

Forklifts in use before Jan 1, 2023 will not qualify to use the same EER as those in service after Jan 1, 2023. This is due to improved efficiency in newer equipment, and will mean that a higher number of credits will be awarded to newer equipment.

Making designations based on important incentives and best available data aligns with the purpose of the program and will lead to more transportation electrification. Rather than giving credit generation rights to the same entity in every electricity application, we are making case-by-case determinations based on who is incurring the most cost or bearing the biggest burden in the adoption of low carbon fuels. The registration process for a single entity will not be affected by designations for other electricity applications.

The estimation methodology used by CARB for unclaimed forklift credits relies on forklift population data from a SSRC CARB LSI study. Ecology currently does not have an equivalent dataset that accurately reflects the numbers of forklifts or other electricity supplying equipment in the state. Without additional data, Ecology cannot provide this kind of opportunity for estimating unclaimed credits. We will continue to evaluate available data to determine if this kind of credit generation can be possible in the future.

Ecology will maintain the rules prohibiting the retroactive claiming of credits and elimination of deficits. This is consistent with both California and Oregon, and the CFS statute directs Ecology to harmonize with other jurisdictions.

eCHE

Commenters: Port of Seattle (comment A-4-3), Smart Charging Technologies (comment B-5-4), CleanFuture (comment B-25-4), North West Handling Systems (comment B-28-4), e-Mission Control (comment B-29-3), Pacific Merchant Shipping Association (comment O-4-3), Northwest Seaport Alliance (comment O-13-4), California Electric Transportation Coalition (comment O-23-9), Washington Public Ports Association (comment O-31-4)

Summary: Designation of possible credit generators for eCHE

Multiple commenters support Ecology's decision to allow the owner of electric power supplying equipment to generate credits or designate credit generation to an aggregator. Some commenters said that the credit generator should be the facility operator. Another commenter said that the entity with the most accurate meter reading should be the credit generator.

Commentors also pointed out that not every electric end-use has a hierarchy of credit generators or the option to designate another entity through contractual agreement.

Response: Designation of possible credit generators for eCHE

In the final rule, the owner of electric power supplying equipment may generate credits or designate an aggregator. We have added a new subsection WAC 173-424-220(3) clarifying than any entity generating credits from electricity can elect to designate another entity to be the credit generator. We also added WAC 173-424-220(8)(c) to allow eCHE operators to generate credits if the owner of the eCHE does not generate credits.

We believe that giving the first credit generation opportunity to owners, who carry the largest financial burden for electrifying CHEs, will best incentivize transportation electrification. We also do not believe we have the current capacity to determine case by case which entity has the most accurate meter reading. The equipment owner is required to notify the operator or lessee annually that they are generating credit and the estimated annual credits and credit revenue they receive. We believe this will inform the decision making of lessees on whether they want to buy equipment themselves. If the equipment owner does not participate in the program and the lessee decides to register and generate credits, they will also be required to annually notify the owner that they are generating credit and the estimated annual credits and credit revenue they receive.

Summary: Freight system incentives

One commenter said that while credits for eCHEs will help to decarbonize parts of the supply chain, Ecology should work to incentivize freight system model shift by providing credit generation opportunities with sufficient flexibility to reduce cargo handling costs

Response: Freight system incentives

Over the life of the Clean Fuel Standard, we will be consistently looking for ways to improve and grow the program with the goal of reducing the carbon intensity of transportation fuels in Washington. We will welcome additional feedback on specific measures that could be added to the Clean Fuels Standard to incentivize freight system model shift.

eFSE/EVSE

Commenter: King County (comment A-2-9).

Summary: eFSE/EVSE

King County asked that fleet electricity charging credit generation transfer be explicitly permitted in the rule.

Response: eFSE/EVSE

We have added a new subsection WAC 173-424-220(3) clarifying than any entity generating credits from electricity can elect to designate another entity to be the credit generator.

eGSE

Commenters: Avista (comment B-16-3), Airlines for America (comment O-10-3)

Summary: eGSE

Owners of charging equipment for ground support equipment should be able to designate another entity to be the credit generator.

Ecology should also add flexible language stating that either the owner of the charging equipment or the owner of the electric ground support equipment may generate credits.

Ecology should add an EER for eGSE.

Response: eGSE

We have added a new subsection WAC 173-424-220(3) clarifying than any entity generating credits from electricity can elect to designate another entity to be the credit generator. We also added 173-424-220(10)(b) to allow eGSE owners to generate credits if the owner of the eGSE charging equipment does not generate credits. In such a case, the two entities must agree by written contract that the owner of the charging equipment will not generate credits and the owner of the eGSE accepts all CFP responsibilities.

We have updated the final rule to include an EER for eGSE in Table 4. The EER for eGSE is 3.2.

eOGV/Shorepower

Commenters: Port of Seattle (comment A-4-2), CleanFuture (comment B-25-5), North West Handling Systems (comment B-28-5), e-Mission Control (comment B-29-4), Pacific Merchant Shipping Association (comment O-4-2), Northwest Seaport Alliance (comment O-13-1), Washington Public Ports Association (comment O-31-1)

Summary: eOGV/Shorepower

Ecology should harmonize descriptions in WAC 173-424-220 subsections 8a, 8b, and 8b(i) to refer to “Fuel Supply Equipment”

Response: eOGV/Shorepower

In the final rule, WAC 173-424-220 subsections (8)(b) and (8)(b)(i) have been removed. WAC 173-424-220 subsection (8)(a) now refers to "fuel supply equipment"

Summary: eOGV/Shorepower

Some commentors support Ecology's decision to allow the owner of electric power supplying equipment to generate credits or designate credit generation to an aggregator. Some commenters asked that the facility operator be the credit generator instead of the owner. One commenter asked that a hierarchy of possible credit generators be established.

Reponse: eOGV/Shorepower

In the final rule, the owner of the fuel supply equipment is the credit generator. We believe that giving owners this opportunity will provide the maximum incentivize for the installation of more fuel supplying equipment for ocean going vessels. However, we have also added a new subsection—WAC 173-424-220(8)(b)—that states that the operator of the fuel supply equipment may generate credits if the two entities agree by written contract that the owner of the fuel supplying equipment will not generate credits and the operator accepts all CFP responsibilities.

eTRU

Commenters: Smart Charging Technologies (comment B-5-3), PineSpire (comment B-9-4), CleanFuture (comment B-25-3), North West Handling Systems (comment B-28-3), e-Mission Control (comment B-29-2), Northwest Seaport Alliance (comment O-13-3), Joint Washington Utilities (comment O-20-12), California Electric Transportation Coalition (comment O-23-11), Washington Public Ports Association (comment O-31-3)

Summary: eTRU

Several commenters gave input on which entity should be designated as credit generator for eTRUs. Some comments were in agreement with the draft rule language that the eTRU fleet owner should be the designated credit generator. Some indicated that the charging equipment owner, not the eTRU fleet owner, should be the designated credit generator.

One entity understood the rule to indicate that the credit generator was the charging equipment owner and expressed concern that this would cause confusion in practice. They suggested that for eTRUs, FSE should refer to the facility or location where the electricity is dispensed, and that the facility owner be the credit generator.

Response: eTRU

In the final rule, the owner of the eTRU fleet is the designated credit generator. We believe that placing the incentive with the eTRU fleet owner who bears significant upfront cost will maximize the adoption of eTRUs. This is harmonized with current rules in both California and Oregon.

Fixed guideway

Commenters: King County (comment A-2-6), Washington State Department of Transportation (comment A-3-3), Avista (comment B-16-2), CleanFuture (comment B-25-10), North West Handling Systems (comment B-28-7), e-Mission Control (comment B-29-5), Climate Solutions (comment O-21-9), California Electric Transportation Coalition (comment O-23-10), NW Energy Coalition (comment O-26-9)

Summary: Fixed guideway in-service date

Some commenters said that fixed guideway systems built before or after a certain date should not be treated differently under the program. One commenter asked that the in-service date be changed to 2017 rather than 2023. Another organization said that if the in-service date remains in the rule, requirements should be applied to the system or vehicle, or the in-service date should exclude rapid transit lines with dedicated right of way.

Response: Fixed guideway in-service date

Ecology has decided to retain the in-service date of Jan 1, 2023 for fixed guideway vehicles in the final rule. The purpose of credit generation for fixed guideway is to incentivize the installation of infrastructure that displaces future fossil fuels. Fixed guideway systems in place before the beginning of the program do not displace the same amount of energy as new systems. The 2023 in-service date will ensure maximum incentive for new conversion projects that take greenhouse gas emissions out of the transit sector. This decision is harmonized with both Oregon and California who also based their in-service dates for fixed-guideway systems on year one of each program. We have updated the language to clarify that transit buses are not included in the definition for fixed guideway vehicles.

Summary: Fixed guideway public fleets

Ensure public fleet owners can secure ownership rights to credits generated from publicly owned electric vehicle fleets.

Response: Fixed guideway public fleets

For public fleets, the rule sets the charging station owner as the party with the first right to credit generation. This has not changed from the proposed version of the rule. However, Ecology has included a new subsection – WAC 173-424-220(5) – relating to public transit systems that gives public transit agencies the first right to credit generation for electricity used to power transit buses or other vehicles listed in that section.

Summary: Fixed guideway & public transit

Transit agencies should be able to designate other entities to generate credits through contractual agreement.

Replace section WAC 173-424-220 (4) Fixed guideway systems with a new category “Public transit systems”

Response: Fixed guideway & public transit

We have updated WAC 173-424-220(5) to specify that public transit agencies hold the first right to credit generation for electricity used to power public transit systems. The vehicle types included in this designation can be found in this section.

Forklifts

Commenters: Suburban Propane (comment B-1-1), Smart Charging Technologies (comment B-5-2), PineSpire (comment B-9-3), CleanFuture (comment B-25-2), North West Handling Systems (comment B-28-2), e-Mission Control (comment B-29-1), Pacific Propane Gas Association (comment O-12-1), Northwest Seaport Alliance (comment O-13-2), Joint Washington Utilities (comment O-20-14), Climate Solutions (comment O-21-10), Washington Public Ports Association (comment O-31-2)

Summary: Forklifts – first right to credit generation

Some commenters agreed with the draft language stating that the forklift fleet owner should be the credit generator. Some commenters said that the owner of the forklift fueling equipment should be the credit generator. One commentor said that the forklift operator should be the credit generator. One commentor said that the entity with the most accurate meter reading should be the credit generator.

One commentor asked that language be added saying that if the owner doesn't have detailed usage and charging data, the operator may generate credits. Another commentor asked that language be added to specify that if the lessor of equipment is not actively informing the lessee they are participating in the CFP, then the lessee may act as the credit generator for equipment they lease.

Response: Forklifts – first right to credit generation

Because the decision to electrify forklift fleets and primary financial burden lies with the forklift fleet owner, we believe providing them with the opportunity to generate credits will provide the best incentive for further electrification of forklift fleets. The fleet owner is required to provide information on credits and revenue to the operator or lessee, and we believe this will inform the decision-making of lessees on whether they want to buy electric forklifts themselves. We also do not believe we have the capacity to determine case by case which entity has the most accurate meter reading. Therefore, a single entity should be designated as the credit generator in order to retain clarity in the rule.

In the final rule, WAC 173-424-220(6) has been amended. If the fleet owner does not participate in the program, the electric forklift operator may generate credits if the two entities agree by written contract that the fleet owner will not generate credits, and the operator accepts all CFP responsibilities. The operator must provide information on credits and revenue to the fleet owner.

Summary: Forklifts model year

Several commenters said that electric forklifts should not be differentiated by model year or that the 2023 in-service date is restrictive. One commentor asked that Ecology clarify the intent

of model year reporting and what model year equipment are eligible for using the EER for forklifts.

Model years should be harmonized between WAC 173-424-420(3)(f) and WAC 173-424-540(2).

Response: Forklifts model year

Because electric forklifts already in place before the program begins do not displace the same amount of energy as new equipment, they will not be eligible to use the EER for electric forklifts placed in service after Jan 1, 2023. This decision is harmonized with both Oregon and California, who also based their in-service dates for electric forklifts on year one of each program.

We have amended WAC 173-424-540(2), which now refers to forklifts from model year 2022 and earlier.

Summary: Forklifts credit revenue

Annual credits are a more reliable metric than credit revenue. The rule should be amended to require the forklift owner to notify the forklift operator of annual credits instead of annual credit revenue.

Response: Forklifts credit revenue

Staff understand the concern with the uncertainty of the credit price. The most important information that the forklift operator needs to make the decision to buy or lease a forklift is the amount of revenue. Thus, staff amended the rule to require both the annual credits and the annual credit revenue. The rule now clarifies that the average credit price from the previous year should be used. For the 2023 calendar year, the owner shall use the average of the annual average credit price in CARB and OR-DEQ clean fuel standard programs.

Summary: Forklifts in-service date

Ecology should include language that describes some acceptable routes to meeting the charging data disaggregation requirement for forklifts placed in service before and after 2023.

Response: Forklifts in-service date

Ecology will provide a guidance document that will allow credit generators for electric forklifts to calculate electricity consumption based on a combination of measurements, industry standards, and ratings on charging equipment. This calculation can be done separately for forklifts in service before 2023 and forklifts in service after 2023 without requiring data disaggregation.

Nonresidential EV

Commenters: ChargePoint (comment B-4-2), Avista (comment B-16-4), CleanFuture (comment B-25-1), North West Handling Systems (comment B-28-1), Northwest Seaport Alliance (comment O-13-7), Electric Vehicle Charging Association (comment O-19-2), Joint Washington Utilities (comment O-20-4), Climate Solutions (comment O-21-3), California Electric Transportation Coalition (comment O-23-4), NW Energy Coalition (comment O-26-3).

Summary: Nonresidential EV service provider

One commentor asked that Ecology maintain flexibility in the rule to allow for the owner or the service provider to generate credits for nonresidential EV charging. Another commentor suggested removing the service provider from the section because it is undefined and unclear what entity would fall into that category. It also could imply that service providers and electric utilities have to compete for second in line credit generation.

Response: Nonresidential EV service provider

We have clarified the rule by removing the term "service provider" from WAC 173-424-220(4)(b). The owner of electric charging equipment may generate credits. If they do not participate in the program, then the electric utility may generate credits.

Summary: Nonresidential EV credit generation

Several commenters agree that the owner of the electric-charging equipment is the default fuel reporting entity. One commenter asked that the rule allow charging station owners to transfer credit generation rights to fleet owners.

Instead of requiring a written contract between the utility and the owner or service provider, the owner or service provider should merely provide a written statement saying that they do not intend to claim credits associated with this equipment. This would reduce administrative burden.

Response: Nonresidential EV credit generation

In the final rule, the credit generator is the owner of the electric-charging equipment. If the owner does not generate credits, the electric utility may generate credits. We chose not to designate two second-in-line credit generators. The electric utility is required to invest 50% of credit revenue in transportation electrification projects, aligning with Ecology and the state's goals of broader adoption of transportation electrification.

Credits will be issued based on data provided by the owner of the charging equipment. In order for utilities or other designated entities to claim these credits, they will need to collect this data from the owner. Because of this, the final rule retains a requirement for a written agreement specifying that the owner of the charging equipment will provide the utility or designated entity with electricity data.

Summary: Nonresidential EV aggregators

The owner of the charging equipment should provide electricity to the designated "entity." The word aggregator implies that the owner will not sign an agreement with the utility.

Response: Nonresidential EV aggregators

The word "aggregator" has been replaced with the word "entity" in WAC 173-424-220(4)(b).

Summary: Nonresidential EV methodology for unclaimed credits

Credits will go unclaimed for nonresidential EV charging that is not metered. Ecology should modify California's methodology for preventing unclaimed forklift credits and expand it to other forms of unclaimed non-residential charging credits. Require electric utilities to propose an estimation methodology.

Response: Nonresidential EV methodology for unclaimed credits

The current rule does not prevent utilities from proposing such an estimation methodology to Ecology.

Summary: Nonresidential EV & backstop aggregator

Ecology should add a role for the backstop aggregator to claim nonresidential electric vehicle charging credits if the electric utility does not claim them.

Response: Nonresidential EV& backstop aggregator

WAC 173-424-220(12) states that the backstop aggregator serves as the credit generator for credits that have not been claimed under subsections (4) Nonresidential electric vehicle charging and (11) Residential electric vehicle charging. In the case that neither the equipment owner nor the electric utility claims non-residential electric vehicle charging credits, the backstop aggregator is eligible to claim those credits.

Residential EV

Commenters: Rivian Automotive (comments B-8-1; B-14-1), 3Degrees (comment B-20-3), Alliance for Automotive Innovation (comment O-16-1), Climate Solutions (comment O-21-4), California Electric Transportation Coalition (comment O-23-1), NW Energy Coalition (comment O-26-4), UC Davis (comment OTH-7-4).

Summary: Residential EV credit generation

Rather than the proposed hierarchy, base credits from residential EV charging should be split between OEMs, utilities, and aggregators based on the amount of data provided by the OEM

There should not be a provision where different parties receive base residential credits. Ecology should follow California's approach and designate only EDUs.

The hierarchy outlined for residential EV base credits in the draft rule should be adopted in the final rule.

Response: Residential EV credit generation

In the final rule, the entities eligible to generate base credits in order are the electric utility, the backstop aggregator, and the electric vehicle manufacturer. We feel that the reinvestment requirement for utilities will expand transportation electrification more broadly and is more in-line with the mission and legislative intent of the program. Over time, the market created by this policy will drive the adoption of EVs, which will benefit automakers. There are also other complimentary vehicle focused policies that will further drive adoption of EVs in the state. The primary role of this policy is to incentivize entities who have control over the fuel mix to lower carbon intensity.

Summary: Residential EV incremental credits

If Ecology moves forward with the current proposal for base credits, automakers should have preference for generating incremental credits.

Utilities and EV manufacturers should have equal opportunity to claim incremental residential EV charging credits.

It's premature to differentiate claims on incremental credits for residential electric vehicle charging based on whether charging is metered or nonmetered. This could result in multiple claims on incremental credits for metered residential EV charging. The electric utility should have first priority and the backstop aggregator should have second priority.

Allowing "any other entity" to have third priority to claim incremental credits for residential electric vehicle charging does not establish sufficient guidance or accountability. Remove WAC 173-424-220(10)(b)(iii)(C) in its entirety.

Language in WAC 173-424-420(3)(c)(ii)(B) needs to be revised to align with WAC 173-424-220(10)(b)(iii). The order of eligibility for incremental credits should be consistent with the order for base credits.

Response: Residential EV incremental credits

Utilities will remain the designated first-in-line credit generator for incremental credits from both metered and non-metered residential electric vehicle charging. The electric utility is the entity most likely to be responsible for lowering carbon intensity of electricity used for residential EV charging. We cannot give equal opportunity to claim incremental credits to two entities because that would leave no clear resolution to disputes over multiple claims to the same credits.

In the case that two entities claim incremental credits for metered residential EV charging, we believe that section 173-424-220(11)(b)(iii) of rule (previously subsection (10)) will be sufficient to reconcile these claims. The utility will be given first priority, the manufacturer of the EV associated with the FSE ID will be given second priority, and any other entity will be given third priority.

Any entity other than the utility or the electric vehicle manufacturer who wishes to generate incremental credits will be subject to the same requirements as utilities. WAC 173-424-420(3)(c) details guidance for what must be reported by any entity generating incremental credits from metered residential EV charging. We have added to this section to require nonutility credit generators to use credit revenues to increase consumer EV resources to promote transportation electrification. An itemized summary of efforts and costs will be required in their annual compliance report.

WAC 173-424-420(3)(c)(ii)(B) has been amended so that multiple claims will be resolved according to WAC 173-424-220(10)(b)(iii). If two or more entities other than utilities or electric

vehicle manufacturers report for the same FSE to generate incremental credits, no credits will be issued.

Summary: Residential EV single-family & multifamily

EV charging at single-family residences and multifamily residences should not be assigned to different generators. This prevents residents of multifamily housing from benefitting from utility programs.

Response: Residential EV single-family & multifamily

In this case, we have chosen to harmonize with Oregon's clean fuel program and align the financial incentive with the party that will make the decision on whether to install charging equipment. Multifamily residents are unlikely to have the authority or ability to install charging equipment themselves; instead, the property manager is more likely to have the ability to install charging equipment. Therefore, we wanted to align the incentive with the party making the decision to install a charger. As EV ownership increases, those living in multifamily residences will need options for charging their vehicles at home. We believe that incentivizing the charging equipment owner will lead to increased access to charging equipment making it more feasible for those living in multifamily residences to own an EV.

Summary: Residential EV base credits

Is the electric vehicle manufacturer eligible for base credits only if the backstop aggregator doesn't register for incremental credits? This language should be clarified.

Response: Residential EV base credits

WAC 173-424-220(11)(a)(iii) has been amended to refer to backstop aggregators registering under (a) of subsection 173-424-220(11) rather than (b) of subsection 173-424-220(11). This clarifies that an electric vehicle manufacturer is eligible for base credits only if the backstop aggregator doesn't register for base credits.

Credit trading

Commenters: Anonymous (comment I-74-5), SRECTrade (comment O-11-4), City of Everett, WA (comment OTH-4-1).

Summary: Credit trading and the Securities and Exchange Commission

Did Ecology submit the proposed rule for review by the U.S. Securities and Exchange Commission?

Response: Credit trading and the Securities and Exchange Commission

No, Ecology is not required to submit the proposed rule for review by the U.S. Securities and Exchange commission. The Securities and Exchange Commission only enforces federal securities laws. States, including Washington, have their own securities laws and regulators.

Summary: Backstop aggregator

Provide more clarity on how backstop aggregators will avoid the excess benefit transaction, as defined by the Internal Revenue Service, for providing credits.

Response: Backstop aggregator

Potential federal tax obligations are outside the scope of this regulation. The backstop aggregator is required to use 100% of the revenue received from the program to promote transportation electrification. During the application process, the would-be backstop aggregator will submit a detailed plan that includes financial controls that will be in place to segregate funds from the sale of credits from other moneys controlled by the organization. When selected, they will enter a contractual agreement with Ecology. In each of the following years they will submit a report that summarizes the previous year's activity. If they are found in violation with the program rule, or their contract, Ecology may rescind its designation and solicit applications to select a new backstop aggregator. After three years, the backstop aggregator will have to apply to be re-designated.

Summary: Exchange-based trading

Ecology should enable exchange-based trading of CFP credits by creating a clearing account designation.

Response: Exchange-based trading

Over the life of the Clean Fuel Standard, we will be consistently looking for ways to improve and grow the program with the goal of reducing the carbon intensity of transportation fuels in Washington. While we don't have the capacity to consider a clearing account designation in the current rulemaking, we will take your feedback into consideration for the future.

Summary: Credit price

Include explanation of how the credit price is determined so that participants can perform a cost-benefit analysis. A hand-shake agreement won't be allowed in local jurisdictions

Response: Credit price

Ecology does not determine credit prices. The clean fuel standard is a market-based system. This means that rather than Ecology setting a price, credit and deficit generators will negotiate credit prices during individual transactions. Credit sellers will report all credit transfers and prices through our credit bank and transfer system. Ecology will post a monthly credit trading activity report to our CFS webpage, which will include the average prices per credit each month.

The webpage will show how credit prices change throughout the year, and will also house quarterly data summaries and annual reports.

Definitions

Commenters: King County (comment A-2-8), WSDOT (comment A-3-1), Port of Seattle (comment A-4-11), PineSpire (comment B-9-2), Avista (comment B-16-1), 3Degrees (comment B-20-8), CleanFuture (comment B-25-8), PMSA (comment O-4-1), NW Seaport Alliance (comment O-13-5), Alliance for Automotive Innovation (comment O-16-6), Joint Washington Utilities (comment O-20-1), Climate Solutions (comment O-21-2), Washington Environmental Council (comment O-24-2), NW Energy Coalition (comment O-26-2), Hydrogen Coalition (comment O-28-1), WSPA (comment O-30-8), Washington Public Ports Association (comment O-31-5), UC Davis Policy Institute (comment OTH-7-8).

Summary: Fixed guideway

One commenter requested an expansion of the definition of "fixed guideway" to include all fixed route public transit buses and not be limited to bus rapid transit. Another commenter requested clarification on why bus rapid transit was included in the definition and other transit systems with stationary fueling were not included.

Response: Fixed guideway

Because bus rapid transit systems do not have external power sources, we have removed bus rapid transit from this definition, consistent with Oregon's revised rule. We have also expanded the definition to include trolley buses and streetcars. We have also changed "fixed guideway" to "public transit systems" in WAC 173-424-220 to provide public transit agencies the right to credit generation for public transit buses (see response to "Credit generation: Fixed guideway" for further details).

Summary: Ferry vessel

One commenter requested a definition of "ferry vessel" be added to the rule to enable credit generation from the electrification of ferry fleets.

Response: Ferry vessel

We have added the suggested definition of "ferry vessel" to the rule. Ferry vessels have the option to opt-in to the program and earn credits, and are eligible for advance credits, but will not receive credits until they have an approved EER.

Summary: Yard trucks and cargo handling equipment

Multiple commenters questioned why the definition of cargo handling equipment excludes yard trucks. Commenters recommended that yard trucks either be added into the definition of cargo handling equipment, or be included as a separate definition. Commenters also requested that additional types of cranes be added to the definition of cargo handling equipment.

Response: Yard trucks and cargo handling equipment

Ecology agrees that yard trucks are important to include in the program. We have added a separate definition for yard trucks into the rule, consistent with California's program. The definition of cargo handling equipment says, "Equipment includes, **but is not limited to**, rubber-tired gantry cranes…" (emphasis added). This definition does not exclude other types of cranes. Ecology therefore does not believe it's necessary to edit this definition.

Summary: Initial compliance period

One commenter requested adding a definition for "initial compliance period" and clarifying the voluntary activities allowed during the initial compliance period.

Response: Initial compliance period

We have added a sentence to WAC 173-424-510, where the initial compliance period is specified, stating: "Registered entities can generate and transact credits during the initial compliance period."

Summary: Importer

One commenter requested that the words "and delivered" be removed from the definition of importer, stating that contractual ownership of the biomethane is sufficient to determine who is the importer.

Response: Importer

We have revised the definition to say, "…and contractually delivered for use in Washington through a book and claim accounting methodology." This clarifies the use of the word "delivered" and is also consistent with Oregon's newly revised rule.

Summary: Base credits

One commenter recommended adding "or statewide mix" to the end of the definition of base credits. They also recommended clarifying how the statewide mix is impacted if utilities claim a utility-specific mix, and to remove references to "statewide mix" throughout the rule if entities are not able to claim the statewide mix.

Response: Base credits

For residential EV charging, utilities will be using a utility-specific CI, rather than a statewide mix. We have removed references to statewide throughout the rule where necessary for clarification.

Summary: Ocean-going vessel

One commenter requested that Ecology expand the definition of ocean-going vessels to include additional vessel types. They also requested availability of a pathway application for a Tier 2 EER-adjusted pathway for vessels using shore power electricity instead of diesel that do not meet the definition criteria.

Response: Ocean-going vessel

We will not be expanding the definition at this time. Expanding the definition would require adding an EER for each vessel type, which Ecology does not have capacity for at this time. We

may consider addressing this in a future rulemaking. Nothing in the rule prohibits these vessels from submitting a Tier 2 EER-adjusted pathway application under WAC 173-424-620.

Summary: Electric fuel supplying equipment and owner

One commenter noted that there is a reference to "the owner of the electric power supplying equipment" and that neither "owner" nor "electric power supplying equipment" are defined. They requested the use of the term "electric fuel supplying equipment" instead of "electric power supplying equipment."

Response: Electric fuel supplying equipment and owner

Ecology agrees that a consistent term should be used, and has updated all references to "electric fuel supply equipment." Because "fuel supply equipment" is already defined, Ecology is not adding a separate definition for "electric fuel supplying equipment." Ecology is also not adding a separate definition for "owner" because the term is used in different contexts throughout the rule.

Summary: Fuel cell electric vehicle, fuel cell, and electric vehicle

Multiple commenters requested adding the definitions of "fuel cell electric vehicle" and "fuel cell." They also requested that "fuel cell vehicle" be included in the definition of "electric vehicle."

Response: Fuel cell electric vehicle, fuel cell, and electric vehicle

We have added a definition for "fuel cell" to the rule. While EVs use electricity as a primary fuel, fuel cell electric vehicles use hydrogen as a primary fuel. Consistent with California, Ecology is classifying EVs as battery electric vehicles and plug-in hybrid electric vehicles. Fuel cell electric vehicles are categorized separately.

Summary: Multifamily housing

Multiple commenters requested the definition of "multifamily housing" be edited since the existing definition does not reference parking availability or management. One commenter requested the definition be changed to align with Oregon's definition, while another commenter requested a different definition.

Response: Multifamily housing

Ecology agrees that the definition of multifamily housing should be more directly tied to vehicle charging and parking. Ecology has updated the definition consistent with the definition in Oregon's rule.

Summary: Single-family residence and residence

Multiple commenters requested that the definition of "single-family residence" be removed, as it is not used in the rule. Another commenter noted that the term "residence" is used in the rule and not defined, and provided a potential definition for the term.

Response: Single-family residence and residence

Ecology has removed the definition of "single-family residence" and has added a definition of "residence." The definition of "residence" was written to delineate it from multifamily housing.

Summary: Disproportionately impacted communities and vulnerable populations

Multiple commenters suggested that the definition for "disproportionately impacted communities" include the definitions of "overburdened communities" and "vulnerable populations" from the HEAL Act. One commenter specified that the rule should include a separate definition for "vulnerable populations" that is identical to the HEAL Act definition. The commenter also suggested consistency with the CCA definition of "overburdened communities."

Response: Disproportionately impacted communities and vulnerable populations

Because Chapter 70A.535 RCW uses the term "disproportionately impacted communities," Ecology is maintaining that term for consistency with the authorizing statute. The law states that revenue must be spent on "a disproportionately impacted community identified by the department of health." Ecology is therefore not changing this definition in order to ensure consistency with the statute.

Summary: Blendstock

One commenter requested the definition of "blendstock" to be edited because it was too broad to refer to fuels regulated by the program.

Response: Blendstock

The current definition of "blendstock" is consistent with the definitions used by Oregon and California in their clean fuels programs. When the term is used in the rule, it generally appears with other qualifiers (e.g. "petroleum blendstocks") that delineate the type of blendstock referenced. Ecology is therefore not changing this definition.

Summary: Export

One commenter noted that a definition for "export" appears twice in the rule, and the definitions appear inconsistent. They recommended the removal of one of the definitions.

Response: Export

The definition for "export" that appears in (145)(l) refers to the "transaction type." Both definitions are needed since they are provided in different contexts. However, we have added "from locations within Washington State" to the definition in WAC 173-424-110(66) for consistency.

Summary: Fuel Pathway

One commenter requested that the phrase "well-to-wheel" be removed from the definition of "fuel pathway" since some fuel pathways have no wells involved.

Response: Fuel Pathway

Ecology is maintaining the existing definition for consistency with California. "Well-to-wheel" is a common term used in lifecycle analysis.

Summary: Fuel Supply Equipment

One commenter requested that the definition of "fuel supply equipment" include an explicit statement that the definition does not include traditional gasoline and diesel dispensers at service stations.

Response: Fuel Supply Equipment

The existing definition uses the term "alternative fuel," which already excludes traditional gasoline and diesel. Therefore, we are not making any changes to this definition.

Summary: Indirect land use change

One commenter asked that the regulatory language identify the specific CARB protocol noted in this definition.

Response: Indirect land use change

The protocols mentioned in this definition are the models used. We have revised the definition of "WA-GREET" to explicitly state the models that contributed to the WA-GREET model (OPGEE, AEZ-EF, and GTAP), consistent with California's definition.

Summary: Low CI electricity

One commenter stated this definition should more specifically refer to "average Washington grid electricity" instead of "average grid electricity."

Response: Low CI electricity

We have revised this definition as suggested.

Summary: Incremental credit

One commenter recommended replacing the term "renewable electricity" with "low CI electricity" in this definition to avoid eliminating the possibility of smart charging generating incremental credits.

Response: Incremental credit

The term "renewable electricity" in this definition is referring to RECs, and therefore cannot be changed to "low CI electricity."

Summary: Station Operational Status System (SOSS)

One commenter sought clarification if Ecology will be maintaining its own version of SOSS. They requested a modification of the definition if Ecology will not be using California's tool.

Response: Station Operational Status System (SOSS)

When this term is used in the rule, it is referenced as "…similar to SOSS." Ecology is keeping the existing definition because it is referencing California's tool when used in the rule.

Summary: Position Holder Sale

One commenter noted that Oregon has separate transaction types for "position holder sale with obligation" and "position holder sale without obligation" and noted that the existing

definition suggests that only “position holder sale without obligation” is allowed in the program. They recommended removing this definition to avoid confusion.

Response: Position Holder Sale

We have changed “position holder sale” to “position holder sale without obligation.” We have also added a definition for “position holder sale with obligation.” This is also consistent with Oregon’s rule.

Summary: Unspecified Source of Electricity

One commenter stated that the applicability of this definition was unclear, and requested an example be added to the definition. They also requested the bases for the emissions factor used in the definition, and stated that it should instead be 0.229 metric tons CO2e per MWh to match the Washington grid electricity factor.

Response: Unspecified Source of Electricity

The emissions factor used in the definition section of the rule is taken from the Washington Clean Energy Transformation Act (CETA), RCW 19.405.070(2). Unspecified source electricity is electricity generated from outside of Washington where the specific source is unknown. The 0.229 number refers to the state grid electricity factor, which includes electricity that is produced from both specified and unspecified sources of electricity. However, RCW 19.405.030(39) defines unspecified electricity as an electricity source for which the fuel attribute is unknown or has been separated from the energy delivered to retail electric customers.

Summary: Renewable power

One commenter stated the term “renewable power” in WAC 173-424-540(4) was ambiguous and not defined.

Response: Renewable power

We have changed the term to “renewable electricity” in this subsection for clarity. This includes electricity generated from renewable resources such as wind and solar.

Summary: Renewable hydrogen

One commenter requested this definition be expanded to include hydrogen produced from renewable hydrocarbons and not only biomethane or renewable natural gas.

Response: Renewable hydrogen

The existing definition of “renewable hydrogen” is feedstock-based. This commenter is requesting an end-result definition, rather than a definition focused on upstream sources. We are keeping the existing definition focused on upstream sources because they are traceable, and to maintain consistency with California’s definition.

Designation

Commenter: WSPA (comment O-30-13).

Summary: Designation of Fuel Reporting Entities for Liquid Fuels

Since this section covers situations where the transferor retains the credit or deficit generator role for the fuel being transferred, WAC 173-424-200(2)(b)(ii)(A) and (B) language should be revised to "... the transferor retains ..." rather than "...the recipient accepts".

Response: Designation of Fuel Reporting Entities for Liquid Fuels.

Staff amended the rule text in WAC 173-424-200(2)(b)(ii) to address the comment.

E15 and E85

Commenters: bp America (comment B-3-5), POET (comment B-23-7).

Summary: Higher bioethanol ethanol blend

Through our inquiry and outreach, we have found that there is ambiguity from regulators regarding the legality of E15 gasoline sales within Washington. As E15 is a gasoline product approved for use at the federal level in almost all passenger vehicles, regulated parties may wish to include it in compliance planning. We encourage Ecology to work with Washington's Department of Agriculture to ensure there are not state-level regulatory impediments to its use in the state.

Washington drivers and retailers would save tens of millions of dollars annually by converting from E10 to higher ethanol blends such as E15. Not only are wholesale prices for higher-bioethanol blends cheaper, but they also generate of credits under the national Renewable Fuel Standard program (known as Renewable Identification Numbers or "RINS"), which afford an additional value stream to fuel providers that allows them to further pass on price reduction benefits to consumers.

The progressive benefits from price savings are also relevant to the ultimate success of Washington's ambitious climate goals given the integral role transportation plays in the State's economy. Bioethanol presents no tradeoff between economic competitiveness on the one hand, and achievement of the decarbonization goals on the other. Bioethanol is good for both the economy and the environment. It is a win-win opportunity for Washington's transportation sector.

Response: Higher bioethanol ethanol blend

The authority to establish fuel specifications and labeling standard is with Washington State Department of Agriculture (WSDA); and Chapter 16-662 WAC establishes these standards. Staff recommend stakeholders review Chapter 16-662 WAC and approach WSDA to address the above concern. Ecology will also consult with WSDA in the establishment of these fuels specifications standards.

Economic analysis

Commenter: WSPA (comment O-30-9)

Summary: The Western States Petroleum Association wrote that the cost-benefit analysis performed by Berkeley Research Group on behalf of Ecology does not account for the cost impacts of the Clean Fuel Standard and other Washington climate policies, including the Zero Emission Vehicles program, the Advanced Clean Truck rule, and the overall state greenhouse gas reduction goals. They recommend Ecology perform a cost analysis as part of this rulemaking that incorporates all the climate policies in Washington.

Response: Ecology was required by statute RCW 70A.535.090 to hire a third-party contractor to perform a one-time ex ante independent analysis on the estimated impact on the cost of gasoline and diesel per gallon attributable to the Clean Fuel Standard. The impacts to cost per unit of fuel, as well as the benefits for low-carbon fuels and public health, that are attributable to the Clean Fuel Standard can be found in that report. The report incorporated other climate policies such as Zero Emission Vehicles and Advanced Clean Trucks to begin to better understand the interaction between the policies but is not an exhaustive study as the legislative direction was to study the potential impacts specific to the Clean Fuel Standard.

The comment notes that the report attributed certain price impacts to certain policies, but that the report noted that the detailed health benefits were difficult to attribute to each individual policy. This is due to the recommendation of the third-party contractor and the availability of price and market data in contrast with the availability of granular air quality data: the report noted that it was not possible with the resources and time available for this report to differentiate with appropriate certainty which policy was responsible for which reduction of an air pollutant.

Unless exempted under the APA, Ecology performs a regulatory analysis for every rulemaking, which addresses the potential economic impact of each rule. The Climate Commitment Act performed their own regulatory analysis and economic and market modeling and analysis[3], also conducted by an independent third party.

We note that the other policies (CCA and ZEV/Clean Vehicles Program) are not likely to have additive or compounding effects on the costs in combination with the CFS rule, though they all impact transportation fuels directly or indirectly. On the contrary, inclusion of assumptions consistent with CFS and ZEV in analysis of the CCA (see Final Regulatory Analyses for Chapter 173-446 WAC) had minor downward impacts on allowance prices and costs. The incentives to reduce greenhouse gas emissions under each of the programs work collectively to reduce needed compliance efforts for other programs. For example, ZEV reduces demand for high CI transportation fuels, and CCA generates incentive to reduce GHG emissions from the transportation sector and other high-emitting fuels used in other sectors. These incentives drive

[3] https://ecology.wa.gov/DOE/files/4a/4ab74e30-d365-40f5-9e8f-528caa8610dc.pdf

down demand for petroleum fuels, thus reducing the average CI of fuels across the state in support of CFS goals. Simultaneously, CFS creates incentives to reduce CI of transportation fuels, which in turn puts downward pressure on the compliance burden associated with these fuels under the CCA. The costs estimated for the CFS program are independent of these mitigating effects. On the benefits side, the BRG analysis included the ZEV mandate under both the baseline and relevant policy scenario, so the emissions reductions of ZEV are not part of the difference between emissions under the baseline and the CFS rule.

This rulemaking is related only to the Clean Fuel Standard, not other climate policies, and so a cumulative analysis of all climate policies will not be conducted as part of this rulemaking.

EER

Commenters: Washington State Department of Transportation (comment A-3-5), Port of Seattle (comment A-4-16), Smart Charging Technologies (comment B-5-8), CleanFuture (comment B-25-11), NW Alliance for Clean Transportation (comments O-2-2; O-8-2), Airlines for America (comment O-10-4), Joint Washington Utilities (comment O-20-13), Climate Solutions (comment O-21-17), California Electric Transportation Coalition (comment O-23-8), UC Davis (comment OTH-7-11).

Summary: Difference in EER calculation for fixed guideway system and bus

We request clarification on why EERs for non-fixed guideway transit are calculated differently than bus rapid transit.

Response: Difference in EER calculation for fixed guideway system and bus

The EER comparison is between the alternative fuel-vehicle technologies against conventional fossil fuel-based vehicle technology. Thus, the electric fixed guideway fossil fuel is compared against a gasoline/diesel based conventional vehicle system; and the preferred basis of comparison for travel is megajoule-per-person-mile as fixed guideway systems may differ in their carrying capacity (in the number of people they carry) and their usage (the miles they travel in a year). On the other hand, other electric vehicles are compared against the gasoline or diesel based on their vehicle categories (LD, MD, HD). The basis of comparison for travel is the megajoule-per-miles traveled.

Summary: EER for eGSE and eOGV in Table 4

- There is no EER for eGSE. Suggest following Oregon recommendation, which is 2.60 relative to diesel and 3.56 relative to gasoline. This is in line with cargo handling equipment and forklifts.
- There is no EER listed for eOGV. Recommend inclusion in line with both the Oregon and California programs, which include EER for ocean going vessels of with an EER value of 2.6 relative to diesel.

- We support the Energy Economy Ratio ("EER") values as listed in Table 4. However, Electricity/Ocean Going vessels are missing from Table 4.
- All of the EER values put forth by Ecology in Table 4 are identical to the EER values that already exist for the same fuel/vehicle combinations in Oregon. A4A encourages Ecology to include in Table 4 the same EER for eGSE that OR-DEQ has proposed for purposes of the Oregon CFP.

Response: EER for eGSE and eOGV in Table 4

Staff included the EER values based on CARB and OR-DEQ rules as follows:

- Electric ground support equipment (eGSE) will have an EER of 3.2.
- Electric Ocean Going Vessel (eOGV) will have an EER of 2.6.
- Trolley Bus will have an EER of 2.1, similar to streetcars.

Summary: EERs for other fuel-vehicle technologies

CleanFuture suggests that a pathway application for a Tier 2 EER-adjusted pathway under WAC 173-424-620 for other vessels using shore power electricity instead of diesel fuel is an appropriate treatment for vessels that do not meet the criteria of WAC 173-424-110 (100).

WAC 173-424-620(3) of the proposed rule allows only battery electric and hydrogen fuel cell propulsion technologies to apply for specific EER scores under the CFS program. We do not see reason to limit propulsion technologies to battery-electric and hydrogen fuel cell propulsion technologies.

The draft rules allow some low-carbon fuels to earn CFP credits for certain end-use applications, but electricity cannot due to lack of an EER. Joint Washington Utilities see this imbalance as resulting in an uneven playing field and an unnecessary limitation on the positive role electricity can have in the CFP. Joint Washington Utilities believe this imbalance can be easily rectified by offering a route to obtaining an EER for any current or future electric vehicle end use through:

- Using conservative default EER for recreational boats, electric agricultural mining and logging equipment, electric sweepers/scrubbers, electric tow tractors, electric planes, electric locomotives and other electric off-road or marine equipment; or
- A path to establishing new electric EER for end-uses that do not have one.

Another important method for avoiding unclaimed credits and stimulating electric transportation development into new end uses is for Ecology to create, in the final rule, a conservative, default Energy Economy Ratio (e.g., 2.0) that electric end-uses can elect to use.

The provision on EER Tier 2 applications limits it to electricity. While this is the most likely scenario, opening up this limitation could spark innovation in a broader array of vehicle/fuel combinations. The provision also may rely on 3 months of data, raising a question of whether

the period can adequately account for potential seasonal impacts on battery performance, to accurately estimate EER under "average" conditions.

Response: EERs for other fuel-vehicle technologies

The rule allows registered entities to apply for vehicles used for transportation purposes, including vessels other than Ocean Going Vessels. Ecology established EER values for fuel-vehicles based on the experience of CARB and OR-DEQ. Therefore, staff encourage registered entities to apply for a specific EER for other fuel-vehicle technologies used in Washington.

Staff amended WAC 173-424-620(3) to allow for the application of specific EERs for other fuel-vehicle technologies.

Staff will consider the comment on seasonal variability of EER and the minimum data requirement in a future rulemaking.

Summary: Advance crediting and EER provisions be technology-agnostic

NW Alliance for Clean Transportation does not believe that the proposed approach with regard both to Advance Crediting, and to applying for new EER scores, is compatible with The Department's technology-agnostic approach, because The Department is favoring battery-electric and hydrogen fuel cell technologies over other propulsion technologies that reduce GHG emissions in the transportation sector. They suggest that all propulsion technologies that reduce GHG emissions on a CO2e / MJ basis below the current CFS-compliance level be considered eligible to apply both for Advance Credits, and in the event that new technologies are developed, for their own defensible EER score. They further request that the Washington State Department of Ecology insert language confirming that such applications will be judged exclusively on the merits of the project's, or the technology's, ability to reduce GHG emissions.

Response: Advance crediting and EER provisions be technology-agnostic

The development of new EER scores is intended to account for the displacement of fossil fuels for a particular vehicle technology, and all types of fuel-vehicle technologies are allowed to propose new EER supported with data. Staff will continue to explore the eligibility of other fuel-vehicle technologies in the advance crediting program in a future rulemaking, after consultation with relevant state agencies. See the topic "Advance credits" for a response to the advance crediting portion of this comment.

Environmental justice

Commenters: Judy Hallisey (comment I-3-3), Allen Flaa (comment I-73-1), Annie Phillips (comment I-147-1), Terri Lindeke (comment I-148-1), Gary Seeman (comment I-389-2), Lee Keim (comment I-568-1), Puget Sound Clean Air Agency (comments A-1-2; A-5-3), King County (comment A-2-4), Port of Seattle (comment A-4-4), ChargePoint (comment B-4-3), 3Degrees (comment B-20-4), POET (comment B-23-8), Earth Ministry (comment O-7-1), Electric Vehicle

Charging Association (comment O-19-4), Joint Washington Utilities (comment O-20-6), Climate Solutions (comment O-21-6), California Electric Transportation Coalition (comment O-23-12), Washington Environmental Council (comment O-24-1), NW Energy Coalition (comment O-26-8).

Summary: Consultation and Involvement of Tribes

Six comments request Ecology consult with Tribes as we work to develop the Clean Fuel Standard rule. The comments detailed that Tribes have "extensive land holdings" and are "important allies" when developing policy and there should be a requirement to "explicitly incorporate and name the existing obligation to consult with native nations".

Response: Consultation and Involvement of Tribes

Under the 1989 State/Tribal Centennial Accord and the 2012 State/Tribal Relations Act (Chapter 122, Laws of 2012), we maintain a government-to-government relationship with Tribes. We are fully committed to the principles of government-to-government consultation and cooperation with Tribes. Throughout the rulemaking process for the Clean Fuel Standard, Ecology has ensured opportunities to consult with and involve Tribes. As part of rulemaking process, Ecology sends a notice to 33 Tribes at each stage of the rulemaking. The notice contains information about the rule, its anticipated actions or impacts, and invites government-to-government consultation. There were no requests for government-to-government consultation during this rulemaking, but Ecology remains committed to that consultation as it is requested.

Summary: Focus on overburdened communities most impacted by transportation emissions

Communities that live near roadways and transportation hubs are highly impacted by transportation emissions and are in need of robust air quality improvements. Reductions in air pollutants are a key concern for environmental justice communities, which have borne and continue to bear a disproportionate environmental burden from pollution stemming from fossil-fueled vehicles. The Clean Fuel Standard needs clear alignment with the Healthy Environment for All (HEAL) Act while incorporating environmental justice reviews of air quality impacts of the Clean Fuel Standard to overburdened communities.

The Clean Fuel Standard actions that reduce greenhouse gas emissions will improve air pollutants in overburdened communities with lower carbon intensity fuels, notes the Puget Sound Clean Air Agency. "At the same time, there are unique air quality impacts and risks associated with different fuel types that warrant more thorough analysis and evaluation. These include potential increases in criteria pollutants and air toxics that endanger human health", wrote the Washington Environmental Council. They recommend that Ecology collect data on the real-world impacts of Washington's changing fuel mix, including changes in emissions of pollutants harmful to human health and the environment.

Comments include a recommendation to establish a process within Chapter 173-424 WAC to assess transportation pollutants and provide a report to the legislature that has complete a Joint Legislative Audit Committee review. Ecology, at minimum, should collect data on air toxics

and criteria pollutants so that there is a clear understanding of the impacts of the program on air quality in communities facing the brunt of transportation related air pollution. Additionally, there is recommendations to coordinate with the Climate Commitment Act's initiative, which aims to improve air quality in overburdened communities while reducing statewide GHG emissions.

Response: Focus on overburdened communities most impacted by transportation emissions

Ecology is invested in ensuring that the Clean Fuel Standard supports and integrates the environmental justice obligations and practices created under the Healthy Environment for All (HEAL) Act (Chapter 70A.02 RCW). The low-carbon fuels that the Clean Fuel Standard is designed to make more available are projected to emit fewer criteria pollutants and will reduce the negative health impacts from transportation on overburdened communities living near roadways and high-traffic areas. Additionally, electric utilities are required to reinvest 30% of the credit revenue generated by the CFS in transportation electrification in disproportionately impacted communities and are encouraged to invest even more. These actions will work to ensure an equitable transition to low-carbon transportation.

Though the Clean Fuel Standard and the Climate Commitment Act rules are separate and the two programs are run independently, Ecology has a robust culture of collaboration and information-sharing among staff, and the staff of the two programs communicate regularly. Under the CCA, Ecology has a mandate to monitor and improve air pollution in overburdened communities. Although the Clean Fuel Standard statute does not contain a similar mandate, we expect the CFS will lead to air quality improvements in communities, which are likely to be captured by the monitoring conducted under the CCA.

Ecology incorporates environmental justice considerations in all of its rulemaking and is in the process of incorporating environmental justice assessments into our work as required by the HEAL Act. This includes considering the impact to areas with environmental justice considerations and ensuring the rulemaking process is accessible to those potentially most impacted by agency decisions. However, the current timeline for implementation of the environmental justice assessments as outlined in the HEAL Act does not provide the opportunity for Ecology to incorporate them in the current rulemaking for the Clean Fuel Standard. Given the timeline of this rulemaking, we are unable to incorporate additional processes to collect and assess data as requested by commenters. Ecology is required to comply with the HEAL Act statute outlined in Chapter 70A.02 RCW. As part of that compliance, we will complete the reporting requirements and reviews of the Clean Fuels Standard to meet those obligations. As the HEAL Act is fully implemented, Ecology will work to incorporate the requirements and processes into the Clean Fuel Standard in order to continually improve how we serve communities.

Summary: Credit revenue reinvestment and criteria for project selection

<u>Credit reinvestment</u>

Several comments support the requirement that utilities must reinvest 30% of credit revenue in overburdened communities. 3Degrees requested to clarify which entities are required to reinvest and report on credit generation. They also requested that if Ecology adds parallel requirements for non-utility credit generators, the rules remain flexible to account for a wide range of businesses with varying levels of sophistication, overall financial means, and market influence. One commenter would like to see an expansion of the reinvestment requirement to include all Clean Fuels Standard program participants. Revenue investments should be maximized and directed to communities identified using tools from the Healthy Environment for All Act (Chapter 70A.02 RCW) and projects supported should be additive and not replacements. Ecology should require the reinvestment of all credits generated through the public sector into programs that reduce air pollution and prioritize disproportionately impacted communities.

Project selection

One commenter would like to see credit revenue reinvestment into the expansion of public transportation to increase access for low income and overburdened communities; stating that increasing access to what is already available is more cost effective and faster.

Four comments express concern that the rule does not provide a stringent enough criteria, guidance or oversight for the project selection process for utility credit revenue reinvestment as outlined in RCW 70A.535.080.

One commenter feels the rule does not clearly mandate reinvestment into transportation electrification and suggests that Ecology require stricter reinvestment criteria, for utility residential credit proceeds back into things like charging infrastructure, line extensions, point of sale EV rebates, etc.

Two comments reference the inclusion or consideration California's Holdback Credit Equity Projects list to inform Washington's transportation electrification programs or projects list.

Three comments request the Environmental Justice council inform, guide, and/or provide recommendations for programs and projects allocating utility revenue. There should be an environmental justice assessment performed as outlined in RCW 70A.02.060.

One commenter suggested that as Ecology and WSDOT develop a list of transportation electrification programs or projects, we should:

- Consult with the Department of Commerce and Washington Utilities and Transportation Commission to ensure the programs and projects complement existing transportation electrification work and align with utility transportation electrification plans and programs;
- Engage stakeholders, particularly public interest organizations, in the development of the list; and,

- Consider California's Holdback Credit Equity Projects list to inform Washington's transportation electrification programs or projects list.

Response: Credit revenue reinvestment and criteria for project selection

Ecology has developed rule language pursuant to Chapter 70A.535.080 RCW that requires 30 percent of the revenues generated by an electric utility from credits earned under the Clean Fuel Standard program be expended on transportation electrification projects in a disproportionately impacted community as defined by the rule. Full criteria and project lists are still in development. Ecology is working closely with the Department of Transportation to continue to develop the list and the criteria for selection of projects and those outlined in the RCW 70A.535.080, which is not comprehensive. We will consider commenters' recommendations when we are working to develop the list. We are eager to advance environmental justice through the Clean Fuel Standard and staff will work closely with the Ecology Office of Equity and Environmental Justice to ensure that we implement the regulatory program in ways that are compliant with the requirements of the HEAL Act (Chapter 70A.02 RCW).

Lastly, Ecology clarified those entities required to reinvest credits through editing language under WAC 173-424-420(3)(b)(iii) and (c)(iii), and added parallel revenue reinvestment requirements for nonutility credit generators in (c)(iii).

Summary: Reporting requirements on the credit revenue reinvestment in overburdened communities and tracking outcomes of investments

Multiple comments request increasing accountability for electric utility spending of credit revenue in overburdened communities through increasing reporting requirements outlined in WAC 173-424-420(7). As written, they are a helpful start but fall short of meeting the directives of RCW 70A.535.080. Suggestions of increasing reporting requirements include, at minimum, requiring electric utilities to report the direct benefits to overburdened communities and include a description of how the electric utility is complying with RCW 70A.535.080. In addition to reporting on spending, electric utilities should also report on allocations. Reporting requirements of credit revenue expenditure should be consistent between utilities and backstop aggregators. One comment expressed disappointment that Ecology removed the requirement for electric utilities to report their efforts to minimize adverse impacts to the electrical grid and would like to see that reincorporated.

Response: Reporting requirements on the credit revenue reinvestment in overburdened communities and tracking outcomes of investments

Reporting requirements as outlined in WAC 173-424-420 (7)(b)(v) provide the opportunity for Ecology to request additional data elements that may prescribe towards the implementation of RCW 70A.535.080. This means Ecology may require reporting data elements that can provide additional information on how investments have directly benefited overburdened communities.

A commenter noted that Ecology removed language relating to electric utilities' efforts to reduce adverse impacts to the grid, but this language was in a section related to non-residential EV charging and not credit reinvestment reporting requirements. The language stated that electric utilities must provide rate options that encourage off-peak charging and minimize adverse impacts to the electrical grid. Ultimately, this language was removed because Ecology made the determination not to include time-of-use electricity use in the program at this time.

EV purchase incentives

Commenters: Jeannine Lish (comment I-12-1), S. Jacky (comment I-13-1) Port of Seattle (A-4-8), Puget Sound Clean Air Agency (A-5-5), Alliance for Automotive Innovation (O-16-3)

Summary: Direct purchase incentives for electric vehicles

The commenters recommended the Department of Ecology offer financial incentives or rebates for electric vehicles, with two referencing a similar program as part of the California Low Carbon Fuel Standard using credit revenue generated by utilities for electric vehicle charging.

Response: Direct purchase incentives for electric vehicles

Thank you for your comment. Offering a rebate directly to consumers on the purchase cost of electric vehicles is not currently feasible as part of the Chapter 173-424 WAC rulemaking, as the focus of the program is on fuels and fueling infrastructure instead of the vehicles themselves, but this could be explored as a possibility through the electric utility requirements on reinvestment of credit revenue.

Summary: Reinvesting utility credit revenue and incentives for heavy-duty vehicles

The Alliance for Automotive Innovation mentioned a lack of requirements for how electric utilities must reinvest their residential EV charging credit revenue. Puget Sound Clean Air Agency recommended including EV purchase incentives to the list of eligible investments for electric utilities. The Port of Seattle recommended incentives specifically for heavy-duty vehicles, while three commenters recommended incentives to lower the purchase cost of electric passenger vehicles.

Response: Reinvesting utility credit revenue and incentives for heavy-duty vehicles

Electric utilities will have guidelines for how they will be required to reinvest the credit revenue earned from residential EV charging. The Department of Ecology and the Washington Department of Transportation (WSDOT) are collaborating to develop a list of example projects, and utilities must report to Ecology on how they reinvest their credit revenue. Ecology and WSDOT will consider whether EV purchase incentives, potentially also for heavy-duty vehicles as noted by the Port of Seattle, fit into the list of investment types.

Summary: Trade-in program for older vehicles

One commenter mentioned the possibility of a trade-in program for older, more gasoline-intensive vehicles for newer vehicles that use low-carbon or zero-carbon fuels.

Response: Trade-in program for older vehicles

Thank you for your comment. However, a trade-in program of older vehicles is outside the scope of the Clean Fuel Standard.

Summary: Incentives for EV charging stations at businesses and corporations

One commenter suggested incentives for EV charging stations at businesses and corporations.

Response: Incentives for EV charging stations at businesses and corporations

Businesses and other entities looking to install EV charging stations may earn credits in the Clean Fuel Standard if they register their charging infrastructure with the program and report on the electricity dispensed from that station. In some cases, they may also be eligible to earn capacity credits for the installation of the charging infrastructure. Other than the opportunity to generate credits through the above methods, offering direct financial incentives is outside the current scope of the Clean Fuel Standard.

Forecast deferral

Commenter: WSPA (comment O-30-23)

Summary: Recommend that the fuel forecast deferral should be triggered if less than 200% of the credits projected to be necessary (rather than 100%) to comply with the program are available, as regulated entities can hold CFP credits in their bank and not 100% if the credits will be offered for sale on the market.

Response: Ecology will maintain the credit threshold at 100% of credits projected to be necessary for compliance. This language directly follows the Clean Fuel Standard statute, RCW 70A.535.110, and is consistent with other clean fuel program jurisdictions, such as Oregon.

Fuel pathways

Administrative

Commenters: Valero (comment B-12-8), Neste (comment B-21-7), WSPA (comment O-30-22), UC Davis (comment OTH-7-13).

Summary: Requests to postpone calibration under force majeure

WAC 173-424-610(12)(b) requires approval from Ecology 30-days prior to missing a calibration. In the event of an upset or force majeure, or other unforeseen issue, fuel producers may not have 30-day's notice to request approval. Instead, Ecology should consider adding missed calibrations to section 13 missing data provisions. This would require full disclosure of any

missed calibrations, with proper documentation of the circumstances and also correspond to any other missing data disclosures.

Response: Requests to postpone calibration under force majeure

The rule under WAC 173-424-610(13)(c) – has a requirement for missing data under force majeure events. Staff believe the rule addresses the commenter's concern.

Summary: CARB or OR-DEQ approved fuel pathways

Neste greatly appreciates being able to use fuel pathways approved by CARB or OR-DEQ as proposed in WAC 173-424-600 Part 4 and presented in the July 18, 2022 package. This will streamline administration of Washington's CFP, and ensure a successful launch on January 1st, 2023. This approach has been very successful in Oregon and we support its application by Ecology. We also appreciate that CARB and OR-DEQ approved pathways do not also require verification in Washington. This will prevent redundant auditing, and simplify the verification process of Washington low carbon fuel producers.

Response: CARB or OR-DEQ approved fuel pathways

Staff appreciates the commenter's support for provisions related to the use of CARB or OR-DEQ approved fuel pathways.

Summary: Extension of the timeline for notifying revocation

WSPA requests setting this timeline to notify Ecology about revocation of CARB or OR-DEQ approved fuel pathway under WAC 173-424-610(9)(f)(i), from seven days to at least 14 days with at least 30 days being preferable. A seven day requirement can lead to inadvertent violations when 1) Ecology's notification is slow in being delivered to the regulated party and 2) a responsible employee is out of office for illness or vacation when the notice arrives; or 3) an emergency situation bars action for several days. Given that compliance reporting occurs on a quarterly basis, there are not practical reasons for this seven-day notice requirement.

Response: Extension of the timeline for notifying revocation

CARB or OR-DEQ revocation of fuel pathway would likely lead to Ecology revocation of the pathway, and would result in stopping related credit generation. The rule, under WAC 173-424-530(7), has requirements for mechanisms for recovering illegitimate credits. In response to the comment, staff amended the rule to extend the time to notify revocation of the fuel pathway to Ecology to 14 days.

Summary: Express the biofuel blend level

It would be informative to add the ethanol blend level in Washington gasoline and the soy biodiesel blend level in Washington diesel to the footnote of Table 6.

Response: Express the biofuel blend level

Staff included as footnote to Table 6 the ten percent ethanol blend level in Washington gasoline, and 2.5 percent soy biodiesel in Washington diesel.

Summary: Fuel pathway operational CI

If a fuel pathway operational CI is found to be greater than the certified CI, the CI should be readjusted, but the fuel pathway holder should not be found out of compliance. WSPA requests the regulatory language in the section be revised accordingly.

Response: Fuel pathway operational CI

This requirement is amended to be applicable "for non-provisional CI." We moved the amended requirement from the "approval process" section to WAC 173-424-610(15) as an enforcement requirement. For provisional fuel CI, the requirements under WAC 173-424-610(6) allows the replacement of provisionally-certified by higher operational CI. Please also read the response for the comment (O-32-4) on "margin of safety."

Application

Commenters: Valero (comment B-12-7), Phillips 66 (comment B-19-3), Neste (comment B-21-8), WSPA (comment O-30-3).

Summary: Timeline for application completeness and validation of fuel pathway

Implementation of the CFP must be robust enough to ensure that Ecology is able to process applications in a timely manner and that reporting entities are not left waiting for agency action to continue operation. Delays in pathway application processing can lead to significant issues for producers, including uncertainty around plant operation and the risk of enforcement related to action that is outside of the entity's control, as well as postponing the carbon reductions that would otherwise be achieved. WAC 173-424-610(10) limits the fuel pathway application process to 180 days of Ecology's receipt of the application. However, Ecology also has 30 days after the application is received to issue a completeness determination. If there are any further requests from Ecology, then Ecology has an additional 30 days to determine if the supplemental data is complete. After multiple back-and-forth communications, there will be no time left in the 180 days allowed to complete the initial validation. This provision should be changed to allow the 180-day denial to be extended based on the fuel pathway applicant's responsiveness and for the process to continue to CI approval. Additionally, Valero proposes that the 180-day timeframe to complete validation begin to run only after Ecology releases the pathway for validation. During that validation time period, reporting entities should be allowed to ask Ecology for a decision, and if Ecology does not provide an answer to complete the validation within one month, the validation time period should automatically be extended without the petitioner needing to resubmit the pathway or without risk of pathway denial. Ecology should prioritize review and certification of fuel pathway applications in a timely manner to ensure that the CFP remains feasible and successful at the start of the program in 2023 and that all pathways are available to obligated entities for effective compliance.

A fuel pathway review and approval deadline for Ecology staff should be incorporated into the regulation and not exceed 30 days.

WSPA requests that Ecology adds a processing deadline for Ecology to review fuel pathway applications, such as fuel pathway applications shall be deemed approved within 60 days of submission if Ecology does not review the pathway application within 60 days.

Ecology should consider adding to WAC 173-424-610 "Obtaining a Carbon Intensity" the time required for Ecology to process and approve a complete pathway application. This commitment gives renewable fuel producers certainty on when pathways CIs will be finalized. This is common regulatory language, especially in the air permitting sector, and Neste would like to request that this be added to the CFP regulation. Neste believes that six months is sufficient time to process a complete pathway application and therefore this timing should be added into the regulation.

Response: Timeline for application completeness and validation of fuel pathway

Staff recognize the importance of timely approval of fuel pathway applications for both the applicant and the associated GHG reduction impact. The provision that allows 180 days to complete the fuel pathway application is consistent with the requirements in CARB's and OR-DEQ's rules, and staff believe this is sufficient time for completing the application. The applicant also has the option to reapply once the application is complete. Thus, Ecology maintains the proposed provision for application completion.

Additionally, staff expect the fuel pathway reviewing workload to be relatively high in the early years of the program. Commenters have proposed a range of time limits for Ecology's approval process; however, staff chose to rely on the experience of other states in establishing that the 180-day time limit is reasonable. If, in the future, we determine that a different time limit would better serve the program goals, we may address it in a future rulemaking.

Summary: Clarifying the timeline for accepting fuel pathways and using temporary and provisional FPC

WSPA believes that it is beneficial to clarify the time a Temporary and Provisional Fuel Pathway Code (FPC) and the corresponding Carbon Intensity (CI) can be reported when an application is submitted. To remove uncertainty, WSPA recommends Ecology specify that any approved FPC may be used for reporting purposes, for all fuel transactions, that occur in the quarter for which a quarterly report has not been submitted to Ecology. If a Tier 1 or Tier 2 application has already been approved by California or Oregon, the FPC is reportable on all fuel transactions that occurred in the quarter for which Ecology receives the application, any differences between the CI applied for and accepted by Ecology will be trued up in a subsequent quarter.

WSPA requests that Ecology provides in WAC 173-424-610 stakeholders with the date when the agency will start accepting fuel pathway applications. This starting date is essential to allow for certified fuel pathways to be available for first quarter (Q1) 2023 reports in the CFP (i.e., ethanol, biodiesel and renewable diesel fuel can be reported as soon as Q1 2023).

Response: Clarifying the timeline for accepting fuel pathways and using temporary and provisional FPC

Staff believe the rule does specify the time and conditions for using temporary and provisional fuel pathways, including CARB or OR-DEQ approved provisional pathways. The rule also has lookup tables with CI values for different fuel pathways. Ecology will accept these applications starting January 1, 2023.

The proposed rule had already established a date for accepting Tier 2 pathway applications, July 1, 2025, but in the final rule this date has been moved up to October 1, 2024 based on stakeholder feedback.

Co-processed fuels

Commenters: Port of Seattle (comment A-4-9), Valero (comment B-12-11), Clean Fuels Alliance America (comment O-32-8).

Summary: Co-products

Valero requests that Ecology allow for credit for displacement of co-products not used for transportation fuel. Co-products from the renewable transportation fuel process that are used outside of the transportation sector, such as renewable diesel sold as heating fuel, displace fossil fuels in various uses and should receive credit for doing so by accounting for this displacement in the fuel producer's CI score. The inclusion of non-transportation uses for co-products would incentivize the use of these fuels, resulting in further carbon reductions, and would not take away from the goal to decarbonize the transportation sector. However, for co-products that are also a transportation fuel, whether sold in California or not, Ecology should continue to use the volumes as part of the allocation factor.

Response: Co-products

The CFS program focuses on reducing the carbon intensity of transportation fuels used in Washington. Thus, co-product uses that are not used in the transportation sector are out of the scope of this program. However, allocation of impacts among product and co-product is a normal part of lifecycle assessment. The co-products and associated impact allocation methods are addressed in the WA-GREET model. If the commenter's concern is not addressed in the existing model, staff will work with stakeholders to address them in the future rulemaking.

Summary: Allocation methodology for co-processed fuel with biomass

Clean Fuels Alliance America strongly encourages Ecology to build into the relevant provisions enhanced mechanisms and tools for ensuring the integrity of both the credits and the CFS program itself. These mechanisms include, but are not limited to, regular and frequent confirmation of renewable content using C-14 radiocarbon assay, applying consensus methodologies developed by ASTM International for this purpose.

The Port of Seattle requests that Ecology harmonize the co-processed fuel biomass allocation methodology (i.e. carbon isotope analysis) with that of the federal Renewable Fuel Standard and ASTM, especially for sustainable aviation fuel.

Response: Allocation methodology for co-processed fuel with biomass

Staff recognizes the commenters' concern on the importance of the accuracy of the allocation methodology to determine the biomass content in co-processed fuels. The integrity of the program, including the assignment of credits and deficits, is of great importance to Ecology. In response to these comments and other comments in B-12-4 and B-10-6, staff amended WAC 173-424-610(7)(c) to use methodologies accepted in the federal renewable fuels program and other states' similar programs for allocating renewable feedstocks to products and co-products. We believe this will provide more clarity on the approval criteria. Staff will further address the methodology and 'regular and frequent verification of renewable content' in the development of guidance documents.

Hydrogen

Commenters: Rick Fritz (comment I-69-1), Air Products (comment B-2-4), Shell (comment B-33-3).

Summary: Incorporation of complete details associated with the hydrogen production, distribution and dispensing pathways

Shell encourages the following clarifications in regards to hydrogen pathway in table 6.

- Hydrogen pathway details and clarity, similar to California's GREET 3.0:
    - Details to include distribution and dispensing (compression and pre-cooling).
    - Eligibility criteria for each pathway (e.g. transportation distance within 100 miles of the production facility.)
- Encourage the inclusion of liquid hydrogen pathway in the look up tables, similar to California LCFS.
- Compressed H2 produced in WA from electrolysis using zero-CI electricity (WAHYER) to include pathways for electrolysis generated using geothermal, hydropower, and ocean power renewable electricity.

Response: Incorporation of complete details associated with the hydrogen production, distribution and dispensing pathways

Staff will include the detailed eligibility requirements and breakdown of the carbon intensity of hydrogen pathways in Table 6 in the guidance document that staff will develop. This detailed information is also available in the WA-GREET3.0 model. Staff did not include pathways for liquid production as the carbon intensity can vary significantly based on the technology and inputs used, as well as the location of production. Thus, hydrogen suppliers will use tier 2 fuel pathway for liquid hydrogen.

Summary: Equal support to H2EV as BEV

As WA moves forward with BEV (battery EV) be sure to provide equal support to H2EV cars, buses and trucks, H2-electric trains and H2-electric ferries. Heavy loads and long haul will require H2 power. Cleaner air will start with zero carbon H2 power for most mobile uses statewide.

Response: Equal support to H2EV as BEV

Consistent with the intent of the law, Ecology focuses on reducing the carbon intensity of transportation fuels as a whole, regardless of specific technologies, and the CFS program provides similar support to hydrogen and electricity. Both electricity and hydrogen have lookup table values for representative pathways. Similarly, both electricity and hydrogen are eligible to claim infrastructure credits to promote the adoption of fuel cell vehicles and electric vehicles.

RNG

Commenters: Kate Lunceford (comment I-8-2), Generate Capital (comment B-11-2), Regenis (comment B-22-1), CleanFuture (comment B-25-6), Puget Sound Energy (comment B-31-2), Coalition for Renewable Natural Gas (comment O-14-5).

Summary: Revise efficiency adjustment factor for biogas to electricity

CleanFuture recommends that Ecology remove the efficiency adjustment factor for biogas to electricity pathways because there is no such efficiency adjustment for biomethane pathways, and no sound policy basis to distinguish between biogas-to-electricity and biogas-to-biomethane. Biogas-to-biomethane and biogas-to-electricity both offer an important avoided methane emissions benefit; this benefit should be equally realized for both pathway types. Ecology's efficiency adjustment factor will result in lesser credit generation for biogas-to-electricity and could result in Low-CI Electricity projects ceasing to operate once their PPAs run out. This would establish a state policy of encouraging these projects to shift away from electricity generation to instead deliver RNG to combustion vehicles. If Ecology's goal is to prioritize and favor biomethane pipeline injection projects over biogas derived electricity projects, then the policy justifications for this goal should be more clearly articulated.

It appears that Washington State is leaning towards incorporating an engine efficiency penalty that is similar to California's rules. The California rule penalizes electricity projects with a formula-based credits reduction for projects that achieve less than 50% electrical conversion efficiency. Regenis understands and accepts the rationale behind the need to penalize electricity projects utilizing inefficient generators. Our concern resides in the use of the 50% standard. At present, only a very limited number of technological approaches, each with very high cost structures, are available to potentially achieve that standard (i.e., certain fuel cells and unique Rankine or heat recovery-to-electricity approaches). In Regenis LLC view, it does not seem appropriate or effective to impose such a high standard on a specific industry when the associated technology is attainable from only a few high-cost vendors – in effect placing the state in a position of rewarding particular companies while also limiting project development.

Response: Revise efficiency adjustment factor for biogas to electricity

Staff recognizes the commenters' concern over the efficiency adjustment factor and its impact. The commenter recognizes the CFS requirement is consistent with the CARB and OR-DEQ clean fuels program rules. Staff believe this requires broader consultation with stakeholders in setting the right efficiency factor, especially as it may change over time as technology changes. Ecology will plan to address this in a future rulemaking.

Summary: Using biomethane from waste

It is good to contain waste methane and put it to use, particularly in a closed system. Where the problem arises is that RNG is being touted as a replacement for natural gas, which is simply not possible. There are not and will never be enough RNG sources to provide that level of supply. The other major problem is that existing pipelines are leaking a lot of methane. Instead of increasing the use of pipelines, they need to be safely removed.

The goal of creating methane reduction benefits from the program's waste sector overlap should be highlighted and the role for renewable gases expanded. Properly valuing the lifecycle CI performance of organic waste to Renewable Natural Gas (RNG)—and specifically the environmental/climate benefits of capturing and destroying methane as a powerful short-lived GHG—will be critical in helping to ensure that organic waste recyclers are able to scale up their operations in Washington and invest in best practices in maintenance/operations and in the highest quality monitoring technologies at their facilities. A portfolio of technologies is needed to decarbonize transportation, all clean fuels are well supported by the CFS.

Given RNG's ability to decarbonize any application where geologic natural gas is currently used, the CFS should support RNG displacing conventional gas for any pathway that produces a low carbon fuel for Washington.

While PSE anticipates that the majority of greenhouse gas ("GHG") emission reductions in the transportation sector will occur via electrification, renewable fuels like RNG will help support grid resiliency and can play an important role in decarbonizing larger, heavy-duty transportation vehicles. For example, a recent 2022 study by the Canadian Urban Transit Research and Innovation Consortium that included data from two American transportation agencies found that "buses operating using [RNG] can be cleaner and cheaper to operate than" battery-electric buses and fuel cell electric buses.

A further benefit of RNG is that it can be directly injected into existing gas pipelines, thereby effectively utilizing already installed refueling infrastructure. And in areas where the electricity grid currently has a high carbon intensity, RNG might be the only viable option to reduce emissions. PSE appreciates the proposed rule's recognition of how RNG will play a role in Washington's decarbonized future.

Response: Using biomethane from waste

Staff appreciates the commenters' support for the role of RNG in the CFS program. We also appreciate the commenter's insight into the role of RNG in helping grid resiliency. The program focuses on reducing the carbon intensity of transportation fuels, including RNG. RNG has an important role in reducing GHG reduction as a direct energy source and as a feedstock for other transport fuels, hydrogen and electricity. The amount of RNG production is not comparable to the consumption of natural gas; however, RNG production using various feedstocks is expected to grow through the CFS program. Ecology is committed to periodically reviewing these models and calculators to improve their accuracy. Staff appreciates input from stakeholders to improve the accuracy of the models used to estimate the carbon intensity of transportation fuels, including RNG.

SAF

Commenters: Port of Seattle (comment A-4-5), Climate Solutions (comment O-21-14), Various Aviation Entities (comment OTH-8-1).

Summary: Tier 1 simplified calculator for sustainable aviation fuel

Allow sustainable aviation fuels to apply for a Tier 1 pathway in 2023, rather than waiting until 2025 (Tier 2 fuel pathway) to greatly assist airports and airlines that want to rapidly decarbonize operations.

As currently proposed, SAF is considered a Tier 2 fuel and hence cannot generate credits for in-state generation until 2025. To meet the aggressive goals set by airport operators and airlines alike, the rule must be updated to make SAF a Tier 1 fuel. If that is not within the capacity of ECY, we stand willing to work to assist the agency via the Chapter 173- 455 WAC, Air Quality Fee Rule in ensuring maximum availability of SAF in Washington as soon as possible.

Response: Tier 1 simplified calculator for sustainable aviation fuel

Staff recognizes the interest in having a mechanism that allows AJF/SAF to take advantage of the opportunities offered by the CFS program. Currently, CARB and OR-DEQ do not have a Tier 1 calculator for AJF/SAF that Ecology can adopt for immediate use. At this point in time, Ecology plans to work through the approval of existing Tier 1 pathways and CA- and OR-approved Tier 2 pathways first, and does not have the resources to create and verify a Tier 1 simplified calculator for SAF. However, Ecology has revised the Tier 2 application date from July 1, 2025 to October 1, 2024 to address the concern. The final rule also includes three temporary fuel pathways for AJF in Table 8 that are approved in Oregon and California. CARB or OR-DEQ approved fuel pathways will be accepted as soon as program implementation starts, and the program allows for the use of temporary fuel pathways and their CI values that are approved in CARB and OR-DEQ.

Summary: Approved fuel pathways for SAF/AJF

It is important that alternative jet fuel, or sustainable aviation fuel ("SAF"), be eligible to participate in the Clean Fuels Program with an approved fuel pathway. Though SAF with an existing OR-DEQ or CARB pathway would be able to use that pathway (adjusted for Washington), our understanding is that these resources are already under contract. Thus, new SAF resources would not be eligible until 2025, when Tier 2 fuels without OR-DEQ or CARB pathways can apply. The result is that we may see SAF going to other states where it is better incentivized, unless Washington provides SAF pathways sooner. Climate Solutions strongly suggests that Ecology consider applications for SAF pathways at the beginning of the program. Aviation leads to significant climate and air pollution—in Washington, jet fuel and aviation gasoline is responsible for more climate pollution than on-road diesel. And while Washington has a stronger policy regime to address on-road gas and diesel emissions, it is very limited in addressing aviation emissions.

Response: Approved fuel pathways for SAF/AJF

Staff recognizes the importance of having a lookup table carbon intensity value for common pathways for SAF/AJF. Given the time constraint of this rulemaking, staff focused on laying out the foundational components of the program required to start the program implementation on January 1, 2023. Based on the proposed rule, the current options available for AJF/SAF are to use fuel pathways already approved in California and Oregon. The final rule adopted three temporary fuel pathways in Table 8 of the CFS rule that are approved in the Oregon and California programs.

Tier 1

Commenters: 3Degrees (comment B-20-9), POET (comment B-23-4).

Summary: Tier 1 calculator for RNG-derived electricity

3Degrees recommends the inclusion of a simplified Tier 1 calculator for RNG-derived electricity in addition to the dairy and swine digester-derived RNG calculator (WAC 173-424-110(135)). This pathway is common enough to justify a Tier 1 simplified calculator.

Response: Tier 1 calculator for RNG-derived electricity

Staff recognizes the interest to have a simplified Tier 1 calculator for RNG-derived electricity. At the start of the CFS program implementation, Ecology will have the Tier 1 calculators that have already been proposed for public review. Staff will plan to address this in a future rulemaking with stakeholder input.

Summary: Expanding the practices recognized as "Innovative" under the Tier 2 pathway

POET encourages Washington take a more active and flexible approach to evaluating and approving Tier 2 fuel pathway applications. The Tier 1 calculator does not appear to capture GHG-emission reduction values for:

i. low-carbon chemical processes

ii. use of biogas from non-dairy and swine sources, or

iii. low-carbon feedstocks,

Because of this, a Tier 2 pathway is the only feasible avenue through which a fuel producer such as POET can receive an accurate accounting for such values. Accordingly, the Proposed WAC 173-424-600 (5)(b)(viii) should expressly include the above practices as examples of innovative methods. Entities can reliably demonstrate reductions in these WA – GREET 3.0 model inputs, and incentivizing such reductions will increase the GHG benefits of the program.

Response: Expanding the practices recognized as "Innovative" under the Tier 2 pathway

Staff recognize the interest in having the flexibility and consistency in the models and calculators to recognize innovative GHG reduction measures. Expanding what GHG reduction methods are captured by the existing Tier 1 calculator would take additional time and resources than are currently available, and Ecology will benefit from time spent learning how the current Tier 1 calculator works during program implementation before expanding its application. However, staff will work with stakeholders to assess how best to address this issue, perhaps in future cycles of rulemaking.

Tier 2

Commenters: Port of Seattle (comment A-4-6), bp America (comment B-3-7), Phillips 66 (comment B-19-4), Neste (comment B-21-2), POET (comment B-23-5), Alaska Airlines (comment B-24-2), CleanFuture (comment B-25-9), LanzaJet (comment B-26-2), SkyNRG Americas (comment B-30-2), Airlines for America (comment O-10-5), Northwest Seaport Alliance (comment O-13-9), Sustainable Aviation Technologies (comment O-27-1), Washington Public Ports Association (comment O-31-8), Clean Fuels Alliance America (comment O-32-2).

Summary: Simplify Opt-in process

Simplify the opt-in process for new fuels based on its CI score and existing ASTM standards.

Response: Simplify Opt-in process

Staff understand the commenter's concern in the delay in incentivizing new fuel technologies through the CFS program. To do so, Ecology must first establish requirements to reasonably and accurately determine the fuel CI, and establish processes for reporting, recordkeeping, etc. to ensure the fuel credibly reduces GHG emissions. Ecology is required to conduct a biennial

review of fuel-vehicle technologies and fuel pathways, to identify new fuel-vehicle technology and update the rule. Therefore, consistent with rules in the neighboring states implementing similar programs, we chose to maintain the current opt-in process for new fuel-vehicle technologies with the option to continuously simplify the process.

Summary: Start date for Tier 2 fuel pathway application

The Port recommends that the timing for accepting Tier 2 pathway applications, and sustainable aviation fuel in particular, not be delayed until 2025.

In order to meet the ambitious targets of the CCA and the CFP, bp America encourages Ecology to consider in advance of July 2025 provisional pathways for the CCA and CFP that entail minor changes to existing Tier 2 pathways in California or Oregon. For example, Ecology could move forward with slightly modified liquid fuel Tier 2 pathways that include book-and-claim accounting for RNG, which are not yet included in an Oregon / California Tier 2 pathway, but its availability to Washington could be significant for meeting the biofuel 40% reduction requirement for exemption under the CCA.

Ecology should accept Tier 2 pathway applications as early as January 1, 2023, rather than from July 1, 2025. Ecology staffing level needs to be adequate to handle the pathway application workload effectively and within the deadlines.

Tier 2 fuels include alternative jet fuel, also known as SAF. Neste recognizes that many SAF pathways will be able to leverage the California LCFS or Oregon CFP pathway approvals to supply SAF to Washington as allowed by WAC 173-424-600(4). However, under Ecology's current proposal, any SAF not already approved by California or Oregon will not flow to Washington until pathways are evaluated beginning in 2025. This will delay sale of SAF into Washington, or worse, prevent a unique low CI SAF from entering the state. Neste requests that Ecology consider establishing adequate fees payable by industry stakeholders to cover expenses associated with Ecology's pathway review services and allow sales of all available low carbon fuels in Washington at the onset of the CFP program on January 1, 2023.

In order to meet the federal Sustainable Aviation Fuel Grand Challenge goal set by the Biden Administration in coordination with stakeholders to produce three billion gallons of alternative jet fuel by 2030 and our own Alaska Airlines goal of achieving net-zero carbon emissions by 2040, we urgently need access to large amounts of AJF in our hub states, including Washington. To meet the demand and need for these fuels in Washington, and to avoid further delays in production, we respectfully urge Ecology to begin accepting applications for Tier 2 fuels as soon as the Clean Fuels Program is implemented.

LanzaJet recommends the first sentence in WAC 173-424-600(5)(b) states, "Except CARB or OR-DEQ certified fuel pathways as provided in subsection (3) of this section that, ecology will start accepting Tier 2 applications no later than July 1, 2025, in which Ecology will provide 30 days notice."

To ensure that the Clean Fuels Program effectively incentivizes alternative jet fuel in the aviation sector and creates an opportunity to begin commercial scale adoption of alternative jet fuel in the state in a timely manner, SkyNRG Americas recommends that Ecology begin allowing Tier 2

fuel applications as soon as the Clean Fuels Program is implemented. Producers should not first have to apply through another jurisdiction (such as California), which could delay implementation of a Washington Clean Fuel Program pathway for 12-to-18 months and subjugate the deployment of low carbon alternative fuels in Washington to the availability/resources of another state. Making alternative jet fuels and RD eligible to apply for a Tier 2 pathway from Day 1 of the program will support and enable in-state alternative jet fuel production to begin development earlier, which could then accelerate the Clean Fuels Program towards meeting the in-state production requirement of at least 60 million gallons.

The Northwest Seaport Alliance encourages Ecology to consider accepting applications for Tier 2 fuel pathways sooner than July 2025. Tier 2 next-generation fuels will be critical to decarbonizing the marine and aviation sectors. Waiting until 2025 or later to deploy these fuels misses an opportunity to generate early carbon reductions and air quality improvements in near-port communities. While we understand it will take time to develop the staff and protocols necessary, we urge Ecology to accelerate this timeline to the extent possible.

Given the bold, swift action needed to decarbonize this hard-to-abate sector, Sustainable Aviation Technologies and Energies Cluster believes Ecology should allow for immediate credit generation and certification of SAF pathways at the program's onset on January 1, 2023. Under the current proposal, many SAF producers will be able to leverage the California LCFS and Oregon CFP certification pathways. However, any SAF pathway not already approved by California or Oregon will not be considered until 2025. Delaying certification could delay the sale of SAF in Washington or prevent a potentially transformative, low carbon intensity SAF from entering the market. With a broad array of sustainable feedstocks, clean electricity, and robust aerospace industry, Washington is uniquely positioned to be a national leader in SAF production. As the last state on the west coast to implement a program of this kind, Washington must aggressively incentivize SAF production to remain competitive with California and Oregon markets.

Clean Fuels Alliance America recommends language which clarifies that a certified Tier 2 pathway for an existing facility should be grandfathered in before 2025 if that facility undergoes an expansion. Low carbon fuel production facilities with already-certified pathways are expanding now in response to the market signals sent by the California and Oregon clean fuels programs; grandfathering these expansions will strengthen and better align Washington's program with those states. As suggested in our prior letter, expanded production from existing facilities should be included in grandfathered Tier 2 pathways for the time period in which production begins and when Ecology approves a new Tier 2 pathway after 2025.

Washington Public Ports Association encourages Ecology to consider accepting applications for Tier 2 fuel pathways sooner than July 2025 as waiting to deploy these fuels misses an opportunity to generate early carbon reductions and air quality improvements. While we understand it will take time to develop the staff and protocols necessary, we urge Ecology to accelerate this timeline to the extent possible.

Response: Start date for Tier 2 fuel pathway application

Staff understand the commenters' concern over the delay in getting new Tier 2 fuel pathways in the CFS program. The rule allows participants to use Tier 1 and Tier 2 fuel pathways, including those for SAF, that are already approved by CARB or OR-DEQ, allowing for faster approval within Washington. We also have temporary fuel pathways with conservative CI values to let fuel suppliers get involved in the program earlier. These options will enable most fuel suppliers to benefit from the CFS program without delay.

Ecology is just starting implementation of the CFS program, with limited staff, and will need to review a large number of Tier 1 and CARB- or OR-DEQ-approved Tier 2 fuel pathways within a relatively short period of time. Reviewing Tier 2 pathway applications is a time-intensive process, and we want a robust slate of low-carbon fuels to be introduced into Washington's market as quickly as possible, to bolster the credit market and to help achieve program goals. The quickest way to allow these fuels to enter the market is to prioritize the review of CARB- and OR-DEQ-approved Tier 2 pathways instead of brand new fuel pathways.

However, Ecology does wish to incentivize low-carbon fuels in Tier 2 pathways as quickly as possible, given existing time and resources. Therefore, in response to the comments received, staff amended the requirements in WAC 173-424-600(5)(b) to state that, "Except CARB or OR-DEQ certified fuel pathways as provided in subsection (4) of this section that, Ecology will start accepting Tier 2 applications no later than October 1, 2024, and only after providing a 30 calendar day advance notice." This change will allow staff to explore options to start accepting new Tier 2 fuel pathways earlier than the specified date, as time and resources allow.

Summary: Ensure biofuel will meet the 40% reduction requirement for exemption under CCA

For consistency across programs, Ecology should ensure that the CCA regulations allow Washington to use modified Tier 2 pathways from Oregon and California to substantiate that biofuel will meet the 40% reduction requirement for exemption under the CCA.

Response: Ensure biofuel will meet the 40% reduction requirement for exemption under CCA

The Clean Fuel Standard program staff shared your comment with the Climate Commitment Act (CCA) team. Both teams are building the foundational elements of the program separately; and the teams have not yet had the opportunity to work on harmonization of their requirements, given the short timeframe allowed to start the implementation of these programs. While we strive for the CFS and the CCA to work in concert with one another, requirements in the CCA rule are outside the scope of this rulemaking.

Summary: Tier 2 Pathway Should be Viable in Practice

Based on our experience in California, POET is concerned that while the Clean Fuel Programs Rule may allow a Tier 2 Pathway on its face, the regulators in practice do not timely approve all meritorious applications due to limited staff resources and competing regulatory obligations. The Tier 2 pathway effectively becomes unviable in practice for a variety of otherwise qualifying applications. To make sure that Tier 2 has an active role in Washington's Clean Fuels Program, we propose that Ecology amend the Proposed Rule to minimize regulatory burden on Ecology

staff, but also ensure that Tier 2 pathway applications will be timely considered. We suggest the following amendments:

- Establishing a presumption of approval for an application that complies with the requirements of WAC 173-424-610, which for Tier 2 includes a "positive verification statement from CARB or OR-DEQ approved verification body" as to the data used to form the inputs for the Tier 2 calculator;
- Require that Ecology issue a determination on complete applications within 60 days, and provide a written explanation for rejecting any Tier 2 applications.
- Modify the date for receiving applications to be earlier than July 1, 2023 (likely meant July 1, 2025 as this is the date in the proposed rule).

The above requirements would only apply if the Tier 2 applications (including those for Tier 1 fuels using innovative methods) show a CI reduction of a certain magnitude or percentage threshold from the CI of the corresponding Tier 1 fuel using traditional, non-innovative methods. This would serve to focus limited Ecology staff resources on reviewing the applications that would drive in the most significant carbon reductions.

Response: Tier 2 Pathway Should be Viable in Practice

Staff recognizes the commenter's concern over the potential long time being taken for the Tier 2 fuel pathway application review and approval due to limited staff resources in the agencies. The current approach in CFS/LCFS/CFP programs is to review and approve fuel pathways prior to providing incentives and disincentives based on the amount of the fuel that is used in Washington. We are allowing the use of CARB or OR-DEQ approved fuel pathways in the first year of program implementation to speed up the application of the program incentive and disincentive in the fuels market as the risk of significant carbon intensity change is expected to be low. Presuming a fuel pathway as approved with a specific carbon intensity value complicates the program to correct the climate impacts as well as the financial transactions when the carbon intensity value changes after the fuel pathway review**.**

Summary: Minimum data requirement to apply for EER –adjusted CI

CleanFuture proposes the following amendment to WAC 173-424-620(5)(b): "Any application made under this rule must include at least three months of operating data that represents typical usage for each individual vehicle category included in the application, except that the application must cover at least 300 hours of operating data for each individual vehicle category included in the application; or an analytical approach using publicly available data sources;"

Response: Minimum data requirement to apply for EER –adjusted CI

The term 'vehicle categories' seems to have a legal meaning as 'vehicle classes'. The term 'vehicle' in this rule has a wider meaning which includes aircraft, watercraft, rail transport vehicles, etc. To keep it within the wider meaning, staff amended the rule using the term 'vehicle type'.

Staff do not support the use of 'an analytical approach using publicly available data sources'. This is because it does not specify any additional qualifications of the data that are acceptable for EER determination, similar to the operating or testing data that are allowed in the rule.

Fuel pathway codes

Commenter: Valero (comment B-12-4)

Summary: Allocation Methodology based on quarterly yield

WAC 173-424-400(8)(c)(xvii) and (d)(iii) require a methodology for allocating the produced fuel volumes to fuel pathway codes, "if not using a method prescribed by Ecology". Ecology should consider as a prescribed method, a mass-balance approach to production allocation that does not utilize a constant average production yield that corresponds to the pathway period. Renewable fuel producers are continuously striving to improve product yields through production efficiencies. In cases of production upsets, the yields will fall. As yields are not predictable and cannot be calculated in advance and in order to accurately assign fuel to feedstock, current yields should be used on a monthly or quarterly basis as determined by process information that will be included in the annual pathway report to be verified.

Per WAC 173-424-610(8), temporary fuel pathway codes must be requested by a regulated party or credit generator. Many renewable fuel producers do not operate in the state of Washington and may not be the importer of record of the fuel. However, these same facilities are the ones that must apply for a fuel pathway code for their customers to import fuel into the state. These fuel producers must supply documentation of the fuel, fuel pathway code, and other required information to the importers in order to meet the reporting and recordkeeping requirements proposed. Ecology should allow for renewable fuel producers to apply for temporary fuel pathway codes in addition to regulated parties and credit generators.

Response: Allocation Methodology based on quarterly yield

In response to this comment and the comment provided in B-10-6, staff amended WAC 173-424-610(7)(c) to use allocation methodology for associating the amount of biogenic feedstock to the production of a unit of fuel using methodologies accepted at the federal level and in other states' similar programs. Further, the program will address this in the development of guidance documents for fuel pathway allocation. Currently, the program does not have verification requirements as a standard process, and thus it is difficult to confirm the carbon intensity of fuel with fluctuating yields.

In response to the comment, staff amended WAC 173-424-610(8)(a) to allow the fuel producer to apply for a temporary fuel pathway code assigned to its facility.

General opposition

Commenters: Susan Allen (comment I-1-1), Andrew Stevens (comment I-2-1), Colin Gregg (comment I-10-1), Jason Bowen (comment I-71-1)

Summary: These commenters expressed opposition to the Clean Fuels Program, citing the following reasons:

- More legislation regarding clean air and climate change is not needed
- Less legislation and taxation is needed so that farmers and truckers can transport food affordably and efficiently
- The program will increase prices for gas, shipping, and consumer products
- Fuels with higher ethanol content will damage motorcycles and small engines
- Consumers will bear the excess costs, especially the impoverished and middle class

Response: Ecology is adopting this rule as directed by the legislature in Chapter 70A.535 RCW. Ecology respectfully disagrees that climate change legislation is not needed. The Clean Fuel Standard will help Washington reach the GHG emissions limits set in state law.

The Department of Ecology recently hired a consultant to perform an analysis of the estimated future costs and benefits of the Clean Fuel Standard, and found that new climate regulations play a minor role in the overall price of gasoline and diesel. The analysis estimates that Washington's new Clean Fuel Standard will mean less than a 1-cent per gallon difference in the price consumers pay at the gas pump in 2023. Prices could rise up to 2 cents in 2024, and 4 cents in 2025. However, research shows regulations like the Clean Fuel Standard play a minor role in gas prices compared to the shifts in the U.S. economy and disruptions to crude oil supply and demand caused by global events, such as the pandemic and Russia's invasion of Ukraine. The Clean Fuel Standard is designed to accelerate the transition to clean fuels and make zero-emission vehicles and other low-carbon technologies more affordable and accessible. The report shows how big these impacts will be in its projections for the electricity used to "fuel" electric vehicles: Electricity used to charge batteries in electric cars and trucks is expected to become cheaper by as much as $1.83 per gallon equivalent. Reducing the use of gas and diesel would also bring significant health benefits. By 2038, the report predicts that the reduction in air pollution from the Clean Fuel Standard combined with other transportation initiatives would mean an estimated $1.8 billion in economic benefit from better health. These reductions will benefit overburdened communities, who have had to bear the brunt of pollution in their neighborhoods.

The Clean Fuel Standard does not mandate ethanol use, and the rules do not prohibit using ethanol-free fuels. The Clean Fuel Standard is fuel-neutral: participants in the program may use any low-carbon fuel that complies with the carbon intensity standards and meets their individual needs.

General support

Commenters: Judy Hallisey (comment I-3-1), Deborah Boyd (comment I-4-1), Jessica Lisovsky (comment I-5-1), David Robison (comment I-6-1), Clifford Wentworth (comment I-7-1), Cynthia Jones (comment I-9-1), Susan Finley (comment I-72-1), Lorraine Hartmann (comment I-111-1),

Veronica D'Orazio (comment I-124-1), Don Steinke (comment I-150-1), Gary Seeman (comment I-389-1), Puget Sound Clean Air Agency (comment A-5-1), Earth Ministry (comment O-7-4)

Summary:

These commenters supported the Clean Fuels Program, citing the following reasons:

- The need to reduce greenhouse emissions and transportation emissions to combat climate change and extreme weather events
- The need to take care of the environment for future generations
- The need for a transition to sustainable energy
- The additional benefits of the program including reduced criteria pollutant and air toxics emissions and reduced adverse health outcomes
- Lower prices for gasoline, healthcare, utility rates, and carbon capture and sequestration through:
    - Reduced demand for gasoline
    - A reduction in health problems from poor air quality
    - Increased revenue to electric utilities from the program
    - Reduced demand for oil

Response:

Ecology is adopting rules to commence the Clean Fuel Standard program by January 1, 2023, as directed by Chapter 70A.535 RCW. The Clean Fuel Standard will cut statewide greenhouse gas emissions by 4.3 million metric tons a year by 2038.

Guidance documents

Commenters: Valero (comment B-12-12), Neste (comment B-21-9), NW Alliance for Clean Transportation (comment O-2-3), Joint Washington Utilities (comment O-20-5), California Electric Transportation Coalition (comment O-23-3), NW Energy Coalition (comment O-26-16).

Summary:

Ecology should provide guidance regarding their interpretation of regulatory provisions as well as administrative procedure language for staff practices that are not documented in the rule. This will help the program run smoothly and assist other jurisdictions in using Washington's clean fuels program as a model.

The tables found at the end of the draft rule are challenging to use in Word format. Would it be possible for The Department to make these tables available to the public in Excel format?

Multiple commenters asked that Ecology ensure that stakeholders are able to participate in the development and review of any program materials such as documents or user guides. One commenter asked that Ecology use a public comment process for guidance documents.

Because rulemakings are not frequent enough, Ecology should use guidance documents to annually update the electricity carbon intensity and the utility specific carbon intensity with data that is no more than three years old.

Response:

Developing guidance documents is separate from the rulemaking process and outside the scope of this rule. However, similar to other clean fuels programs, Ecology is working to develop a series of documents that will provide additional instructions, templates, and calculation methodologies to assist with the implementation of the rule. We will be continuously accepting informal feedback and questions regarding program materials such as guidance documents and user guides. We recognized that regulated and opt-in entities have valuable insights that will result in improved guidance and implementation practices. Stakeholders may request information be made available in an alternative format.

IT systems

Commenters: PineSpire (comment B-9-7), SRECTrade (comment O-11-5), City of Everett, WA (comment OTH-1-1).

Summary:

Establish a budget and process for regular improvements to the credit-reporting platform. Include stakeholder input or create a stakeholder committee upon program launch to create a forum for participants to provide feedback on the efficacy of the data management systems and support continuous improvement. Look into the feasibility and security of Automatic Program Interfaces (APIs) that allow machine to machine interactions.

The application process listed in the rule is archaic and vague. An online form with blanks for required information that can be filled and signed electronically is recommended. Having to email or scan a form will cause delays and possibly lost applications.

Response:

Thank you for your comments. While funding for IT platform improvements is separate from the rulemaking process and outside the scope of this rule, Ecology is eager to make continual improvements to the Washington Fuels Reporting System. We have submitted a budget request[4] for the 2023 legislative session to fund the development of a next generation IT platform. We plan to collaborate with California and possibly other states to increase platform

[4] https://abr.ofm.wa.gov/api/public/decision-package/summary/47246

harmonization and allow for an improved user experience. In the meantime, stakeholders are encouraged to reach out to Ecology with feedback to consider within the current platform and budgetary restrictions.

In the current system, users will fill in an online form with required information and directly upload a document with signatures from the entity's owner and the primary and secondary account representatives. A user guide will be available with step by step instructions for registering within the Washington Fuel Reporting System and Alternative Fuels Portal.

Preliminary Regulatory Analyses

Commenters: POET (comment B-23-9), Charm Industrial (comment B-13-2)

Summary: Least Burdensome Alternative Analysis, CDR

We appreciate that Ecology addressed the lack of CDR pathway in the preliminary regulatory analysis. Ecology's analysis concluded that including CDR credits at this point "would not have met the goals and objectives of the authorizing statute." Ecology explained that developing this pathway would require significant time and could impair "Ecology's ability to have a fully functioning program by the statutory deadline." We want to acknowledge that Ecology is under a swift deadline to implement both the CFS and the Climate Commitment Act programs in 2023. Simultaneously developing both rules is a significant achievement, to say the least. Under a tight timeframe, Ecology has admirably run a transparent, open, and efficient CFS rulemaking process. However, we urge Ecology to look beyond January 1, 2023. As we offered in our February 25 comment letter, and as we offer again below, simple language that authorizes Ecology to begin developing protocols for a CDR pathway in mid-2023 or 2024 would not jeopardize Ecology's ability to launch the program in early 2023. However, it would allow Ecology to begin developing a CDR credit pathway to ensure a structural credit deficit does not materialize.

Second, in the regulatory analysis, Ecology explained that additional credit supply in the program in the early years could jeopardize credit prices. We believe this concern is misplaced. As we described above, the program faces a greater risk of too few credits, rather than too many. Furthermore, because RCW 70A.535.050(3) allows Ecology to cap CDR credits, Ecology can limit the number of CDR credits as needed to maintain stable credit prices.

Response: Least Burdensome Alternative Analysis, CDR

Staff appreciate the comment and have added language to the Least Burdensome Alternative clarifying pathway development, timing, and potential inclusion in future rulemaking.

Staff recognize the urgency to facilitate the implementation of innovative GHG reducing technologies including carbon removal, reuse and sequestration technologies. The rule, under WAC 173-424-600(5)(b)(viii), allows the use of Tier 1 fuels with innovative technologies, including carbon capture and sequestration technologies, as Tier-2 fuel pathways. Thus, the

rule does not limit the use of the carbon removal technologies related to the production of fossil fuels. The next step will be to establish the methods and models to reliably quantify the carbon intensity from those pathways. The proposed rule text already gave Ecology the authority to develop pathway protocols, therefore staff did not make any changes to this provision in the final rule.

Ecology staff will involve stakeholders and experts in future protocol development efforts. Ecology will also benefit from the efforts and experience of the neighboring clean fuels jurisdictions as they work to develop protocols of their own. Priorities for future protocol development will be determined by the department's staff and leadership, and through stakeholder engagement.

We note that your comment refers to Figure 10 in the BRG report, which addresses the Least Cost and Baseline scenarios. The BRG scenario that corresponds to the rule is the Accelerated Reduction scenario, which identifies a non-negative bank balance for all years of the program (positive for all years except 2035 and 2036, which reflect an estimated zero ending bank balance) that begins with over 1.5 million credits in 2023, and peaks at over 5.4 million credits in 2028. As such, Ecology disagrees that there is greater risk of too few credits than too many in the first decade of the program. Any increase in the credit supply will put downward pressure on prices and reduce incentives for initial and ongoing market participation particularly in these early years. Ecology has taken lessons learned from California and Oregon in the development of this rule, including the relative abundance of credits to deficits in early years of the program, especially in Oregon. We anticipate that Washington will have an even larger credit base due to the number of EVs already on the road, and the low CI of our electric grid.

Summary: Least Burdensome Alternative Analysis, iLUC

The Proposed Rule indicates a LUC Value (gCO2e/MJ) for Corn Ethanol of 19.80, significantly higher than the 7.6 value proposed by the Ecology-commissioned analysis of Life Cycle Associates and which is the same value currently used in Oregon. Ecology's Preliminary Regulatory Analysis ("PRA") states that using Oregon's indirect land use conversion value of 7.6 for corn ethanol "would not have met the goals and objectives of the authorizing statute." According to the PRA, "The proposed rule incorporates California's value for corn ethanol (and the underlying indirect land use conversion value), since this value is within the range of estimates in the current scientific literature and was determined after expert analysis and a robust and thorough stakeholder engagement process." No further explanation is provided. The PRA does not provide any support for how the value is "within the range of estimates in the current scientific literature," nor does it offer any justification for the significant deviation from the most recent and growing scientific consensus, i.e., the previously recommended 7.6 value. We have included as Exhibit A to these comments an analysis by Environmental Health & Engineering, Inc. ("EH&E") – a multi-disciplinary team including environmental health scientists and engineers from Harvard and Tufts University – that explains in greater detail how a LUC value of 19.80 gCO2e/MJ ignores recent scientific studies including the recommendation of Ecology's own commissioned-study by Life Cycle Associates in this proceeding. There is no

explanation for why the 7.6 LUC value – a figure more squarely within the current scientific consensus – was passed over. If not remedied, this arbitrary rule will lead to distorted market signals in the Clean Fuels Program, resulting in fewer and/or more costly transportation fuel emission reductions than would otherwise occur. On the margin, fuel producers will eschew bioethanol in favor of fuels that in reality have a higher CI. Whereas a 7.6 CI value would send an accurate signal to fuel producers and align the program with the goals and objectives of Chapter 70A.535 RCW, the proposed LUC value of 19.80 would not. The PRA claims that a 7.6 value would not have met the goals and objectives of the authorizing statute. This is not supported by the record in this proceeding. Among other things, Chapter 70A.535 RCW established a goal of supporting "the deployment of clean transportation fuel technologies through a carefully designed program;" and reducing "greenhouse gas emissions associated with transportation fuels." An inflated and inaccurate CI score for corn bioethanol is neither carefully designed, nor would it serve to reduce GHGs, as the CI reduction benefits of corn-based bioethanol would be unfairly discounted in the program's accounting.

Chapter 70A.535 RCW also requires that Ecology's proposed rule harmonize the Clean Fuel Program with the rules and requirements of other states that have adopted low carbon fuel standards and that supply significant quantities of transportation fuel to Washington, or to which Washington supplies significant quantities of transportation fuel. Oregon borders Washington and has a low carbon fuel standard that adopted a 7.6 LUC value. The PRA does not explain how having a separate value from that of Oregon would serve the goal of harmonizing state policies. Such different CI values, instead, would create inconsistencies and impose additional burdens on covered entities. In a separate section, the PRA cites state policy harmonization as a reason for not adopting the most recent version of the GREET model published by Argonne National Laboratory. It does not explain why such logic would not equally apply to the CI score of corn ethanol.

Response: Least Burdensome Alternative Analysis, iLUC

The successful implementation of the CFS program necessitates both accuracy and mitigation of risks associated with uncertainty, to meet the goals and objectives of the authorizing statute. This includes successfully meeting the goal of, "Reducing GHG emissions attributable to each unit of the fuels to 20 percent below 2017 levels by 2038." as well as other goals related to generally reducing greenhouse gas emissions from transportation fuels. To meet these goals in the face of uncertainty and statutory direction, and for consistency with other clean fuels programs, Ecology carefully considered the accuracy and risks associated with the Oregon and California iLUC values. Researchers in the field recognize the difficulty in accurately estimating the iLUC impact of biofuels and the significant uncertainty. Due to the amount of work and resources it would require and the limited time Ecology has to start the implementation of this program, Ecology could not conduct land use change modeling work during this rulemaking. Therefore, Ecology focused on the decision to adopt the iLUC value being used in California's clean fuels program or that used in Oregon's program.

Ecology hired Life Cycle Associates (LCA) as the consultant for the program's carbon intensity modeling, and the International Council on Clean Transportation (ICCT) as the peer reviewer of the work done by LCA. For corn ethanol iLUC, LCA recommended using the OR-DEQ value of 7.6 gCO2e/MJ of ethanol, with the main justification being the declining carbon intensity value of biofuel and land use change with updated models and data. Many stakeholders that commented in favor of the OR-DEQ iLUC value also justified that with the declining CI of biofuel and iLUC, and argued that CARB's 2015 iLUC value is outdated.

However, ICCT recommended using the CARB value of 19.8 gCO2e/MJ for corn ethanol. ICCT also recognized that the CARB iLUC assessment is older than more recent iLUC studies, but noted that the iLUC assessment was conducted by a regulatory body with a high level of expert review and stakeholder input; consequently, the assumptions and model inputs are therefore more closely aligned with ground-truthed scientific data. Several subsequent analyses, including the one cited by LCA, have not been held to the same level of scrutiny. ICCT's peer review notes several areas where updates to the model may be inconsistent with data on land-use and soil carbon stock change.

The researchers we heard from also recognized CARB's rigorous and transparent stakeholder engagement process in the modeling and determination of the iLUC emission factors. OR-DEQ also originally proposed to use the CARB iLUC value for corn ethanol against the Argonne National Laboratory's value, because of the rigorous and transparent stakeholder process in CARB's modeling and determination of the 2015 iLUC value.

In summary, Ecology is unable to do modeling to determine the iLUC value for biofuels due to the time constraint to do such work. Thus, the decision is to choose among existing iLUC values in CARB and OR-DEQ rules. Both CARB and OR-DEQ agree on the iLUC values for three biodiesel and renewable diesel feedstock (soybean, canola, and palm) and two ethanol feedstock (sorghum and sugarcane). However, they differ on the corn ethanol iLUC values. It is inherently difficult to develop consistency with multiple jurisdictions that differ in their choice of iLUC value for corn ethanol -- consistency with either is inconsistent with the other. Ecology recognizes both the 2015 CARB and OR-DEQ iLUC values for corn ethanol are not based on the most current model and data. It is evident that the CARB modeling and determination used a robust and transparent stakeholder engagement process, and that provides a higher level of confidence. As a result, Ecology chose to use CARB's iLUC value for corn ethanol.

Ecology received very valuable and detailed input on the modeling of land use change impact of biofuels (especially corn and cover crops). We highly appreciate the depth of the comments and the references provided, and we will benefit from this in the planning and development of future work to assess the land use change impact of biofuels. We requested ICCT respond to the public comment received from HHE on their peer-review report during the informal comment period, and we have attached it as an appendix because it will respond to the most specific comments provided.

We have added discussion to this effect to the Least Burdensome Alternative Analysis in the Final Regulatory Analyses for this rulemaking.

Summary: Health benefits

Moreover, as we explain further in Section VI (C), bioethanol that displaces conventional gasoline reduces "levels of conventional air pollutants from diesel and gasoline that are harmful to public health." This is another statutory goal and objective frustrated by using the inaccurate 19.80 CI score. Less bioethanol consumed will likely result in fewer reductions of local pollutants.

Response: Health benefits

While we appreciate that greater displacement of conventional fuels reduces emissions not only of greenhouse gases, but of associated conventional pollutants, Ecology needed to balance the incentives that create these benefits, with the need to accurately meet statutory goals and objectives associated with successfully achieving greenhouse gas emissions reductions. See the response under "Least Burdensome Alternative Analysis, iLUC" for further information. We have added discussion to this effect to the Least Burdensome Alternative Analysis in the Final Regulatory Analyses for this rulemaking.

Summary: Fuel costs

Washington drivers and retailers would save tens of millions of dollars annually by converting from E10 to higher ethanol blends such as E15. Not only are wholesale prices for higher-bioethanol blends cheaper, but they also generate of credits under the national Renewable Fuel Standard program (known as Renewable Identification Numbers or "RINS"), which afford an additional value stream to fuel providers that allows them to further pass on price reduction benefits to consumers. For example, on April 12, 2022, President Biden traveled to POET's Menlo facility and announced a plan to waive the regulatory bar on summertime sales of E15 gasoline to address the high fuel prices attributed to Russia's invasion of Ukraine. According to the Biden Administration, at April 2022 prices, E15 could "save a family 10 cents per gallon of gas on average, and many stores sell E15 at an even greater discount." Because bioethanol is a largely domestic market, it does not experience the same degree of dependence on global markets as petroleum-based gasoline and is not as vulnerable to volatility in the globally-integrated oil and gas market. When oil prices increase, increased bioethanol use reduces the inflationary effect of more expensive gasoline, which in turn has positive spillover effects throughout the broader economy, where transportation accounts for a significant proportion of overall costs. Nor is there evidence that E15 reduces fuel economy when compared to E10. Indeed, due to the higher octane content of higher-bioethanol blends, E15 may result in increased fuel economy, despite slightly lower energy density than neat gasoline. In fact, the University of California Riverside conducted two recent testing programs that evaluated emissions and fuel economy differences between E10 and splash-blended E15 on very recent vehicle technologies. Taken together, the studies' conclusions demonstrate that fuel economy could be from 1% lower to 6% higher on E15 than E10. Given the current price of gasoline, consumer relief at the pump would be a virtue in and of itself, particularly for drivers with low and moderate income for whom fuel costs comprise a larger percentage of their disposable income. A May 2021 study by ACEEE found that American households have an average gasoline

burden of about 7.0% of total income, but that burden ranges from 13.8% to 14.1% for low-income households earning less than 200% of the federal poverty level range. Though the burden was slightly less for the Seattle metro area (4.98%), one could assume that disadvantaged communities in more rural and suburban parts of Washington State would have a higher burden. ACEEE's further analysis confirmed that Black, Hispanic, and Native American communities bear greater gasoline burdens than their white counterparts. The recent spike in gasoline relative to other household expenses has almost certainly increased this disparate burden since the study was published. These progressive benefits from price savings are also relevant to the ultimate success of Washington's ambitious climate goals given the integral role transportation plays in the State's economy. Bioethanol presents no tradeoff between economic competitiveness on the one hand, and achievement of the decarbonization goals on the other. Bioethanol is good for both the economy and the environment. It is a win-win opportunity for Washington's transportation sector.

Response: Fuel costs

Thank you for providing detailed information and citations about potential cost-savings for Washingtons businesses and consumers, associated with using bioethanol. We have incorporated this information into the Final Regulatory Analyses' discussion of: consumer price impacts; risk and price volatility; and environmental justice as relates to cost impacts.

Program fees

Commenters: Port of Seattle (comment A-4-10), Gevo (comment B-10-5), Valero (comment B-12-1), Neste (comment B-21-4), Shell (comment B-33-2), SRECTrade (comment O-11-2), WSPA (comment O-30-4), Washington Public Ports Association (comment O-31-6), Clean Fuels Alliance America (comment O-32-5), Joint Aviation Entities (comment OTH-8-2)

Summary: The majority of commenters favored higher fees on deficit generators and lower fees (or no fees) on credit generators. Some commenters expressed concern that a fee on credit generators could disincentivize the selling of renewable fuels in Washington and reduce the value of credits, thereby impacting program function, especially since California and Oregon do not charge fees for their programs.

One commenter requested clarification on how the fee would be assessed for credit aggregators, and another commenter requested a tiered fee for credit generators.

One commenter requested that Ecology disclose the number of employees and contractors who manage the CFP, all costs of the program, and a projection of the annual fees throughout the duration of the program. They also requested clarification on what percentage of the fees the different categories of deficit generators will have to pay, and a provision to refund fees to program participants if collected fees exceed spending.

One commenter requested that Ecology establish fees that would enable us to accept Tier 2 fuel pathways at the start of the program, as well as an expedited application fee for fuel pathways that require urgent approval.

Response: Ecology was not allocated budget for the Clean Fuel Standard program, and thus needs to rely on fee revenue to develop and implement the program. While Oregon does not charge a fee for their program, California charges a fee through the AB 32 Cost of Implementation Fee Regulation.

Ecology shares the concerns expressed by some commenters that a high fee may disincentive credit generator participation in the program. However, Ecology believes that because credit generators will be earning revenue from the program, they can pay a nominal fee to cover the costs of program implementation and development. Ecology has therefore adjusted the fee allocation in the rule, lowering the required participation fee for credit generators. Ecology has also adjusted the rule text to specify that only credit and deficit generators are required to pay a fee (not credit aggregators).

The number of FTEs and all costs of the program (including contracting and IT costs) will be provided biannually during the workload analysis and budget development process specified in the rule, and the estimated budget and applicable workload analysis will be posted annually. A projection of fees throughout the duration of the program is available in the fiscal note[5] completed in 2021. The fiscal note provides estimated operating expenditures through fiscal year 2027. Any change to these expenditures would require a budget request to the legislature for additional funding authority. If fee revenue exceeds program spending, Ecology will provide reduced fees the following year.

Ecology agrees that more specificity regarding the deficit generation fee amounts is needed. We have added text to the rule explaining the percentage of fees that the different categories of deficit generators will be required to pay.

Due to the budget request process, Ecology will be unable to hire the additional staff needed to accept Tier 2 fuel pathway applications in 2023. Ecology is only able to set fees that equal the projected costs of program development and implementation. Ecology is focused on setting up necessary initial program components in this rulemaking, and is following Oregon's approach in delaying Tier 2 pathway applications until we have the resources available to review these applications (see response to "Fuel pathways: Tier 2" for more information).

Regarding the tiered fee for credit generators: Ecology is not able to implement this type of fee at this time due to uncertainty around the number of credit generators that will choose to participate in the program. Ecology may explore this type of fee structure for later years of the program in a future rulemaking.

[5] https://fnspublic.ofm.wa.gov/FNSPublicSearch/GetPDF?packageID=63335

Program linkage

Commenters: Puget Sound Energy (comment B-31-3), The International Emissions Trading Association (comment O-5-2), Washington Policy Center (comment O-29-2)

Summary: Puget Sound Energy and the International Emissions Trading Association recommend that the Washington Clean Fuel Standard be linked with neighboring jurisdictions in California, Oregon, and British Columbia. Their comment focuses on opportunities for a regional fuels market, reducing administrative burdens, streamlining credit generating opportunities, and avoiding competing markets due to different credit prices across jurisdictions.

The Washington Policy Center recommends that Ecology align the Washington Clean Fuel Standard as much as possible with other jurisdictions.

Response: Ecology has worked to align the Washington Clean Fuel Standard with other states' programs wherever possible, as the department is directed to do by the state legislature. Specifically, the statutory direction from RCW 70A.535.060(1) directs Ecology to develop rules that are "harmonized with the regulatory standards, exemptions, reporting obligations, and other clean fuels program compliance requirements and methods for credit generation of other states". Though there are some instances where the Washington statute differs from other states, the Washington program is markedly similar to the California and Oregon programs.

Ecology is not pursuing direct program linkage in the current rulemaking, though is willing to explore the possibility in the future.

Project based crediting

Commenters: bp America (comment B-3-3), Phillips 66 (comment B-19-2), WSPA (comment O-30-2)

Summary: The commenters expressed disapproval that the proposed rule did not include project-based crediting for oil refineries: projects which refineries may undertake to reduce their greenhouse gas emissions through efficiency improvements or the use of renewable energy for their refining processes. They wrote that this provision would diversify credit generating opportunities, and provide regulated entities the opportunity to meet the stronger carbon intensity standard proposed in the rule, and provide more certainty for long-term capital investments. Phillip 66 also recommended including process improvements, renewable hydrogen, and carbon capture and sequestration in a project-based crediting program. Bp America encouraged Ecology to provide regulated parties with greater certainty about when these features will be implemented as part of the program.

The Western States Petroleum Association specifically noted provision related to fuel lifecycle credits, noting California's carbon intensity for their state-specific fuel (called "CARBOB") and their decision to allow for project-based crediting to reduce greenhouse gas emissions from the refining process. They also urged Ecology to include a renewable hydrogen refinery credit

program, which would allow for refineries to earn credits by producing hydrogen from renewable sources as part of their processes.

Response: RCW 70A.535.050(1)(a)(ii) states that Ecology may include project-based crediting for refineries, but does not require Ecology to do so. As such, Ecology chose not to include crediting for refinery investment projects due to projected estimates in the fuel supply forecast that the program will see significant credit generation in early years of the program from vehicle electrification and other readily available low-carbon fuels. Ecology aims to balance opportunities to generate credits with efforts to maintain the health of the credit market and avoid flooding the credit market in the early years of the program, which would result in depressing the credit price. This is potentially a concern for the overall health of the credit market, and one Ecology has considered carefully in determining whether or not to offer project-based crediting for refineries. Ultimately, Ecology has chosen not to include project-based crediting in this rulemaking.

As for a Renewable Hydrogen Refinery Credit Program, Ecology does not intend to offer such a program for the same reasons noted above. Carbon capture and sequestration, in general, is something Ecology intends to include in the Clean Fuel Standard in future cycles of rulemaking. Refineries may still earn credits for renewable hydrogen use if it is directly serving the refinery via a Tier 2 pathway application for the renewable portion of the project, where the use of renewable hydrogen would be accounted for in the lifecycle analysis determining the carbon intensity score.

Ecology may consider these measures in future cycles of rulemaking, and will communicate with stakeholders if and when we consider the inclusion of these program elements.

Public disclosure

Commenter: Climate Solutions (comment O-21-17)

Summary: Climate Solutions requested that Ecology ensure that all the information the department is required to report is easily accessible and user-friendly. They also wrote that Ecology should contextualize the data to better reflect real-world impacts and benefits.

Response: Ecology is developing a webpage to better display the data which the department is required to report and to ensure that the information is as accessible and user friendly as possible. We will consider how best to contextualize said data.

Recordkeeping

Commenters: Valero (comment B-12-3), Joint Washington Utilities (comment O-20-15), Washington Environmental Council (comment O-24-9), WSPA (comment O-30-15)

Summary: Statute of limitations on "lookback" corrections

Valero suggested that Ecology establish a statute of limitations for the "lookback" period (wherein the department would review historical carbon intensities, credits, and deficits and make corrections as needed) to limit how far in the past Ecology can make changes.

Response: **Statute of limitations on "lookback" corrections**

Ecology will not adopt a statute of limitations on the period of time when the agency may review and correct carbon intensities, credits, or deficits as this suggestion is not in line with California or Oregon and Ecology values harmonization with the other jurisdictions wherever possible.

Summary: Monthly utility bills records

The group of Joint Washington Utilities requested clarification on whether the requirement to keep "monthly utility bills" meant utilities must keep customers' bills, and suggested the rule allow for utilities to be able to submit this data in the form of a database or dataset instead of paper or digital copies of individual bills.

Response: Monthly utility bills records

Ecology updated the rule to clarify this recordkeeping requirement for utilities. We changed "copies of monthly utility bills" to "datasets of monthly utility billing information."

Summary: Language changes and fixes

The Western States Petroleum Association suggested the following changes to the recordkeeping provision:

- 5-year requirement instead of 10
- Adding the language "each fuel transaction applicable to this regulation" in WAC 173-424-400(1)(c)
- Changing the language in WAC 173-424-400(2) to "product transfer document"
- Changing WAC 173-424-400(2)(h) from "diesel fuel" to "fossil diesel fuel"
- Removing the reference to (g) in WAC 173-424-400(3)

The Washington Environmental Council supports the recordkeeping provision, citing its importance in the verification of information by experts and the public.

Response: Language changes and fixes

Ecology chose a recordkeeping period of ten years to align with the California Low Carbon Fuel Standard, as the department was directed by statute to align wherever possible with other jurisdictions, and for consistency with Ecology's Greenhouse Gas Reporting program. As such, we will not be shortening the requirement to five years.

Ecology added “each fuel transaction subject to the CFP” in WAC 173-424-400(1)(c) to clarify responsibilities relating to recordkeeping. Ecology replaced the word “fuel” with “product” in WAC 173-424-400(2) as requested by the commenter and for consistency with other jurisdictions. Ecology changed “diesel fuel” to “fossil diesel fuel” and “gasoline” to “fossil gasoline” in WAC 173-424-400(2)(h) because the rule notes renewable gasoline, renewable diesel, biodiesel, and renewable natural gas, so the language will be changed to differentiate the fossil fuel-based products. Ecology is maintaining the recordkeeping requirement on CFS obligation (WAC 173-424-400(3)) that refers to (2)(g) because fuels that are reported below rack require identification of CFS obligation.

Registration

Commenters: Port of Seattle (comment A-4-13), ChargePoint (comment B-4-4), PineSpire (comment B-9-5), 3Degrees (comment B-20-7), North West Handling Systems (comment B-28-8), e-Mission Control (comment B-29-6), Alliance for Automotive Innovation (comment O-16-4), Electric Vehicle Charging Association (comment O-19-3), Joint Washington Utilities (comment O-20-3), NW Energy Coalition (comment O-26-6), WSPA (comment O-30-14), City of Everett, WA (comments OTH-2-1; OTH-3-1), California Electric Transportation Coalition (comment O-23-13)

Summary: eGSE

WAC 173-424-300 Section 1(g)(iii), further defines the FSE for eCHE, forklifts, etc, but should also include eGSE

Response: eGSE

We have updated the final rule to include eGSE in WAC 173-424-220 (g)(iii)(F)

Summary: First fuel reporting entity

Language should be changed to clarify that first fuel reporting entities do not need to provide Ecology with contracts for stations where they are already the first fuel reporting entity.

Response: First fuel reporting entity

We have updated WAC 173-424-300(b)(vi)(A) and WAC 173-424-300(b)(vii)(A) to clarify that only those not described in the rule as first fuel reporting entities must provide written contractual agreements demonstrating they acquired the designation of the first fuel reporting entity status.

Summary: Non-residential EV charging

Several commenters said that registrants of non-residential charging stations should not be required to provide the number of chargers located in Washington or the estimated annual

discharge of electricity per location. These data points are constantly changing, so estimates are subject to large errors. No other program has this requirement.

Another commenter suggested that non-residential charging stations should only be required to provide estimated annual discharge if available. They also suggested that if multiple FSEs at one location are metered on one electrical meter, that one meter should be allowed to track the electrical charging information for all chargers on that electrical line. The rule should be changed to say that the meter should be registered, not individual FSEs.

One commenter said that current rule places an onerous requirement for nonresidential chargers to individually measure electricity dispensed. They suggested a section specifying types of acceptable equipment that includes electric utility meter, sub-metering technologies, meter disaggregation software, load-management hardware capable of disaggregating electricity use and isolating EV charging events, or other technologies that reliably and accurately measure electricity dispensed for EV charging.

Another commenter said that they approved of the use of other technologies to collect meter data if the alternative equipment is vetted for accuracy.

One commenter said that Ecology should not require each FSE used in non-residential charging (or charging forklifts, airport ground support equipment, cargo handling equipment, ocean-going vessels, and fixed guideway systems) to have its own meter.

Response: Non-residential EV charging

Requirements in WAC 173-424-300(b)(vii)(B) to provide the number of chargers, their locations, and estimated annual discharge of electricity per location have been removed. Registration requirements for fuel supplying equipment used in nonresidential EV charging have been moved to WAC 173-424-300(g)(iii).

We will continue to require each FSE to be registered separately. However, in the case of multiple FSE being metered by the same device, nothing in the rule would prevent FSE owners from using metering data from a single meter for reporting purposes.

We do not require a single type of equipment for measuring dispensed electricity. The current rule only refers to “equipment capable of measuring the electricity dispensed for EV charging”. In our view, this does not limit an applicant from demonstrating that their preferred method of collecting accurate meter data is verifiable. Ecology staff will evaluate each application and may approve various methods of collecting accurate meter data as long as they are verifiable.

Summary: Forklifts

WAC 173-424-300(g)(iii)(F) should change to include the serial number of each individual forklift provided by the OEM along with the name of the OEM. This would clarify that the unit registered is the forklift, not the forklift charger and would ensure that the entity that made significant investment in the forklift is the credit generator.

Response: Forklifts

The credit generator for electric forklifts is the owner of the electric forklift. However, in order to verify reporting on how much electricity is used by each forklift, we will require the owner of the forklift to provide detail on the facility or location where electricity is dispensed for fueling forklifts. This is harmonized with the current text of CARB's LCFS rule.

Summary: FSE

Ecology should only require information specifically about the applicant for initial registration. Information about fuel supply equipment, specific fuels, and other details should be moved to a different section dedicated to registration of fuel supply equipment. If this is not done, the rule may be interpreted to require registered parties to amend their company-level registration every time new equipment is added. The rule should be amended to make clear that registered parties don't need to amend their company-level information when FSE information managed in AFP changes.

New FSE registrations submitted in the first 45 days of the reporting period should be approved for reporting in the prior period's fuel use.

WAC 173-424-300 (g)(ii), seems to be written for stationary equipment with requirements for "Name and address of the entity that owns the FSE, if different from the entity registering the FSE." This requirement makes it unclear how to register a vehicle that may charge at multiple residences. Recommendation to provide clearer guidance as to how a vehicle generating credits at multiple residences would comply with this requirement.

Response: FSE

Requirements to provide information on fuel supply equipment previously located in WAC 173-424-300(1)(b) have been moved to WAC 173-424-300(1)(g). There will be no need for registered parties to amend their company-level information when FSE information changes.

Registered FSEs may not report and generate credits based on fueling that precedes the quarter in which the equipment was registered. Once an FSE application is approved, the credit generator may begin reporting for fueling in the current quarter.

Clearer guidance is provided in WAC 173-424-300(g)(iii) which lists specific requirements by fuel type. When fleet owners rather than charging equipment owners are the credit generators, FSE refers to individual vehicles rather than charging equipment. See electric forklifts in WAC 173-424-300(g)(iii)(I) or eTRU in WAC 173-424-300(g)(iii)(J) for examples. For incremental credits from residential metered EV charging, FSE refers to a piece of equipment or on vehicle telematics capable of measuring the electricity dispensed for EV charging. Specific requirements are provided in WAC 173-424-300(g)(iii)(F) for fuel reporting entities using vehicle telematics.

Summary: eTRU

Modify registration of eTRU FSE to refer to the facility or location where the electricity is dispensed instead of each eTRU

Response: eTRU

Because the credit generator for eTRU is the fleet owner, they will be registering each eTRU rather than facilities where electricity is dispensed. Therefore, we will continue to refer to each eTRU in this section.

Summary: Registration

Ecology should provide information to stakeholders as to how the agency will reach out to applicable entities for registration to ensure no entities are missed in the program. In addition, it is requested that ecology provide the method for registration (i.e., WFRS, AFP).

Response: Registration

Throughout the rulemaking process, Ecology has done the following to help inform interested persons:

- Emailed notices to the Clean Fuels email list, the Air Quality Program general email list on rules and statewide plans, and the WACTrack email list;
- Issued a press release;
- Posted information on Ecology's Clean Fuels Program rulemaking webpage and the general Clean Fuel Standard webpage;
- Spoken at conferences and events relevant to the Clean Fuel Standard and related industries; and
- Held five stakeholder meetings and a public hearing via webinar.

Ecology will continue to notify interested persons through the Clean Fuels email list about the adopted rules.

Ecology will provide trainings on how to register and report using the Washington Fuel Reporting System (WFRS). Ecology will send notice of these trainings to the Clean Fuels email list and post details on Ecology's Clean Fuel Standard webpage.

Ecology will also present about the program at relevant conferences, which will provide an additional opportunity for regulated and interested parties to learn about the rule.

In addition to providing training, staff will develop a comprehensive user guide to assist with all aspects of our IT platform including registration and reporting. This will be published to our webpage prior to the start of the program. Staff will also be available to provide assistance as needed.

Renewable energy certificates (RECs)

Commenters: King County (comment A-2-5), Smart Charging Technologies (comment B-5-7), Rivian (comments B-8-3; B-14-2), PineSpire (comment B-9-6), Avista (comment B-16-8), 3Degrees (comment B-20-2), Regenis (comment B-22-2), POET (comment B-23-3), CleanFuture (comment B-25-7), North West Handling Systems (comment B-28-6), SRECTrade (comment O-11-3), Alliance for Automotive Innovation (comment O-16-8), Tacoma Power (comment O-18-2), Climate Solutions (comment O-21-8), Washington Environmental Council (comment O-24-6), NW Energy Coalition (comment O-26-15).

Summary: Qualification of acceptable RECs and avoidance of double counting

We support the book and claim mechanism that allows fleet owners to increase revenues from credits by bundling fleet electrification with renewable energy agreements generated off-site. However, we recommend that Ecology limit the applicability of RECs to those generated in Washington State rather than the "western electricity coordinating council" to ensure that renewable energy produced is additional. The "western electricity coordinating council" includes states and provinces that do not have robust Renewable Portfolio Standards (i.e. ID, UT, WY, MT, SD). We support the requirement that renewable energy credits must be retired and not claimed separately by the utility.

Rivian specifically applauds provisions affirmatively requiring Green-e Program certification and REC generation anywhere in the Western Electricity Coordinating Council (WECC) territory. To drive system-wide decarbonization we recommend that ECY not require out-of-state resources to transmit directly into the state to qualify. Broadening REC generation eligibility to the entire WECC footprint will incentivize build-out where it can have a greater avoided emissions impact and it will protect against potentially unintended upward cost pressure that might result from limiting eligibility to only in-state resources.

We urge Ecology to remove from the proposed rule all references to the purchase and retirement of renewable energy certificates (RECs) solely to demonstrate a lower carbon intensity than the statewide or utility-specific electricity mix. If Ecology does not remove these elements, we urge Ecology to add a deliverability requirement to WAC 173-424-630(5), by mandating that RECs be associated with electricity that is generated within a balancing authority area that includes a portion of the state of Washington, as recognized by the North American Electric Reliability Corporation, or that the electricity from the generating facility is delivered to one of those balancing authorities on a real-time basis without shaping, storage, or integration services.

NWEC does not support the use of offsite renewable electricity through the purchase and retirement of renewable energy certificates (RECs) solely to demonstrate a lower CI under the Washington CFP. We support the generation of incremental credits through co-located or on-site renewable electricity generation, smart charging, and utility renewable electricity products and power purchase agreements. Our preference is for Ecology to remove all references to the purchase and retirement of RECs solely to demonstrate a lower CI than the statewide or utility-

specific electricity mix. If Ecology retains the use of RECs, we strongly recommend a deliverability requirement in addition to the vintage requirement. To increase local benefits, we recommend WAC 173-424-630(5)(c) be amended to: "RECs must be generated from facilities located in the Western Electricity Coordinating Council associated with electricity that is generated within a balancing authority area that includes a portion of the state of Washington, as recognized by the North American Electric Reliability Corporation, or that the electricity from the generating facility is delivered to one of those balancing authorities on a real-time basis without shaping, storage, or integration services;" and

A deliverability requirement would also help address some concerns related to the double counting of non-power attributes. NWEC explains concerns related to double counting in comments submitted December 22, 2021. Essentially, our comments emphasize that there is a risk that the non-power attributes associated with a specified sale of a renewable resource to California could be used to claim a lower CI resource under both California's Cap-and-Trade Program and the Washington CFP. This constitutes double counting and there may be additional scenarios that would result in double counting as states increasingly rely on the use of RECs within voluntary and mandatory clean energy programs. For these reasons, we urge Ecology to develop additional guidance that will reduce the risk of double counting.

While Tacoma Power is not supportive of incremental credits as a concept at this time, we recognize that this route to decreasing the recognized carbon content for electricity was established in statute. We have two concerns about the implementation of this component of the CFP. First, it is unclear whether there are any criteria for renewable energy credits (RECs) that can be retired to offset megawatt hours (MWh) generated by emitting sources. For example, the Clean Energy Transformation Act (CETA) included strong statutory prohibitions against double-counting of nonenergy attributes, and those prohibitions were more fully developed in the series of rulemakings. Similarly, the Energy Independence Act (EIA) and its implementation includes requirements regarding locations of REC-creating projects, vintage of RECs, and other facets. Draft WAC 173-424-630(5) sets some standards, but the standard is much lower than the standards established for EIA and CETA.

Generating incremental credits through the purchase of Renewable Energy Credits (RECs) presents a host of challenges. First, their inclusion may lead to a double claim on the environmental attributes with other states' policies, notably Oregon's 100% clean energy law and California's cap-and-trade program. The latter does not require the retirement of RECs for renewable electricity when accounting for the greenhouse gases associated with this power regulated under the program. Therefore, renewable electricity being used in California would be considered zero-carbon under California's cap-and-trade program, but the REC may be separated and used under Washington's Clean Fuels Program to lower the CI of the electricity as a transportation fuel. This would constitute the zero-carbon attribute being claimed by two entities—one in California and one in Washington—which we do not support. There is a similar concern with how Oregon's 100% clean electricity law. Washington already has a clearly charted, legal pathway to 100% clean electricity; attempting to leverage the Clean Fuels Program for this purpose leads to possibly negative policy interactions.

Allowing for the generation of incremental credits through REC purchases also runs the risk of diluting the Clean Fuels Program. We understand that there is some concern with the Clean Fuels Program market having an overly large surplus of credits in its early years since Washington's program is starting with both a cleaner electricity grid and more EVs on the road than either California or Oregon had at the inception of their programs. Evidence from Oregon shows that concern that there may be too many incremental credits for a healthy market is not unfounded: "As of Q4 2021, approximately 81% of non-residential charging reported to the CFP has been paired with renewable electricity through the retirement of renewable energy credits or the use of a utility green power program." (We view utility green power programs differently than pairing unbundled RECs with EV charging.) It is clear there is a real opportunity for registered parties to purchase cheap, out-of-state RECs that in turn, provide them with more value on the Clean Fuels market through the reduced CI of their fuel. However, allowing this in the program does not necessarily spur new, clean electricity generation in Washington (which is already required under CETA), nor provide other, local benefits. It also increases the number of credits available in the market early on.

For these reasons, we oppose allowing incremental credit generation under this rule. If incremental credits are included in the rule, it is important that there are further safeguards around RECs to ensure local benefit and reduce the likelihood of double claiming. There should be a deliverability requirement to a balancing authority serving Washington customers. In addition, RECs claimed for incremental credits should not also be counted towards a utility's CETA compliance, nor toward a utility's specific CI. And lastly, as mentioned above, RECs associated with power imported from California or other states where the underlying energy is considered zero carbon, even if the REC has been separated, should not be allowed to generate incremental credits under Washington's Clean Fuels Program.

Response: Qualification of acceptable RECs and avoidance of double counting

Staff appreciates the support for the use of book and claim accounting for electricity. The rule requires RECs to be registered in the Western Renewable Energy Generation Information System (WREGIS), which verifies the credit is valid. This is consistent with similar programs in California and Oregon (where the program uses Green-e to serve the same purpose), as well as other state laws and regulations. As directed in the law, the utility-specific carbon intensity of electricity is calculated based on the fuel mix disclosure report from the Department of Commerce; thus, the RECs used to comply with CETA and EIA are used in the CI calculation for the Clean Fuel Standard. To avoid double counting of RECs, the rule adopts the safeguard requirements in WAC 194-40-420. Staff believe the RECs criteria in the amended WAC 173-424-630(5) provide balanced qualification for RECs, including the location of REC generation, registration in WREGIS, vintage year, and safeguards against double counting. Staff will also continue to evaluate the effectiveness of these requirements in meeting the goal of this program.

Summary: RECs Vintage (generation time)

WAC 173-424-630(5)(b) requires RECs to be generated from electric generators placed into service after 2023. This excludes electric generators placed in service prior to 2023 from the RECs generation. This means such incentive would not be useful for at least two years, the minimum period of time necessary to plan, build, and operate an electric generator. We understand the goal of additionality in this regard, but we also think that it is equally important to provide incentive schemes that stakeholders can utilize immediately, by allowing the use of RECs from electric generators placed into service prior to 2023 (e.g. 2018 onwards) and make 2025 the effective date for the 2023 restriction. This will also highlight the demand for RECs in the first few years, which will entice investors to consider new electric generators investments. We advocate to be more considerate of the need to incentivizing stakeholders and investors, and giving the new CFP program a better chance to hit the ground running.

PineSpire supports modifying the proposed language to be based on when RECs are generated, not when the electric generator was placed into service. This will enable participants to source RECs for the entirety of 2023

The requirement under WAC 173-44-630(5)(b) poses risks. While this provision appears well intended, it would artificially constrain supply and could therefore inflate REC prices sufficiently to undermine participation, at least in the short term. ECY should consider allowing some existing projects placed into service prior to 2023 to be eligible, such as RECs generated from new long-term offtake agreements, as well as those from repowered facilities. This would strike a balance between qualifying RECs supporting the development of impactful projects while protecting against the unintended consequences of limiting project eligibility.

CleanFuture recommends a change to WAC 173-424-630 (5) RECs must be generated by an electric generator that was placed into service after 2017, instead of 2023.

CleanFuture recommends no in-service date requirements for biogas electricity projects; such projects deliver valuable methane avoidance benefits and should be encouraged. Washington has numerous existing digesters that would be excluded from participation in the CFP if they produce electricity from biogas, these projects face economic challenges to continue operation on new power purchase agreements (PPAs) due to low wholesale electricity prices. However, if these same digesters upgraded the same biogas to biomethane, there is no restriction on facility date for Clean Fuel Program eligibility. Biogas electricity projects are quite different from wind and solar generation and should be treated more like biomethane projects regarding the facility in-service date.

Regenis notes that California does not have such facility date requirements for renewable electricity generation from biogas. The state and nation have aggressive plans for transportation electrification, so it makes sense the state would bend towards incentivizing electricity for electric vehicles, not excluding existing sources. As such, Regenis proposes the rulemaking team make strong consideration to rethinking this approach.

Response: RECs Vintage (generation time)

Staff appreciates the commenters' perspective on the constraints the proposed requirement causes, especially in the first years of CFS program implementation. Therefore, staff amended the rule so that RECs may be generated in and after 2023, instead of requiring the electric generator to be in service after 2023. Staff also corrected the RECs generation to start in 2023, instead of after 2023.

Summary: Retail versus wholesale certification

In WAC 173-424-630(5)(a), it is unclear what is meant by wholesale and retail certification of unbundled RECs used to reduce carbon. Avista is not aware of any such distinction in any Washington statute. As in other areas of Washington law and as prescribed elsewhere in the rule, any renewable energy credit certified by the Western Renewable Energy Generating Information System (WREGIS) should be deemed valid under the program.

Response: Retail versus wholesale certification

The rule text intends to differentiate how the RECs used to claim low-CI electricity through book-and-claim must be certified:

- At the retail level, unbundled RECs are to be purchased through power purchase agreement with the electric utility, for each electricity kWh used as in green tariffs.
- At the wholesale level, unbundled RECs are purchased from one renewable energy electricity generation plant without relating it to the amount of electricity generated.

Summary: Onsite RECs

For onsite renewables, we recommend clarifying the language in Section 4(d) to allow applicants to utilize RECs generated onsite when not separately metering for direct use of onsite renewables dispensed through EV chargers. This clarification would be consistent with the offsite renewable electricity methodology in Section (5). Rivian is concerned that Section 4 as currently written could work against onsite renewable generation by seemingly preventing entities from utilizing the low CI electricity generated onsite unless the chargers are also dispensing while the onsite facility is producing electricity. This would fail to account for clean electricity fed back to the grid when the chargers are not dispensing electricity. Entities should be permitted to match total RECs generated from an onsite solution.

Response: Onsite RECs

Staff amended WAC 173-424-630(4)(d) to address the commenters' concern by clarifying that the applicant is allowed to utilize RECs generated onsite for other purposes, if the RECs are in excess of the energy dispensed through EV chargers.

Summary: Allow the use of offsite RECs to lower CI of renewable fuels

The Proposed Rule should be amended to expressly establish that producers will receive credit for the use of offsite renewable energy sources in the production of lower CI fuels. We

encourage Ecology to amend the Proposed Rule or otherwise make clear that producers can purchase unbundled RECs or enter into power purchase agreements for their process energy, and thereby lower the CI score of the produced fuel. The RECs used for process energy could be subject to the same requirements as WAC 173-424-630(5) to ensure fair and equal treatment for all electricity carbon intensity determinations, regardless of whether the electricity is used for vehicle fuel or in the fuel production process.20

POET encourages Ecology to use its authority to encourage more renewable energy use in the transportation supply chain. This would incentivize the generation of low-CI energy through large-scale renewables projects thereby reducing the Washington transportation sector's lifecycle GHG emissions. Without such an incentive, facilities would have little impetus to make investments to decarbonize their process energy, and likely would opt for using the cheapest electricity available on the market.

Response: Allow the use of offsite RECs to lower CI of renewable fuels

Staff recognizes the interest in using RECs to reduce the carbon intensity of renewable fuels like biofuels. The rule allows for the use of renewable energy (including renewable electricity) that is directly supplied to the fuel production plant. However, consistent with CARB and OR-DEQ rules, Ecology's rule does not allow indirect accounting for use of RECs to lower the carbon intensity of other alternative fuel pathways. Ecology is committed to working with stakeholders towards increasing the demand for low-carbon fuels and recognizes GHG benefits from directly using low carbon fuels and electricity as process energy in alternative fuel production. However, at this early stage of program implementation, Ecology has chosen to follow the policies being implemented in California and Oregon. For additional context, please read the responses to 'book-and-claim' comments.

Reporting

Commenters: Anonymous (comment I-74-2), WSPA (comment O-30-16)

Summary: Reporting frequency

To deal with agency workload issues, suggest reporting annually only, and eliminating the quarterly reporting requirement.

Response: Reporting frequency

The completion of the quarterly report allows the credit generator to transact the credit and generate revenue more quickly, in time to facilitate the transition to cleaner transportation. The quarterly reporting may not be too burdensome to Ecology, based on the experience in Oregon and California. Therefore, we maintained the quarterly reporting requirement in the rule.

Summary: Request for change in reporting provisions

WSPA requests that Ecology changes the deadline for third quarter reports from December 31 to January 15 of the following year to allow for flexibility in reporting during to the end of year holidays.

WSPA requests editing the following in the reporting requirements:

- Remove “file 108” from the last sentence in WAC 173-424-420(2)(e)
- Include ‘renewable’ before ‘gasoline’ in WAC 173-424-420(6)(b)
- Remove WAC 173-424-420(6)(f) as "position holder sale" transaction types are irrelevant to the Washington CFP.
- WAC 173-424-420(10) and WAC 173-424-430(4) should be updated to allow for credits to be added and/or deficits to be removed retroactively if the correction generates more credits and/or fewer deficits than what is initially reported.
- In Table 9, the row identified as "Fuel Supplying Equipment ID", the second column should be labeled "n/a."
- In Table 9, the row identified as "Amount of each fuel used as a jet fuel replacement" the second column should be labeled "x" and the last column should be labeled "n/a."

Response: Request for change in reporting provisions

Staff amended the deadline for third quarter report in WAC 173-424-410 (1)(c) to be January 10th, instead of December 31st. This is to allow additional time for reporting during the holiday season.

In response to the above comments, staff made the following changes:

- Removed “file 108’ from the last sentence in WAC 173-424-420(2)(e).
- Added ‘renewable’ before the term ‘gasoline’ in WAC 173-424-420(6)(b)
- Maintained WAC 173-424-420(6)(f), because we separated the transaction type “position holder sale” into “position holder sale with obligation” and “position holder sale without obligation”.
- Maintained WAC 173-424-420(10) and WAC 173-424-430(4). Please review the responses in O-32-3 and O-14-4.
- Revised Table 9 addressing the above comments and other errors.

Electricity

Commenters: King County (comment A-2-7), Avista (comment B-16-5), Tacoma Power (comment O-18-3), Joint Washington Utilities (comment O-20-2), California Electric Transportation Coalition (comment O-23-2), NW Energy Coalition (comment O-26-7).

Summary: Estimation methods for transit systems

Allow public transit systems flexibility in reporting electricity usage via estimation methods do and not require separated metering. Requiring separate metering would be cost prohibitive and prevent public transit from securing credit generation from using electricity for transportation. For example, the Metro Transit trolley system and Sound Transit light-rail share a sub-station in one location, separately metering these systems would be cost-prohibitive.

Response: Estimation methods for transit systems

Currently, we do not have estimation methods available for public transit systems. For the measured aggregate electric consumption, transit agencies are encouraged to propose an estimation methodology to distribute the electric energy consumed between the two transit systems for Ecology's consideration. Wherever possible, we will prioritize metered data over estimation.

Summary: Streamlining registration, recordkeeping, and reporting requirements

The registration, recordkeeping, and reporting process should be streamlined. Ecology should consider semi-annual reporting rather than quarterly reporting. Specifically, many of the requirements under WAC 173-424-420 (3) – Specific reporting parameters for electricity used as a transportation fuel – could be eliminated.

Response: Streamlining registration, recordkeeping, and reporting requirements

Ecology will be calculating the credits for nonmetered residential EV credit, which depends on quarterly reporting. Additionally, utilities are not required to do reporting, except when they claim incremental credits. Staff believes this is a simplified reporting requirement. The requirements in WAC 173-424-420(3) are to ensure accurate, credible reporting for the integrity of the program.

Summary: Reporting requirements for incremental credits

Ecology should not require VINs to be reported to generate incremental credits for non-residential charging. Oregon does not have this requirement. The department of licensing already keeps data that Ecology can access. It is unclear how utilities would collect VINs from their customers' EVs.

WAC 173-424-420(3)(b)(ii) suggests that incremental credits are only eligible to be generated for nonmetered residential EV charging if low-carbon electricity is on-site. This is does not align with CFP's programmatic needs and should be simplified or removed.

Response: Reporting requirements for incremental credits

The requirement to maintain records of VINs is limited to incremental credits from residential EV charging. This is to ensure the low-CI electricity that an entity claims incremental credits for is being used to power electric vehicles.

WAC 173-424-220(11)(a) establishes the requirements for base credit generation and (b) for incremental credit generation. There could be multiple entities, including electric utilities, that are allowed to claim incremental credits from residential EV charging, and the priority for credit generation right is established in WAC 173-424-220(11)(b)(iii).

Summary: Daily average EV electricity use

Ecology should not require utilities to report the daily average EV electricity use data required in WAC 173-424-420(3)(b). It is unclear why Ecology needs data from utilities regarding nonmetered EV charging, and whether utilities have any data on unmetered charging available to share. Relatedly, the timing of the quarterly reporting requirement does not align with the unmetered residential charging estimate, which happens "at least twice a year."

Utilities should not need to provide estimated base residential credit kWh either individually or collectively, as Ecology should be the one to take on this role exclusively.

Response: Daily average EV electricity use

Staff amended WAC 173-424-420(3)(b)(i) to require utilities who monitor electricity use may provide Ecology with the daily average EV electricity use data within the first 45 days after the end of the quarter. This allows the program to benefit from accessing the most accurate data possible on average EV charging energy. Ecology will use the daily average electricity use data, voluntarily reported by utilities, to refine the estimation method that Ecology uses to calculate the credits for nonmetered residential EV charging in Washington. We do not require estimation from utilities on nonmetered residential electricity use. Over the life of the program, we will explore ways to rely on measured data in place of estimation wherever possible.

Summary: Credit revenue spending requirements

Provisions like WAC 173-424-420(3)(b)(iii) help create a virtuous cycle of investments to accelerate transportation electrification.

Response: Credit revenue spending requirements

Thank you for your comment.

Rule process

Commenters: Phillips 66 (comment B-7-1), WSPA (comment O-30-1)

Summary: These commenters expressed concerns that comments submitted during the informal comment period were not addressed, incorporated, or responded to.

Response: Ecology's rule process often includes an informal comment period during rule development, although this is not required by the Administrative Procedure Act. The informal comment period is an additional comment period and allows Ecology to receive early feedback

on the draft rule. Ecology does not respond directly to comments received during the informal comment period, but reviews comments and incorporates them into the rule as applicable. Ecology reiterated during multiple stakeholder meetings that we do not respond to informal comments. This does not mean, however, that these comments were not reviewed or considered. Ecology takes great care when deciding what to include in the rule, and ultimately makes that decision based on what the department believes will achieve the legislative goals of the program and serve in the best interest of Washington state.

Scope

Commenters: Anonymous (comment I-74-1), Michelle Fairow (comment I-11-1), Eric Shaw (comment I-79-1), Stephan Classen (comment I-80-1), Max Gerloff (comment I-86-1), Cheryl Greene (comment I-92-1), Matt Hamilton (comment I-151-1), Phillips 66 Company (comment B-19-5).

Summary: Commenters suggested Ecology:

- Regulate private jets and propeller planes
- Invest in public transportation and bike lanes
- Get rid of single-family zoning
- Stop construction of a silicon smelter in Newport, WA
- Ensure public EV charging stations post the price per kilowatt
- Support expedited permit applications with local jurisdictions for projects that reduce or enable greenhouse gas reduction.
- Stop real estate development
- Fund public education

Another commenter suggested clarity around how the credit system can be used by Washington residents to generate credits for personal choices, such as foregoing flying for web-based interactions.

Response: We appreciate that you took the time to comment on this rule. However, these comments are outside the scope of this rulemaking. This rule only applies to transportation fuels supplied in Washington. A credit is generated when a transportation fuel with a carbon intensity less than the standard is produced, imported, or dispensed for use in Washington (RCW 70A.535.010). As such, there is no mechanism that allows individuals to generate credits for personal choices.

Sustainable aviation fuel (SAF)

Commenters: Neste (comment B-21-3), Alaska Airlines (comment B-24-4), LanzaJet (comment B-26-3), SkyNRG Americas (comment B-30-3).

Summary: Provide additional incentives for alternative jet fuel

Unlike other transportation modes, aviation is years, if not decades, away from transitioning to alternative fuel sources such as electricity or hydrogen. Without the appropriate policy incentives in place to help AJF compete or even outcompete on availability and price, fuel producers will continue to prioritize renewable diesel over AJF, making our path toward decarbonization challenging, if not impossible. Alaska Airlines encourages Ecology to consider additional incentives to attract and spur AJF production in Washington State, such as the inclusion of a multiplier for alternative jet fuel credits. Increasing the value of AJF credits would provide incentive to produce more AJF faster in support of the ambitious goals outlined above. While the inclusion of a multiplier could result in less overall fuel replacement from the Program, it would help stimulate the nascent AJF market while other modes of on-road transportation continue to transition to other energy sources, such as electrification.

SkyNRG Americas comments that such a policy would be consistent with the European Union's renewable energy directive. We believe that multipliers will be beneficial for the following reasons:

- A multiplier of 1.3 or higher will provide an incentive for the aviation industry to use AJF as the associated credit return will be greater.
- The increased demand for AJF will provide the impetus for the SAF industry to invest in technological advancement and expansion in the state that focus on this hard to decarbonize sector.
- Multipliers will not add additional cost to the Department of Ecology or to the clean fuels program.

SkyNRG Americas acknowledges that this approach would mean the overall program could have less fuel replacement. However, given the nascency of the SAF market and the potential for a very low carbon alternative jet fuel from biomethane, we believe that in the short term this solution will stimulate fuel use effectively and accelerate the potential for in state production facilities to be built out. It can also be a provisional measure with incentives declining over time as the volume of fuels used increases. To combat this potential effect, we recommend that the multiplier for alternative jet fuel be stepped down beginning in 2030 and declining over several years.

Absent an obligation for aviation, LanzaJet encourages Ecology to consider complementing opt-in eligibility with a credit multiplier for AJF to drive scale in the industry. Such an approach would be justified because of the higher need for AJF in the hard to decarbonize aviation industry, and in recognition of AJF's significant air quality and non-CO2 climate benefits.

Neste appreciates that Ecology linked the alternative jet standard to the diesel CI standard as part of this latest version of the CFP regulation. However, in light of the newly proposed CI reduction targets for California, we would like for Ecology to consider a SAF multiplier to ensure that SAF in Washington can generate similar credit value as in California. SAF consumption has

grown at a slower rate than renewable diesel primarily due to the aviation industry being preempted by the Commerce Clause from participating in state fuels mandates, making SAF less financially competitive than renewable diesel. As a result, SAF customers require all possible incentives to make the switch to SAF, and having parity between the California LCFS and Washington CFP is of the utmost importance to drive SAF consumption in Washington. This parity can only be achieved via a multiplier for SAF in the CFP program.

Response: Provide additional incentives for alternative jet fuel

Staff recognize the importance of SAF/AJF and the need to accelerate the development of fuels that decarbonize the aviation sector. The rule allows for the use of the diesel carbon intensity baseline for SAF/AJF starting 2023, as is done in the CARB rule. This policy allows SAF/AJF to have a similar incentive as renewable diesel, even though fossil aviation fuel is typically less carbon intensive than fossil diesel.

The law under RCW 70A.535.010(5) defines a credit as being based on the difference between a fuel's life cycle greenhouse gas emissions and the applicable carbon intensity standard, a definition that does not allow for multipliers. Therefore, the CFS program rule does not apply a credit multiplier to provide additional incentives for SAF/AFJ.

Verification

Commenters: Joint Washington Utilities (comment O-20-11), California Electric Transportation Coalition (comment O-23-7), WSPA (comment O-30-11).

Summary: Third party verification

WSPA requests that Ecology remove all references in the regulatory language to third-party verification and monitoring plan. It is premature to include a third-party verification at the start of the CFP program and Ecology should focus on other topics mentioned above and below. As presented in proposed WAC 173-424-800, the third-party verification program lacks detail regarding: overall program requirements, prequalifying third-party verifiers, and training (which alone could take 1-2 years). WSPA suggests that third-party verification requirements can best addressed as part of a future rulemaking.

CalETC supports not having verification of fuel transaction reports for electricity. In the LCFS, third-party verification of fuel transaction reports is not required for electricity, and the draft CFP appropriately follows the LCFS. The final rule should also be clearer that third party verification is not required for current or subsequent versions of Table 10 on utility-specific carbon intensity.

The draft rules contain language that indicate potential verification actions on electricity carbon intensity pathways in WAC 173-424-610. Proposed solution: Provide clarity in WAC 173-424-610 that electricity carbon intensity pathways provided in Table 10 are not subject to

verification but allow verification of alternative Tier 2 carbon intensity pathways for electricity that are proposed in the future by stakeholders

Response: Third party verification

The proposed rule requires third-party verification only for fuel pathways that have CARB or DEQ approved fuel pathways, if they are required to have third-party verification in the jurisdiction. Thus, this rule does not require third-party verification for utility-specific carbon intensity that Ecology calculates based on the Fuel Mix Disclosure Report published by the Washington Department of Commerce. However, the rule allows Ecology to require third party verification, as necessary, for a fuel pathway that Ecology approves without prior approval by CARB or OR-DEQ. If Ecology requires third-party verification for a fuel pathway, then a monitoring plan may also be part of the fuel pathway approval.

Verification of co-processed fuels

Commenter: Gevo (comment B-10-6)

Summary: Verification of co-processes renewable content

Gevo recommends a consistent verification process for co-processed fuels to ensure renewable molecules are present in the fuels claimed for credit generation. Frequent carbon isotope verification is regularly utilized by other CFS programs and upholds programmatic goals; verification of renewable content maintains equity between standalone renewable fuel producers and co-processors.

Response: Verification of co-processes renewable content

In response to this comment and the comment provided in B-12-4, staff amended WAC 173-424-610(7)(c) to use an allocation methodology for associating amount of the biogenic feedstocks to the production of a unit of fuel, and to use methodologies accepted at the federal level and other states' similar programs. Further, the program will address this in the development of guidance documents for fuel pathway allocation.

Form letters

Ecology received two form letters with identical or nearly identical content from hundreds of individuals. Due to the large number of these submissions, we are providing the comment content and Ecology response here. Any substantial comments added to a form letter are addressed in the respective topic sections.

Form letter 1

Commenters: Ecology received 436 submissions of this form letter by 356 people through email and our online commenting system. Below is the content of the letter, followed by Ecology's response and the full list of commenters.

Dear Ms. Rachel Assink,

Thank you for the opportunity to comment on the proposed rule language for the Clean Fuels Program, Chapter 173-424 WAC and all the work to date in developing this rule. Transportation is responsible for nearly half of Washington's greenhouse gas emissions. The Clean Fuels Program is a critical part of our statewide strategy to reduce climate pollution from this sector and has the potential to help transition to a cleaner, more just transportation system. To do this, I urge you to strengthen the rule in the following ways:

1) Uphold existing requirements for tribal consultation: All processes in the rulemaking and all actions resulting from the Clean Fuels Program must respect tribal sovereignty and treaty rights. This rule must explicitly incorporate Ecology's existing obligation to proactively and meaningfully consult with federally recognized tribes, with sufficient time and information made available for this purpose.

2) Ensure alignment with HEAL Act requirements and evaluate and track reduction of environmental health disparities: The Clean Fuels Program has the potential to deliver air quality improvements, especially to people living near and along roadways and transportation hubs. At the same time, there are unique air quality impacts and risks associated with different fuel types that require more thorough analysis and evaluation. It is critical that the program does not inadvertently incentivize increased emissions of pollutants harmful to human health and environment. This rule must include requirements for Ecology to track and remedy air pollution impacts, including through compliance with the HEAL Act's Environmental Justice Assessment requirements detailed in RCW 70A.02.060 and the collection of sufficient information to satisfy the requirements of RCW 70A.535.140. Ecology should require adequate information and build in an explicit process to review the air quality impacts of the program.

3) Update iLUC values to reflect best available science: The draft rule proposes to use California's protocol to calculate the indirect land use change (iLUC) values for crop-based biofuels made from sugarcane, corn, sorghum, soybean, canola, and palm feedstocks. While this is a step in the right direction and an improvement from earlier drafts of the rule, these values likely need significant upward corrections in light of emerging science, and Ecology should adjust the rule to reflect a more rigorous and accurate accounting of iLUC values for crop-based biofuels at the outset of the program. Ecology should then use the process proposed by WAC 173-424-600(2) to conduct an ongoing review of iLUC impacts with feedback from stakeholders, experts, and regulators in order to continue to correct the values as the science advances.

4) Ensure strong and transparent accounting of environmental attributes: Tracking the environmental attributes of biomethane and hydrogen is an area of emerging importance across multiple clean energy policies in Washington. The tracking systems established under the Clean Fuel Standard should be coordinated and consistent with other state policies governing how environmental attributes for these fuels are calculated and verified. This includes retaining the proposed rule's requirements for the use of independent tracking systems for hydrogen and pipeline-delivered biomethane and adding requirements for continued review and revision

of these tracking systems to ensure their sufficiency and their alignment with other regulatory requirements across state agencies. Thank you for your consideration.

Response: Under the 1989 State/Tribal Centennial Accord and the 2012 State/Tribal Relations Act (Chapter 122, Laws of 2012), we maintain a government-to-government relationship with Tribes. We are fully committed to the principles of government-to-government consultation and cooperation with Tribes. Throughout the rulemaking process for the Clean Fuel Standard, Ecology has ensured opportunities to consult with and involve Tribes. As part of rulemaking process, Ecology sends a notice to 33 Tribes at each stage of the rulemaking. The notice contains information about the rule, its anticipated actions or impacts, and invites government-to-government consultation. There were no requests for government-to-government consultation during this rulemaking, but Ecology remains committed to that consultation as it is requested.

Ecology incorporates environmental justice considerations in all of its rulemaking and is in the process of incorporating environmental justice assessments into our work as required by the HEAL Act. This includes considering the impact to areas with environmental justice considerations and ensuring the rulemaking process is accessible to those potentially most impacted by agency decisions. However, the current timeline for implementation of the environmental justice assessments as outlined in the HEAL Act does not provide the opportunity for Ecology to incorporate them in the current rulemaking for the Clean Fuel Standard. Given the timeline of this rulemaking, we are unable to incorporate additional processes to collect and assess data as requested by commenters. Ecology is required to comply with the HEAL Act statute outlined in Chapter 70A.02 RCW. As part of that compliance, we will complete the reporting requirements and reviews of the Clean Fuel Standard to meet those obligations. As the HEAL Act is fully implemented, Ecology will work to incorporate the requirements and processes into the Clean Fuel Standard in order to continually improve how we serve communities.

The low-carbon fuels that the Clean Fuel Standard is designed to make more available are projected to emit fewer criteria pollutants and will reduce the negative health impacts from transportation on overburdened communities living near roadways and high-traffic areas. Additionally, electric utilities are required to reinvest 30% of the credit revenue generated by the CFS in transportation electrification in disproportionately impacted communities and are encouraged to invest even more. These actions will work to ensure an equitable transition to low-carbon transportation.

Though the Clean Fuel Standard and the Climate Commitment Act rules are separate, and the two programs are run independently, Ecology has a robust culture of collaboration and information-sharing among staff, and the staff of the two programs communicate regularly. Under the CCA, Ecology has a mandate to monitor and improve air pollution in overburdened communities. Although the Clean Fuel Standard statute does not contain a similar mandate, we expect the CFS will lead to air quality improvements in communities, which are likely to be captured by the monitoring conducted under the CCA.

Ecology is unable to do modeling to determine the iLUC value for biofuels due to the time constraint to do such work. Thus, the decision is to choose among existing LUC values in CARB and OR-DEQ rules. Both CARB and OR-DEQ agree on the iLUC values for three biodiesel and renewable diesel feedstock (soybean, canola, and palm) and two ethanol feedstock (sorghum and sugarcane). However, they differ on the corn ethanol iLUC values. Ecology recognizes both the 2015 CARB and OR-DEQ iLUC values for corn ethanol are not based on the most current model and data. It is evident that the CARB modeling and determination used a robust and transparent stakeholder engagement process, and that provides a higher level of confidence. As a result, Ecology chose to use CARB's iLUC value for corn ethanol. Ecology received very valuable detailed input towards the modeling of land use change impact of biofuels (especially corn and cover crops). We highly appreciate the depth of the comments and the references provided, and we will benefit from this in the planning and development of future work to assess the land use change impact of biofuels.

Staff recognizes the potential benefits of allowing the use of RNG for the production of renewable fuels through the broader application of book and claim accounting. The rule allows for the use of book and claim or indirect accounting of RNG as a feedstock for hydrogen production, in a similar way as it is allowed for RNG as a feedstock for CNG, LNG, and L-CNG, and electricity used as transport fuel. The rule also allows for the use of renewable energy (including RNG) that is directly supplied to the fuel production plant. However, consistent with CARB and OR-DEQ rules, Ecology's rule does not allow indirect accounting for use of biomethane to lower the carbon intensity of other alternative fuel pathways. Ecology is committed to work with stakeholders towards increasing the demand for low-carbon fuels and recognizes GHG benefits from directly using low carbon fuels and electricity as process energy in alternative fuel production. However, at this early stage of program implementation, Ecology has chosen to follow the policies being implemented in California and Oregon to avoid unintentionally slowing the transition to cleaner transportation fuel-vehicle technologies.

Form letter 1 commenters:

Aisling , Sky
Alexander , J.
Allen , Teresa
Anderson , Becky
Arntson , David
Aseltine , Sandra
Aslakson , Jean
Atkins , Gail
Avery , Jean
Avinger , Linda
B , Shary
Bailot , Katarina
Baine , David
Baker , Norman
Baltin , Brian
Bamford , Robert
Bancroft , Deborah
Banks , Wesley
Barats , Betty
Barnes , Noel
Barron , Jane
Barry , Chapman
Bartlett , Vivian
Bartlett , Tina
Bartlett , Faye
Barto , Mike
Bass , Emily
BAUMAN , Sarah
Beaver , Judith
Bein , Jeanie
BELL , STEPHANIE
Benedict , Derek
Benton , Lori
Bhakti , Sara
Biale , Cheryl
Bishop , Scott
Bittner , Evelyn
Blackwood , Barbara
Blair , Wendy
Blake , Jennie
Blalack , Kristin
Boguske , Matthew

Booker , Shannon
Bordelon , Tika
Bowdish , Caroline
Brakefield , Tina
Brent , Patti
Brill , Gary
Brock , Barbara
Brown , Tina
Brown , Steve
Burger , Carole
Burrows , John
Butler , Peggy
Byrne , Jim
Caicco , Jody
Calcagno , Rita
Call , Elizabeth
Campana , Steven
Campbell , Sarah
Canright , Mark
Carroll , Linda
Cassato , Candice
Ceravolo , Tracy
Christ , MLou
Ciske , Sandra
Clark , Aaron
Clark , Sally
Cohen , Judith
colkitt , Heidi
Collins , Randall
Combs , Lizzy
Conn , Patrick
Cornwell , Marilyn
Council , Susan
Cox , Thomas
Craighead , Tom
Cruz , Celia
Curry , Karen
Davis , Virginia
Dawson , Kathy
Deal , Brandie
Devlin , Felicity
dewald , monica
Di Santo , Denise
Dickens , Angela
Dickinson , Amanda
DiLabio , Gena
Dils , Laurie
Dreyfus , Charles
DuBois , Barbara
Duhring , Frederick
Dunn , John
Durr , Rebecca
Dysart , Sherri
Eddington , Marianne
Ehler , Noah
Elder , Paul
Ellsworth , Linda
Elohim , Shemayim
Emineth , Tim
England , Jennifer
Erbs , Lori
Erickson , Linda
Evans , Chad
Evans , Bronwen
Faber , Hilke
Fabian , Dagmar
Fairow , Michelle
Fay , Alex
Fellows , Paul
Ferm , Mary
Ferrari , Paul
Ferraris , Alfred
Fischer , Philip
Fitzpatrick , Kristin
Fortier , Karen
Frank , Rebecca
frazer , jane
Fristoe , Barbara
Garten , Michael
gillman , jesse
Glass , Rebecca
Goodwin , Greg
Graham , Holly
Grajczyk , Joyce
Green , Jeff
Gruszecki , Andrea
Guros , John
Gutierrez , Daniel
H , Carole
Habib , David
Haggin , Lindell
Hand , David
Hannahs , Mechelle
Hansen , Terry
Hanson , Brad
Hanson , Maxwell
Hargrove , Bourtai
Hartmann , Lorraine
Harvey , Jo
Hatfield , Phyllis
Hawkins , Chris
HEIM , SHARON
Heller , Margie
Henling , Daniel
Hennon , Mark
Henry , Marilee
Heyneman , Amy
Hill , Michael
hipp , james
Hogan , Rita
Holtz , Eric
Hopkin , John
Horner , Jennifer
Howe , Jared
Hulscher , Adrianna
Hurst , Dianne
Hurst , Sally
Inghram , Anna
Jacky , S.
Jacobs , Kathryn
Jacobs , Nancy
Jamison , Vanessa
Jaramillo , Catherine
Johnson , Richard
Johnson , Lorraine
Johnson , Darcy
Johnson , Elizabeth
Jordan , Dorothy
Jurus , Nicholas
K , J
Kaufman , Jeffrey
Kaye , Deborah

Keeler , Mary
Keller , Sophia
Keller , Jennifer
KELLY , JOANNE
Kemp , Kindy
Kenoyer , Melanie
Kessinger , Jerry
Khayat , Alana
King , Theodore
Kladnik , Julia
Kolb , Brooks
Krantz , Marquam
Lachance , Cynthia
Lamb-McMurray , Aminah
Lambros , Kathryn
Lanz , James
Larsen , Julia
LaRue , Erik
Laskowski , Jack
Lazerwitz , Geno
Ledden , Dennis
Leffler , Mitch
Lennon , Matt
Leveen , Larry
Libbey , Thomas
Lichtenberg , Lynn
Link-New , Virgene
Liu , Hannah
Loehlein , Kenneth
Loomis , Susan
Lopez , Joseph
Lufkin , Thom
Lunceford , Kate
Lynn , Mary
Macdonald , John
MacLeod , Dianna
Magliola , Lawrence
Mahlis , Larry
Maron-Oliver , Dani
martin , melodie
martinez , priscilla
Mastenbroek , Peter
Matzke , Tina
McClintock , Gloria
McCutcheon , Diane
McFarlane , Brent
McGill , John
McGunagle , William
McKay , Amy
McKee , Patrick
McMahon , Nancy
McMurray , Paul
Michaels , Brenda
Millner , Marjorie
Miner , Melissa
Minsky , Nina
Moore , Ben
morgan , David
Mower , Amy
Mulcare , James
Murawski , Heather
Nagyfy , Desiree
Nava , Lindsay
Neal , William
Neary , Sally
Nelson , Katherine
Nelson , James
Nevins , Suzanne
Nolasco , Chris
O'Dell , Sean
O'Halloran , E.
Osmonson , Bry
Padelford , Grace
Palmer , Judy
Pappas , Michelle
Parhar , Pawiter
Parker , Stan
Parsley , Adina
Pauley , Jean
Pavcovich , Michelle
Payton , Fay
Peacock , Nancy
Penchoen , Gregory
Penuelas , Anita
Peskind , Art
Pratt , Debbi
Quackenbush , Nancy
Quinn , Alison
Rabenstein , Lynn
Rader , Patti
radford , Sally
Raspa , Doris
Reagel , Peter
Rettmann , Tim
Rhomberg , Susan
Richard , Louis
Riordan , Janet
Risser , Susan
Ritter , Phil
Roberts , Jim
robinson , d
Rodgers , Julie
Rogers , Dan
Rose , Valerie
Rothenberg , Florie
Rowland , Danielle
Ruggles , Derya
Rumiantseva , Elena
Ryan , Judy
S , John
Saarinen , Tanara
Samaras , John
Saul , Susan
Saunders , Michael
Scavezze , Barbara
Schuessler , Bob
Schultz , Betsy
Schwab , Judith
Schwede , Bette
Schwinberg , Jean
Services , Supportive
Seward , MaryAnn
Shapiro , Steve
Shirlock , John
Shouse , Susan
Shurgot , Michael
Singer , Phillip
Smith , Susanna
Smith , Ann
Sneiderwine , William
Snyder , Dan

Spear , Debbie
Speed , Andrea
Speer , Cheryl
Starbuck , Judith
Stefano , Lori
Stiglich , Lynn
Strang , Arnold
Sullivan , Diane
Swainson , LuAnne
Swanson , Craig
Teraberry , Kimberly
Ternes , Randal
Thiel , Susan
Thomas , Erik
thomas , kat
Thompson , Eileen
Thompson , John
thornton , Melanie
Trasoff , Stephanie
Truskoff , Joan
Turnoy , David
Underwood , Dennis
Ungar , Arthur
Uyenishi , Steve
Valentine , Jennifer
Van Alyne , Emily
Viertel , Neil
VINING , JENNIFER
Voli , Carlo
Vossler , Susan
Wagner , Stephen
Wallace , Nadine
Warner , Cherie
Wasserman , Linda
Watchie , Joanne
we , Barbara
Wechsler , Roger
Wesley , James
Weyer , Dora
White , Nancy
Whitesell , Edward
Wichar , Den
Wilfing , Janice
Wilkins , MaryJo
Williams , James
Woock , JENI
wood , r
Wood , Marilee
Woolpert , Steven
Worley , Don
Zimdars , Eric

Form letter 2

Commenters: This form letter was submitted by 61 people through our online commenting system. Below is the content of the letter, followed by Ecology's response and the full list of commenters.

Dear WA Department of Ecology, Thank you for the opportunity to comment on Washington's Clean Fuel Standard. I am very supportive of the draft Clean Fuel Standard and applaud the Department of Ecology for setting our clean fuels trajectory to be the strongest possible per the law.

As a person of faith, addressing our transportation pollution to co-create a more just and sustainable future is an important part of my call to live more lightly on Earth so that all may thrive.

Time is of the essence with our response to the climate crisis. Ambitious implementation of this law is critical for a just transition to clean energy that addresses our moral obligation to heal our climate and communities. Please ensure that the final rule maintains the strong carbon intensity standards of a 20% reduction by 2034.

In addition to the urgent need to reduce transportation pollution, I believe how we respond to the climate crisis is also a moral issue. It is imperative that utilities are held accountable to thoughtful and equitable reinvestments that further transportation electrification and reduce pollution in overburdened communities as required by the law.

I have faith that Washington can and will meet our greenhouse gas reduction goals through our gifts of innovation and dedication to stewardship. Thank you for putting us on that path and demonstrating our state's commitment to a clean energy future by implementing the strongest possible Clean Fuel Standard.

Response: The carbon intensity standard set in this rule, a 10% reduction in 2034 is intended to reduce the carbon intensity from transportation fuel as quickly as possible. The carbon intensity reduction curve currently in the rule represents the earliest reductions allowed by statute. The department considers maximizing early emissions reductions necessary to address climate change as quickly as possible.

Ecology has developed rule language pursuant to Chapter 70A.535.080 RCW that requires 30 percent of the revenues generated by an electric utility from credits earned under the Clean Fuels Program be expended on transportation electrification projects in a disproportionately impacted community as defined by the rule. Full criteria and project lists are still in development. Ecology is working closely with the Department of Transportation to continue to develop the list and the criteria for selection of projects and those outlined in the RCW 70A.535.080, which is not comprehensive. We will consider commenters' recommendations when we are working to develop the list. We are eager to advance environmental justice through the Clean Fuels Program and staff will work closely with the Ecology Office of Equity and Environmental Justice to ensure that we implement the regulatory program in ways that are compliant with the requirements of the HEAL Act (Chapter 70A.02 RCW). Utilities are also required to annually report all expenditures of credit revenue to Ecology, as directed in RCW 70A.535.080.

Form letter 2 commenters:

Allen , Sue Ann
Anderson , Glen
Aspell , Amy
B , Shary
Baumgartner , Laura
Benedict , Derek
Bordelon , Tika
Buckley , Christopher
Carrasco , Abbie
Compestine , Amy
Cornwell , Marilyn
Crawford , Tom
Crawford-O'Brien , Suzanne
Devlin , Felicity
Dyer , Anna
Edwards , Karen
Ellis , Elizabeth
Farness , Janet
Freiberg , Patricia
Gabbay , Deirdre
Gilmore , Thomas
Green , Brian
Hallman , Holly
Hance , Judith
Hansen , Steve
Hartmann , Lorraine
Heath , Elizabeth
Johnson , Linda
Johnson , Richard
Jordan , Dorothy
Kearny , Liz
Kenney , Heather
Larrabee , Katherine
LaRue , Erik
Mabry , Callie
MacGregor , Susie
Myer , Ralph
Nelson , Joan
Nicol , Amanda
Nimmons , Rebecca
Norman , Jeff
Oden , Amara
Olson , Janis
Poling , Victoria
Post , Nettie
Reid , Barbara
Robinson , Laura
Roscoe , Signe
Schwab , Judith
Sollenberger , Sharon

Steinke , Don	Vandenberg , Nancy	Weir , Joyce
Sterr , William	Verrinder , Jan and Bob	Woestwin , Carl
Sue , Diane	Wagnitz , Emily	Yates-Bailey , Rosanna
Ungar , Arthur	Weir , Kristi	

Form letter 2.1

Commenters: This form letter was submitted by 83 people and contained the same content as form letter 2 with a few added points. Below is the content of the letter, followed by Ecology's response and the full list of commenters.

Dear WA Department of Ecology,

Thank you for the opportunity to comment on Washington's Clean Fuel Standard. I am very supportive of the draft Clean Fuel Standard and applaud the Department of Ecology for setting our clean fuels trajectory to be the strongest possible per the law.

As a person of faith, it is important to me that we take swift action to address transportation as our largest source of pollution in Washington. A strong final Clean Fuel Standard will help me embody my call to live more lightly on Earth so that all may thrive.

Time is of the essence with our response to the climate crisis. Ambitious implementation of this law is critical for a just transition to clean energy that addresses our moral obligation to heal our climate and communities. Please ensure that the final rule maintains the strong carbon intensity standards of a 20% reduction by 2034.

In addition to the urgent need to reduce transportation pollution, I believe how we respond to the climate crisis is also a moral issue. Please ensure the following points are reflected in the final rule:

- Explicitly incorporate Ecology's existing obligation to proactively and meaningfully consult with Native Nations, including expectations for sufficient time and information.

- Require an environmental justice review in compliance with the HEAL Act and include requirements for Ecology to track and remedy air pollution impacts.

- Hold utilities accountable to thoughtful and equitable reinvestments that further transportation electrification and reduce pollution in overburdened communities as required by the law.

- Strengthen initial accounting of the impact of crop-based biofuels beyond California's baseline and plan for ongoing review as science advances.

I have faith that Washington can and will meet our greenhouse gas reduction goals through our

gifts of innovation and dedication to stewardship. Thank you for putting us on that path and demonstrating our state's commitment to a clean energy future by implementing the strongest possible Clean Fuel Standard.

Response: The carbon intensity standard set in this rule, a 10% reduction in 2034 is intended to reduce the carbon intensity from transportation fuel as quickly as possible. The carbon intensity reduction curve currently in the rule represents the earliest reductions allowed by statute. The department considers maximizing early emissions reductions necessary to address climate change as quickly as possible.

Ecology has developed rule language pursuant to Chapter 70A.535.080 RCW that requires 30 percent of the revenues generated by an electric utility from credits earned under the Clean Fuels Program be expended on transportation electrification projects in a disproportionately impacted community as defined by the rule. Full criteria and project lists are still in development. Ecology is working closely with the Department of Transportation to continue to develop the list and the criteria for selection of projects and those outlined in the RCW 70A.535.080, which is not comprehensive. We will consider commenters' recommendations when we are working to develop the list. We are eager to advance environmental justice through the Clean Fuels Program and staff will work closely with the Ecology Office of Equity and Environmental Justice to ensure that we implement the regulatory program in ways that are compliant with the requirements of the HEAL Act (Chapter 70A.02 RCW). Utilities are also required to annually report all expenditures of credit revenue to Ecology, as directed in RCW 70A.535.080.

Under the 1989 State/Tribal Centennial Accord and the 2012 State/Tribal Relations Act (Chapter 122, Laws of 2012), we maintain a government-to-government relationship with Tribes. We are fully committed to the principles of government-to-government consultation and cooperation with Tribes. Throughout the rulemaking process for the Clean Fuel Standard, Ecology has ensured opportunities to consult with and involve Tribes. As part of rulemaking process, Ecology sends a notice to 33 Tribes at each stage of the rulemaking. The notice contains information about the rule, its anticipated actions or impacts, and invites government-to-government consultation. There were no requests for government-to-government consultation during this rulemaking, but Ecology remains committed to that consultation as it is requested.

Ecology incorporates environmental justice considerations in all of its rulemaking and is in the process of incorporating environmental justice assessments into our work as required by the HEAL Act. This includes considering the impact to areas with environmental justice considerations and ensuring the rulemaking process is accessible to those potentially most impacted by agency decisions. However, the current timeline for implementation of the environmental justice assessments as outlined in the HEAL Act does not provide the opportunity for Ecology to incorporate them in the current rulemaking for the Clean Fuel Standard. Given the timeline of this rulemaking, we are unable to incorporate additional processes to collect and assess data as requested by commenters. Ecology is required to comply with the HEAL Act statute outlined in Chapter 70A.02 RCW. As part of that compliance,

we will complete the reporting requirements and reviews of the Clean Fuel Standard to meet those obligations. As the HEAL Act is fully implemented, Ecology will work to incorporate the requirements and processes into the Clean Fuel Standard in order to continually improve how we serve communities.

Ecology is unable to do modeling to determine the iLUC value for biofuels due to the time constraint to do such work. Thus, the decision is to choose among existing LUC values in CARB and OR-DEQ rules. Both CARB and OR-DEQ agree on the iLUC values for three biodiesel and renewable diesel feedstock (soybean, canola, and palm) and two ethanol feedstock (sorghum and sugarcane). However, they differ on the corn ethanol iLUC values. Ecology recognizes both the 2015 CARB and OR-DEQ iLUC values for corn ethanol are not based on the most current model and data. It is evident that the CARB modeling and determination used a robust and transparent stakeholder engagement process, and that provides a higher level of confidence. As a result, Ecology chose to use CARB's iLUC value for corn ethanol. Ecology received very valuable detailed input towards the modeling of land use change impact of biofuels (especially corn and cover crops). We highly appreciate the depth of the comments and the references provided, and we will benefit from this in the planning and development of future work to assess the land use change impact of biofuels.

Form letter 2.1 commenters:

Abbey , Elizabeth
Bailey , Annie
Ballast , Haley
Barber , Kristin
Bartlett , Faye
Bell , Stephanie
Botch , Margaret
Bray , Karen
Burazer , George
Carey , Bob
Chouery , Bernice
Clark , Elaine
Cline , Catharine
Corr , Nancy
Covert-Bowlds , Chris
Dalenius , Karen
Daniels , Kristy
Davis , Joan
Dawson , Kathy
DiGiacomo , Ron
Doherty , John
D'Orazio , Veronica
Druffel , Pauline
Duncan , Suzanne
Eldred , Paul
Erdmann , Heidi
Erickson , Tamara
Fee , Thuymai
Forman , Kathleen
Froebe , Brel
Froebe , Jillian
Gaines , Linda
Garrett , Fay
Goldstein , Seth
Graham , Margaret
Greene , Cheryl
Hauser , Ginny
Herschberger , Kelsey
Hickman , Kelly
Hiebert , Jennifer
Howe , Jared
Johnson , Lorraine
Kageler , Julie
Kaplan , Oolaa
Karpenko , Broehe
Kerwin , Elizabeth
Ketter , David
Killorin , May
Kindem , Erik
LeBlanc , Judy
Levee , Tish
Lewis , Nancy
Liljenstolpe , John-Otto
Lish , Jeannine
Litwin , Paul
Mallory , Mike
Mathistad , Krista
Maris , Celeste
McCloskey , Daniel
McQueen , Josh
Millen , Pat
Milliren , Patricia
O'Malley , Kate
Pawl , Eleana
Ramee , Joyce
Rehberg , Gretchen
Roberg , Kathy
Roberts , Patrice
Rodenberg , Carolyn

Rulifson , Brian
Rutherford , Francie
Ryan , Judy
Sargeant , Helen
Satterthwaite , Jan
Schneider , Carol
Schwinberg , Jean
Siptroth , Michael
Smith , Mary Ellen
Thiele , Gloria
Voget , Rich
Ward , Troy Faith
Wilson , Sharon
Young , Jim