Clean Fuels Program:
Electricity Rulemaking

Item H

Environmental Quality Commission Meeting

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Through Q3 2020, the Clean Fuels Program has…

- Reduced about 4.9 million tons of GHGs on a lifecycle basis
- Met and exceeded its annual targets by about 730,000 tons of GHGs
- Resulted in the biofuels used in the state getting cleaner
- Significantly increased the blending rate of biomass-based diesels
- Led to the introduction of renewable forms of diesel, propane, and biomethane
- Enabled the state's utilities to invest more than $20 million in transportation electrification activities

Clean Fuels Projects in Oregon

Columbia Pacific BioRefinery
Proposed: 95 mil gallons of renewable diesel/naptha

NEXT Renewable Fuels, Inc.
Proposed: 600 mil gallons of renewable diesel made from waste & virgin oils

ALTO INGREDIENTS
40 mil gallons of ethanol made from corn

SUMMIT natural energy ADVANCED BIO-FUEL
Ethanol made from food waste

SeQuential Collect. Refine. Refuel.
15 mil gallons of biodiesel made from used cooking oil

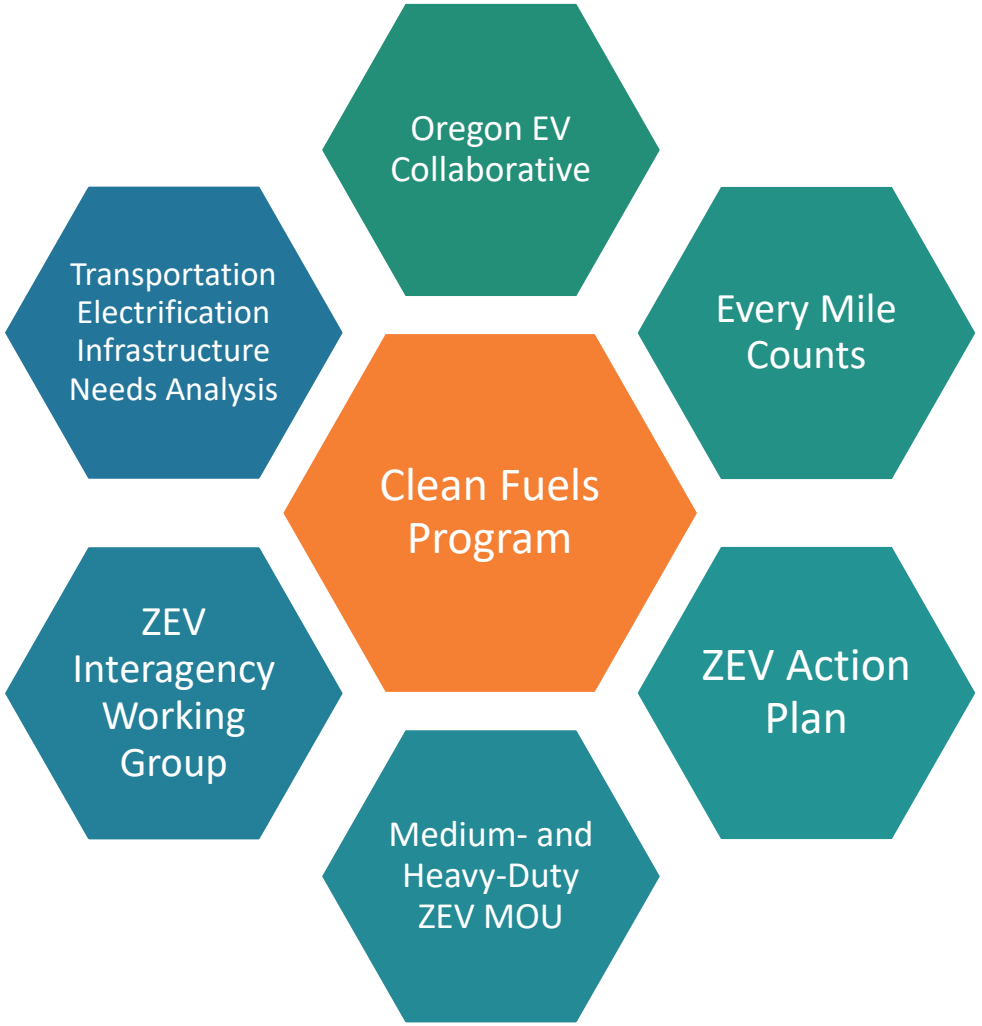

Renewable natural gas captured from dairy manure

EWEB
Proposed: renewable hydrogen

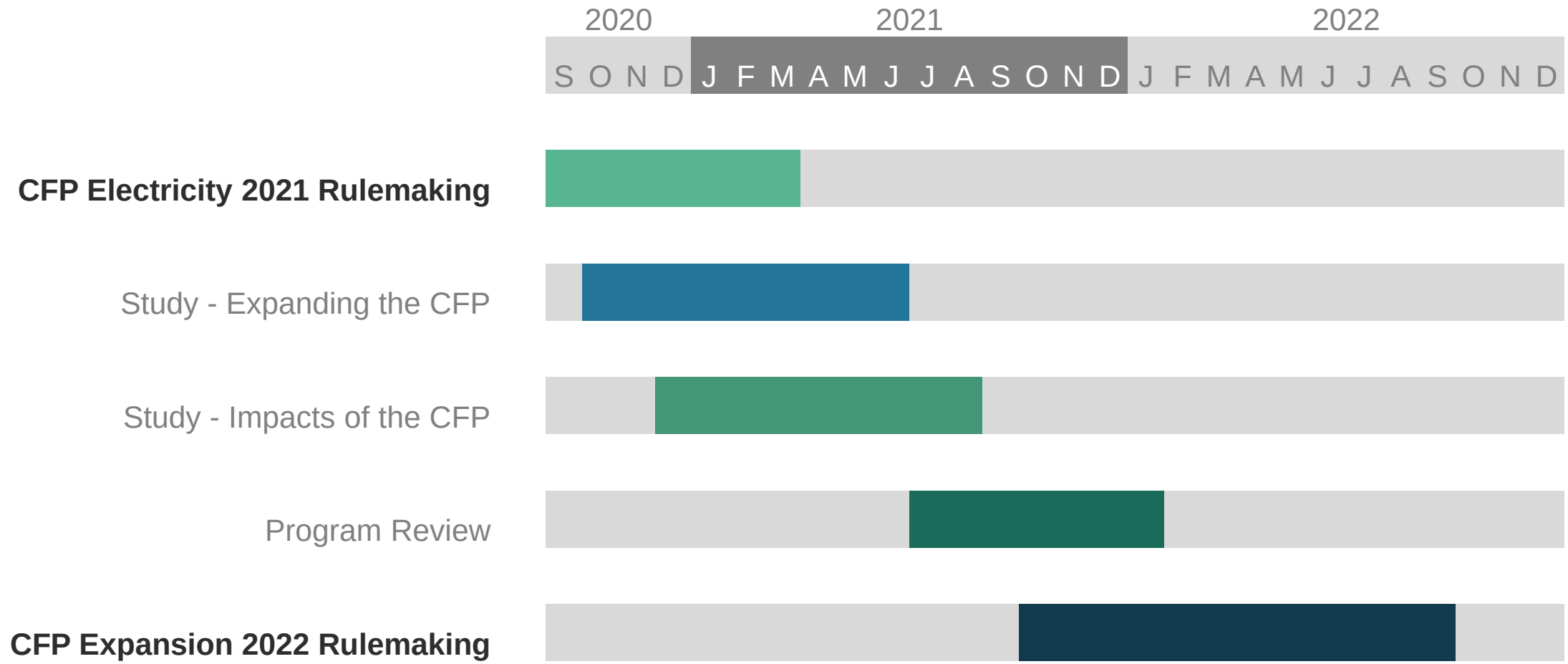
RED ROCK BIOFUELS
Under Construction: 15 mil gallons of renewable jet fuel made from woody biomass

Infrastructure:
- 2,000+ EV chargers
- ~2 dozen CNG dispensers,
- ~2 dozen LPG dispensers

EV Partnerships & Collaborations



A Look Ahead for the Clean Fuels Program



Clean Fuels Program Electricity 2021 Rulemaking

Guiding Principles for CFP

To maintain the integrity of the Clean Fuels Program, we strive to:

- Achieve real and quantifiable GHG reductions
- Employ a technology- and fuel-neutral approach
- Use the best available science
- Provide the incentives for technology development, commercialization, and deployment that will produce permanent paths to decarbonizing the transportation sector

The Stakeholder Engagement Process

- Pre-RAC Brainstorming Webinar
- Rulemaking advisory committee
  - 17 members representing utilities, industry stakeholders, and community interests
  - 6 public meetings between Sept. and Dec. 2020
  - Averaged approximately 70 participants per meeting
  - Dozens of written comments were submitted
- Notice of Proposed Rulemaking
  - 32 written comments and 6 verbal comments received

Major Themes of CFP Electricity 2021

The goal of this rulemaking is to find ways to advance methods to accelerate the generation and aggregation of clean fuels credits in order to advance transportation electrification. The following are ways that DEQ and stakeholders feel that CFP can fulfill that goal by:

- Encouraging new types of electric vehicles
- Updating the calculation of the carbon intensity of electricity
- Encouraging the use of renewable electricity
- Focusing electrification investments in environmental justice communities
- Incentivizing the electrification of fleets

New Electric Vehicles

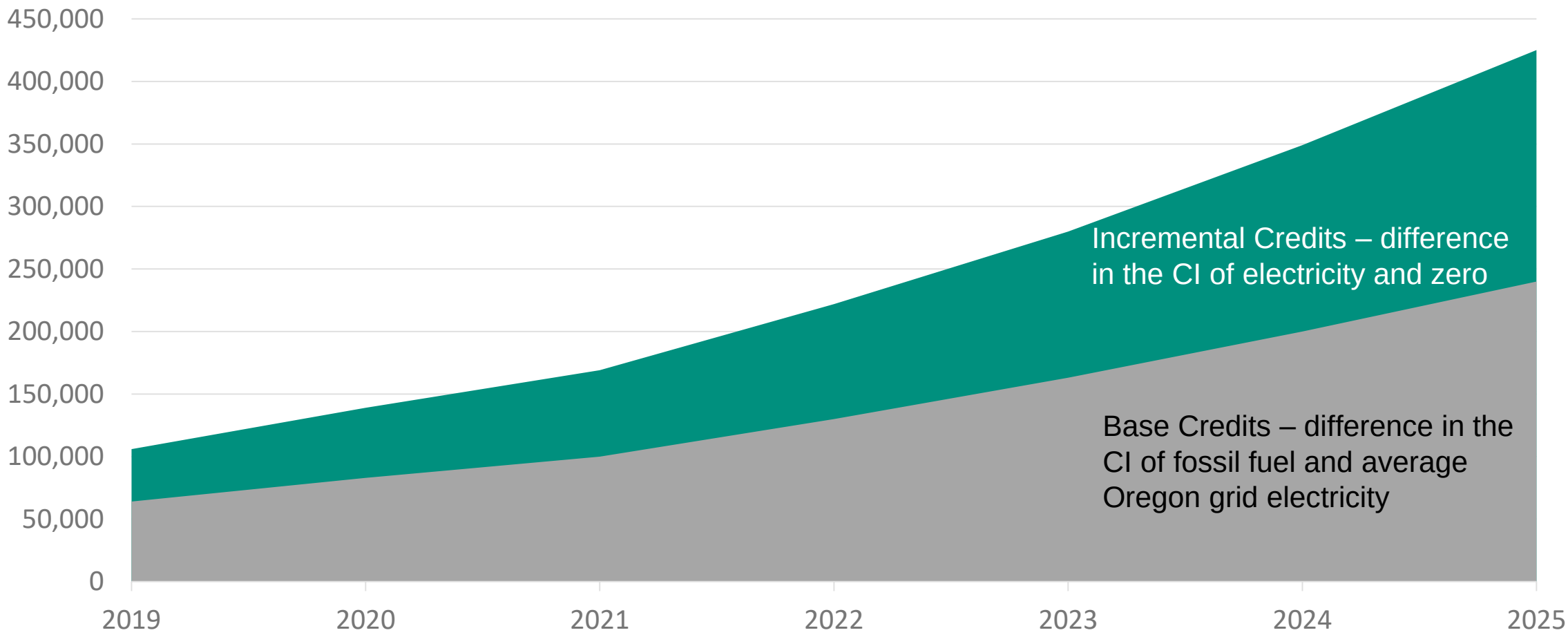
Eligible Application	Equipment
Electric Cargo Handling Equipment (eCHE)    	Loader Rubber-Tired Gantry Crane Rail Mounted Gantry Crane Automated Stacking Crane Side Handler Top Handler Reach Stacker Aerial Lift Excavator
Electric Ocean Going Vessel (eOGV)   	Various shore power provided to an ocean going vessel at-berth

Calculating the Carbon Intensity of Electricity

Oregon's electricity is getting cleaner rapidly. In order for CFP to capitalize on this trend, the methodology to calculate the carbon intensity needed to be updated.

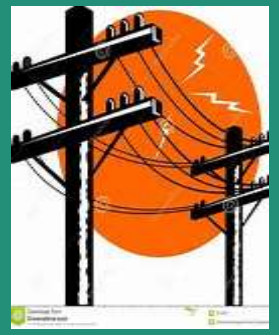
- 5-year rolling average → single year average
- 0.428 MT/MWh to replace Boardman
- Remove the utility-specific load from the statewide average

Renewable Electricity for Electric Vehicles



Example: Incremental Credits

In this example, TriMet is interested in generating incremental credits from their fixed light rail system by purchasing RECs.



Base Credits

- Δ CI: 62.09 gCO2e/MJ
- Electricity Use: 55 million kWh
- Base Credits: 16,250
- Revenue: $2,031,000

Incremental Credits

- Δ CI: 33.02 gCO2e/MJ
- Incremental Credits: 8,690
- Cost of RECs @ $5: $275,000
- Revenue from credits @ $125: $1,086,000
- **Net revenue from incremental credits: $811,000**

Credit Generators for Electricity

	Base Credits	Incremental Credits
Public, workplaces, fleets, and multi-unit dwellings	Owner or operator of the charger	Owner or operator of the charger
Transit agencies	Transit agency	Transit agency
Forklifts, transportation refrigeration units, cargo handling equipment, ocean-going vessel shorepower	Owner/operator/service provider	Owner/operator/service provider
Residential	Electric utility	Electric utility
	Backstop Aggregator	Incremental Aggregator

Incremental Aggregator

- DEQ issues an RFP to solicit for interested entities
- Both parties enter into a contract that lays out the responsibilities of the Incremental Aggregator, to:
  - purchase & retire RECs
  - sell the incremental credits
  - develop & implement an annual work plan of programs & projects
  - submit annual report & financial audit
- Incremental credits can be generated from residential & non-residential charging that is unclaimed

CFP Equity Advisory Committee

The committee will work with DEQ and the Incremental Aggregator to prioritize investments that equitably distribute benefits and address the needs and interests of Environmental Justice Communities that are the most vulnerable to the adverse effects of air pollution and climate change.

Environmental Justice Communities are defined as: “communities of color, communities experiencing lower incomes, tribal communities, rural communities, coastal communities, communities with limited infrastructure and other communities traditionally underrepresented in public processes and adversely harmed by environmental and health hazards, including but not limited to seniors, youth and persons with disabilities.”

Advanced Crediting

- The goal is to help lower the upfront costs of conversion to electric vehicles by issuing advanced credits. Normally, you generate credits on a quarterly basis by reporting how much electricity has been dispensed.

- Instead, we are proposing to issue advanced credits when the vehicle enters useful service. The advanced credits can be sold and the revenue can be spent to offset any costs. Credits generated are used to draw down the balance of the loan over an extended period of time. When the it is paid back in full, you return to regular credit generation.
- This provision is limited to public fleets (like transit and school buses) and entities that contract with them to provide a public service (like refuse haulers).

Example: Advanced Crediting

In this example, the Newberg School District has received a grant from PGE for a new electric school bus and is interested in applying for advanced credits to help buy more. DEQ will work with the school district as it develops its application.

Year	Estimated			Revenue if credits sold @ $125
	Miles	kWh	Credits	
2022	15,000	27,900	36	$ 4,498.64
2023	15,000	27,900	35	$ 4,406.36
2024	15,000	27,900	35	$ 4,314.08
2025	15,000	27,900	34	$ 4,191.04
2026	15,000	27,900	34	$ 4,191.04
2027	15,000	27,900	34	$ 4,191.04
			Total:	$ 25,792.19

Example: Purchasing an Electric School Bus

The cost of a Class A electric school bus is approximately $400,000

Oregon Dept of Education $280,000 over 10 years of tax depreciation	VW/DERA grant $100,000 – $120,000	CFP $25,792
Oregon Dept of Education $280,000 over 10 years of tax depreciation	CFP $25,792	Other funds $94,208

DEQ Recommendation to the EQC

DEQ recommends that the Environmental Quality Commission adopt the proposed new rules and rule amendments in Attachment A as part of Chapter 340 of the Oregon Administrative Rules.