



DEPARTMENT OF  
**ECOLOGY**  
State of Washington

**Clean Vehicles Program – Chapter 173-423 WAC**  
**General Regulations for Air Pollution Sources –**  
**Chapter 173-400 WAC**

**February 28, 2022 Stakeholder Meeting**

# Ecology Staff

- Eman Jabali – Meeting host
- Tina Maurer – Meeting host
- Martha Hankins – Policy/Planning Section Manager
- Elena Guilfoil – Rulemaking Lead
- Dustin Watson – Technical Lead

# Agenda

- Welcome
- Overview
- ZEV credit options
- Low NOx Omnibus Rule
- Fleet reporting requirement
- Adoption of federal rules
- Next steps

# Overview

Rulemaking will update two rules:

- Clean Vehicles Program – Chapter 173-423 WAC
- General Regulations for Air Pollution Sources – Chapter 173-400 WAC

Statutory authority

- Motor Vehicle Emission Standards (Chapter 70A.30 RCW)
  - Low emission vehicle program since 2008
  - 2020 law changed: Directs Ecology to adopt California vehicle emission standards
  - 2021: Adopted zero emission vehicle program (will start in 2024) and updated the low emission vehicle requirements
- Washington Clean Air Act (Chapter 70A.15 RCW)
  - Provides Ecology authority to adopt emission standards and regulate air quality in Washington

# Legal Authority – Clean Vehicles Program

## Clean Air Act Section 177

- Allows California to adopt unique motor vehicle emission standards
- States must:
  - Adopt California motor vehicle emission standards identically
  - Provide two years' advance notice before the start of the model year

# What This Rulemaking Will Do

- Adopt California motor vehicle emission standards:
  - Advanced Clean Cars II (ACC II)
  - Heavy-Duty Low NOx Omnibus Rule
  - Requirements would start with model year 2026 vehicles
- Evaluate and potentially adopt:
  - Washington-specific ZEV credit system
  - One-time medium- and heavy-duty fleet reporting requirement
- Adopt federal rules by reference in Chapter 173-400 WAC

# 2022 Rulemaking Timeline

Announce  
Rulemaking

Develop Rule

Stakeholder meetings

February 28  
April 19  
May 24

Propose Rule

Evaluate  
Comments and  
Respond

Adopt  
Rule

January 18

February – May

July – September

September –  
December

December  
2022

# Comment Online

- Informal public comment period ends May 29, 2022
- Comment online:  
<https://aq.ecology.commentinput.com/?id=UZmpG>
- Rulemaking web page  
(search for ZEV or ZEV rulemaking)  
<https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Rulemaking/WAC173-423-400Jan18>



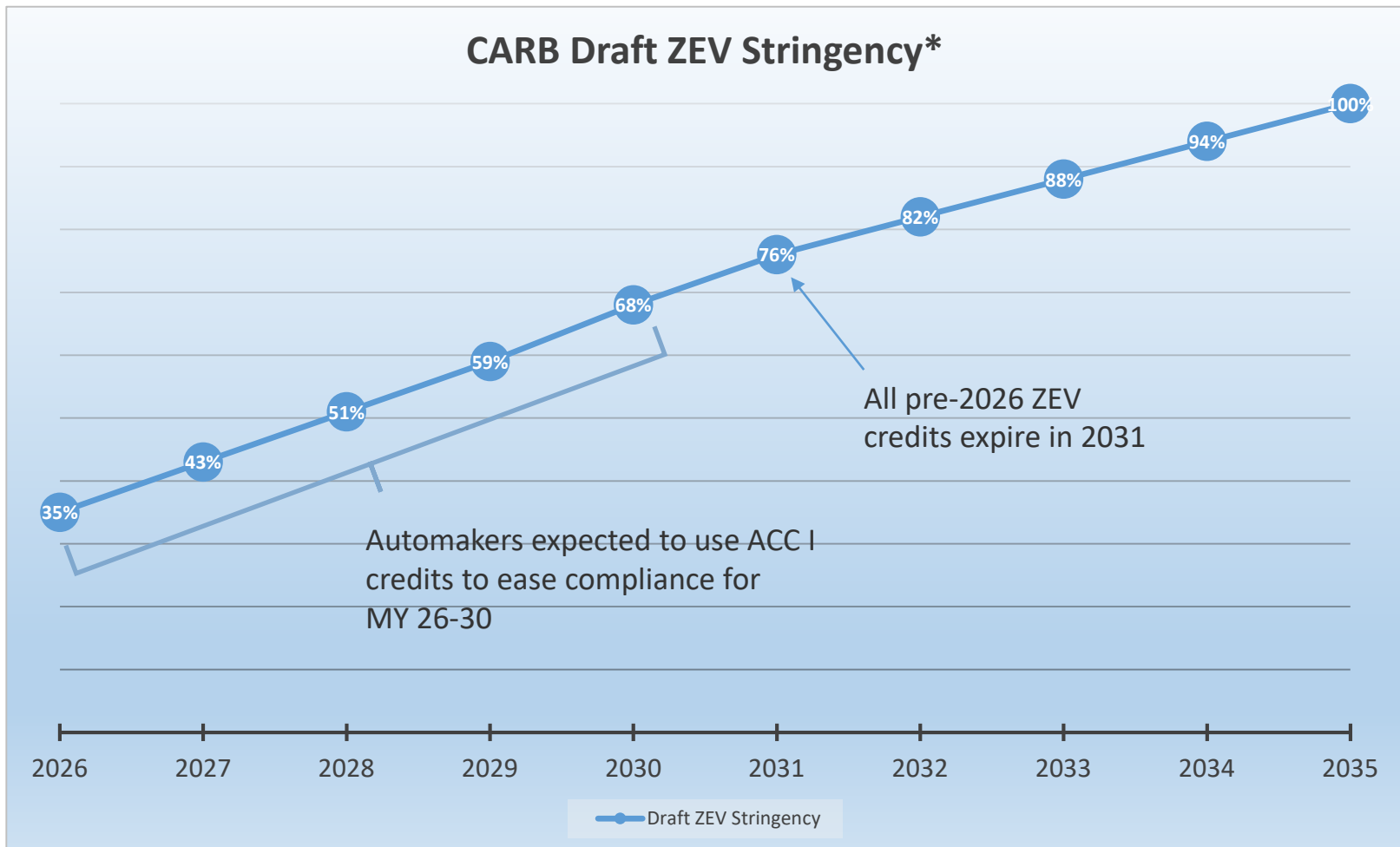
# ZEV Credit Options Paper

- ZEV Credit Options paper posted on rulemaking web page
  - Full list of acronyms
  - All charts and tables used in this presentation
  - Provides further detail and discussion
- What are zero emission vehicle (ZEV) credits?

# Considering ZEV Credit Options

- Washington adopted zero emission vehicles (ZEV) rule in November 2021 – Advanced Clean Cars I (ACC I)
- Rule did not establish credit banks or early action credits
- California’s proposed Advanced Clean Cars II (ACC II) would change how automakers earn ZEV credits
  - ACC I: 1 ZEV = 0.5 to 4 credits
  - ACC II: 1 ZEV = 1 credit
- ACC II ZEV stringency increases rapidly to 100% ZEV in 2035

# CARB ACC II Draft ZEV Stringency



# ZEV Credit Options – Policy Goals

- Provide credits in Washington to level the reliance on banked credits for compliance between model years (MY) 2026 and 2030
- Provide an incentive for ZEV delivery to Washington before model year (MY) 2025
- Support automakers that have invested in ZEV technology
- Prevent rewarding an automaker at the expense of another
- Maximize the number of ZEVs deployed in Washington
- Maximize reductions in greenhouse gas emissions and criteria pollutants – nitrogen oxides (NO<sub>x</sub>) and fine particulate matter (PM<sub>2.5</sub>)

# ZEV Credit Options Overview of Evaluation

- We reviewed:
  - Credits offered by other recent ZEV states
  - Washington's ZEV market share compared to those states
  - Current ZEV sales trends and market share in Washington
  - Projections and forecasts of future ZEV sales nationally
  - Projected future ZEV sales and market share in Washington
  - Projected credit availability in Washington from ZEV sales for MY 2025 – MY 2030
- We then evaluated five options for credit offerings to meet policy goals.

# Credits Offered by Other Recent ZEV States

- States recently adopting ACC I
  - Colorado (2019)
  - Washington (2020)
  - Minnesota (2021)
  - Nevada (2021)
  - Virginia (2021)

State	Proportional Credits	Early Action Credits
<b>Colorado – Option 1</b>	Yes – Full Usage Limited to 36%	No
<b>Colorado – Option 2</b>	Yes – Full Usage Limited to 23%	Yes
<b>Washington</b>	None	No
<b>Minnesota</b>	Yes – Full	Yes
<b>Nevada</b>	Yes – Full	Yes
<b>Virginia</b>	Yes – Full	Yes

# Washington's ZEV Market Share Compared to Other Recent ZEV States

State	MY 2020 ZEV Market Share (%)
California	7.9
Colorado	3.8
Minnesota	1.6
Nevada	2.9
Virginia	2.0
Washington	<b>5.1</b>
Nationally	2.2

Source: Atlas EV Hub Automaker Dashboard

# Current ZEV Sales Trends and Market Share in Washington

Washington is consistently ranked #2 (after California) for ZEV market share



State	Q3 2021 (%)	Q4 2021 (%)	Full Year 2021 (%)
California	13.9	16.7	12.6
Colorado	7.0	7.6	6.0
Minnesota	3.3	3.4	2.9
Nevada	6.6	9.8	5.6
Virginia	4.4	5.2	3.8
Washington	<b>8.6</b>	<b>11.1</b>	<b>7.7</b>
Nationally	5.0	3.6	3.9

Source: Atlas EV Hub Automaker Dashboard



# Projections and Forecasts of Future ZEV Sales Nationally

Global EV sales more than doubled in 2021 vs. 2020, tripled vs. 2019

 STEPHEN EDELSTEIN FEBRUARY 10, 2022 

 **GREEN CAR REPORTS**

BUSINESS

2022 is promising to be big year for electric vehicles

January 2, 2022 · 8:06 AM ET  
Heard on Weekend Edition Sunday



 CAMILA DOMONOSKE 

## Green Car Congress

*Energy, technologies, issues and policies for sustainable mobility*

Ford to boost production capacity of electric F-150 Lightning to 150,000 per year; ability to produce 600K BEVs annually within 24 months

05 January 2022



GM plans six-fold increase in 2022 electric truck, SUV production -sources

By Joseph White



Ford Plans To Add 5 New Electric Lincoln SUVs By 2026

The future of Lincoln is all-electric, and out of this world!

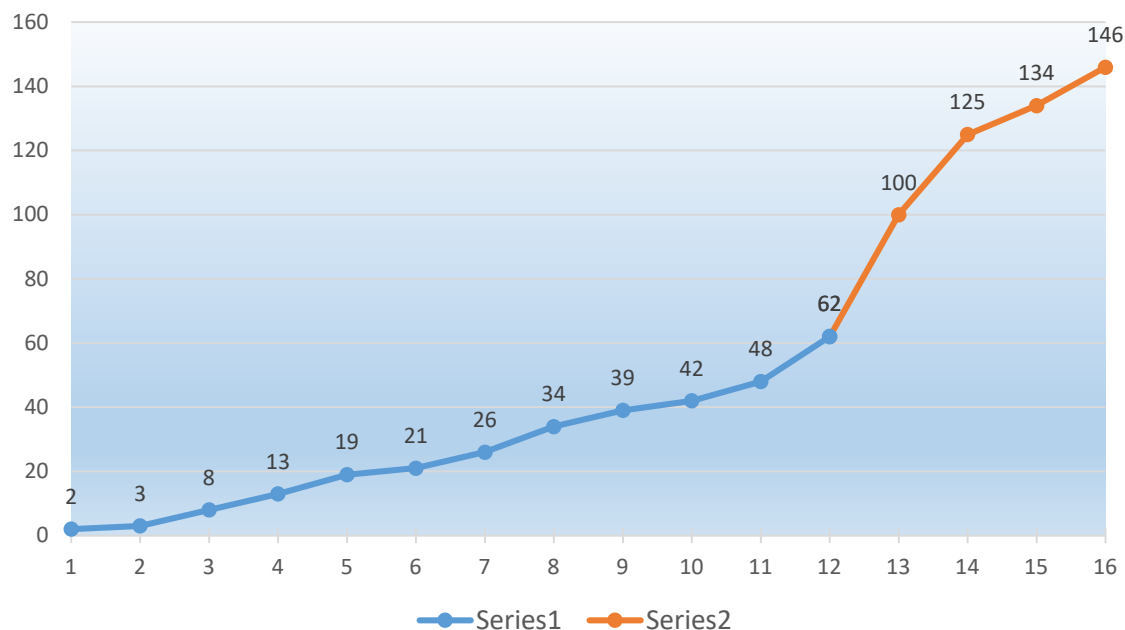
 By Steve Hanley Published February 12, 2022     33 Comments



U.S. Energy Dept to provide about \$3 bln to boost production of advanced batteries

# Projections and Forecasts of Future ZEV Sales Nationally

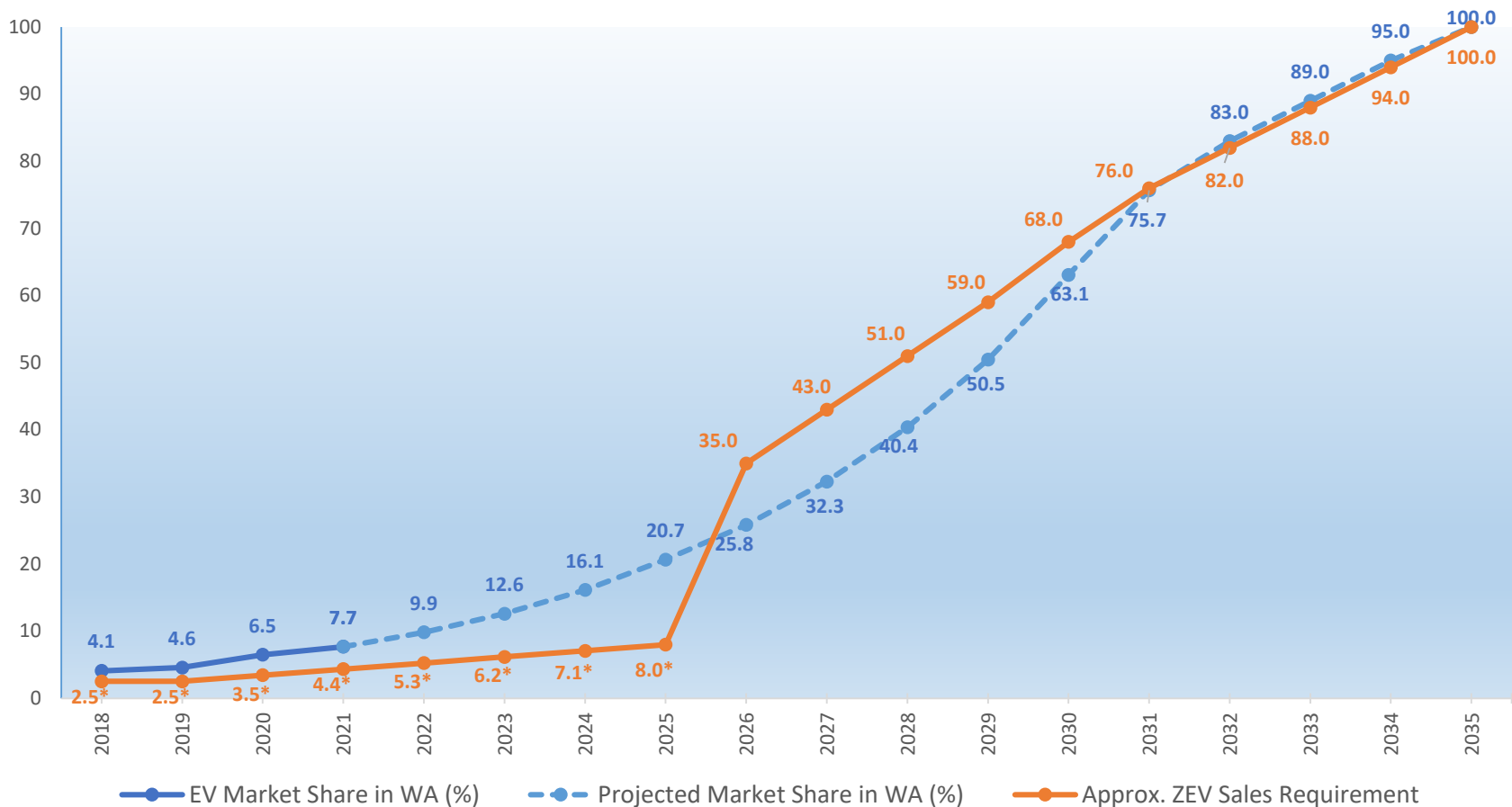
- Automakers investing billions of dollars in electric powertrains
- Dozens of new EV models coming soon



# Projections and Forecasts of Future ZEV Sales Nationally

- Most national EV market forecasts released pre-pandemic
- Dramatic increase in interest and acceptance of EVs during pandemic
- Many new models intended for mass production
  - Ford F-150 Lightning production volumes quadrupled
  - Ford Mustang Mach-E production increased
  - GM intends to produce 1 million EVs per year by 2025
- Numerous automakers announcing all-EV lineups by 2025–2040
- Biden Administration announced goal of 50% ZEV by 2030
  - Several automakers commit to 40%–50% ZEVs by 2030

# Projected Future ZEV Sales and Market Share in Washington



# Projected Credit Availability in Washington From ZEV Sales for MY 2025 – MY 2030

- Automakers expected to earn 128,000 ZEV credits in 2025
  - ACC I credits become “historical” credits in 2026
- Under ACC II starting in 2026, automakers expected to have annual deficits through 2030

Model Year	All New Light Duty Sales	% EVs	New Light Duty EV Sales	Credits Earned	ZEV Mandate (%)	Credits Needed	Yearly Over/Under Compliance	Running Total
<b>2025</b>	289,406	20.7	59,907	191,702	22.0	63,669	128,033	128,033
<b>2026</b>	303,877	25.8	78,400	78,400	35.0	106,357	-27,957	100,077
<b>2027</b>	319,070	32.3	103,060	103,060	43.0	137,200	-34,141	65,936
<b>2028</b>	335,024	40.4	135,350	135,350	51.0	170,862	-35,513	30,424
<b>2029</b>	351,775	50.5	177,646	177,646	59.0	207,547	-29,901	523
<b>2030</b>	369,364	63.1	233,069	233,069	68.0	251,168	-18,099	-17,576

# ZEV Credit Options - Introduction

- Option 1 – Full proportional credits
  - Washington credits proportional to banked California credits
- Option 2 – Adjusted proportional credits
  - Washington credits proportional to banked California credits, adjusted for robust Washington sales
- Option 3 – No additional ACC I credits
- Option 4 – Early action credits
  - Credits for MY 2023 and MY 2024
- Option 5 – Combination option
  - Mix of proportional credits and early action credits
    - Option 5a: Option 4 and Option 1
    - Option 5b: Option 4 and Option 2
    - Option 5c: Option 4 and Option 3

# ZEV Credit Options – Option 1

## Full Proportional Credits

- Option 1 would provide automakers the number of credits proportionate to their credits in California's credit bank.
- California credit bank has about 1.88 million credits.
- Washington's auto sales are 15.1% of those in California
  - Washington sales = 295,582
  - California sales = 1,959,243
- Total credits under Option 1 = 283,530.56
- Breakdown of credit allocations by automaker in Table 7 of ZEV Credit Options paper (page 20)

# ZEV Credit Options – Option 2

## Adjusted Proportional Credits

- Washington's ZEV sales stronger than other recent states that offered full proportional credits
  - Average 2021 ZEV market share = 4.1%
    - Minnesota 2021 ZEV market share = 2.9%
    - Nevada 2021 ZEV market share = 5.6%
    - Virginia 2021 ZEV market share = 3.8%
  - Washington 2021 ZEV market share = 7.7%
- Option 2 would adjust proportional credits down by 0.53
- Total credits under Option 2 = 150,271.19
- Breakdown of credit allocations by automaker in Table 8 of ZEV Credit Options discussion paper (page 22)



# ZEV Credit Options – Option 3

## No Additional ACC I Credits

- Option 3 would adopt ACC II as written and not provide any additional credits under ACC I.
- Automakers would still bank credits from ZEV sales for MY2025 under ACC I.
- CARB is proposing numerous compliance flexibilities in ACC II
  - Environmental justice credits
  - Pooling or transfer of credits between ZEV states
  - Early compliance credits for ZEV sales above standard for MY 2024 and MY 2025
- Proposed flexibilities increase likelihood of automaker compliance with ACC II

# ZEV Credit Options – Option 4

## Early Action Credits Only

- Option 4 would provide early action credits for ZEV sales for MY 2023 and MY 2024.
- Would increase likelihood of ZEV model availability in WA
- Projected ZEV sales of about 77,500 for MY 2023 and 2024
- Automakers would be able to generate about 247,800 early action credits under ACC I.
- ACC I credits converted to “historical” credits in ACC II
- CARB proposing cap of 15% on use of historical credits

# ZEV Credit Options – Option 5 Combination Option

- Option 5 would be a combination of early action credits and proportional credits
  - Option 5a: Option 4 (early action) and Option 1 (full proportional)
  - Option 5b: Option 4 (early action) and Option 2 (adjusted proportional)
  - Option 5c: Option 4 (early action) and Option 3 (no proportional)

# ZEV Credit Options – Summary

Option	Proportional Credits Offered	Early Action Credits Earned	Total Credits
Option 1	283,530.56	0.00	283,530.56
Option 2	150,271.19	0.00	150,271.19
Option 3	0.00	0.00	0.00
Option 4	0.00	247,843.20	247,843.20
Option 5a	283,530.56	247,843.20	531,373.76
Option 5b	150,271.19	247,843.20	398,114.39
Option 5c	0.00	247,843.20	247,843.20

# Heavy-Duty Low NOx Omnibus Rule

Cleaner heavy-duty engines

Washington will adopt California rule by reference.

## Program Elements

- Lower nitrogen oxide (NOx) and fine particle standards
  - Nitrogen oxides reduced by 75% in 2024; 90% in 2027
  - Particles reduced by 50% in 2024
- Longer useful life and warranty periods
- Improved in-use testing methods
- Improved credit banking system
- Updated Phase 2 greenhouse gas rules for trucks and trailers

# Heavy-Duty Low NOx Omnibus Rule – Exemptions

- Rule exempts diesel-fueled transit bus and engine
  - Ties exemption to the California Innovative Clean Transit Rule
  - Exemption waivers for transit agencies
    - Enables continued diesel engine purchases
    - Approval letter allows manufacturers to sell buses to transit agency
- Rule exempts high horsepower engines
  - Manufacturers are not planning to design or sell high-hp (> 525 hp) compliant engines under the new standards.
- Washington intends to adopt these exemptions.
- Questions or comments

# Fleet Reporting Requirement

- One-time reporting requirement on existing fleet operations
- California included this requirement in its Advanced Clean Trucks rule. Washington did not adopt a fleet reporting requirement in 2021 because our rulemaking was limited to adopting California's vehicle emission standards.
- Applies to:
  - Vehicles weighing over 8,500 pounds
  - Fleet owners with a facility in Washington
  - Large employers (gross annual revenue above \$50M, 2022 tax year)  
Includes retailers, manufacturers, restaurants, etc.
  - State, local, and federal government agencies
  - Brokers that dispatch vehicles that operate in Washington
- Exempts:
  - Military vehicles
  - Emergency vehicles
- Washington rule will include school and transit buses

# Fleet Reporting Requirement

- Report information on:
  - Owner/broker
  - Number of vehicles
  - Weight class
  - Fuel type
  - Operating characteristics: Daily/annual miles traveled, vehicle usage information, and types of trailers
  - Average vehicle retention time
  - Characteristics of home base facilities (location where vehicle is parked at night)
  - Reporting period



# Fleet Reporting Requirement

- Executive Order 21-04 Zero Emission Vehicles
  - Requires vehicle electrification of executive and small cabinet agencies
  - Administered by State Efficiency and Environmental Performance (SEEP) Office
  - SEEP will provide data for agencies participating in EO 21-04. Avoids duplication and reduces confusion.
- Reporting period: Collect data from 2022
- Submission date: Under discussion
- Reporting form: Ecology will develop

# Fleet Reporting Requirement

For consideration:

- What size fleet should be required to report?
  - California – 50 vehicles
  - Oregon – 5 vehicles
- Schools, school districts, and transit agencies

California excluded schools, school districts, and transit agencies because they had collected data on these fleets through other programs.  
Washington is considering including them because we do not have this information.
- Reporting deadline: Considering Fall 2023

What date for the fleet reporting?

# Adoption by Reference

## General Regulations for Air Pollution Sources

- Revise 5 sections in Chapter 173-400 WAC
  - Section 025 Adoption by reference
  - Section 050 Emission standards for combustion and incineration units
    - Update requirements for incineration units
  - Section 070 Emission standards for certain source categories
    - Update requirements for landfills
  - Section 115 Standards of performance for new sources
    - Update list of emission guidelines
  - Section 720 Prevention of significant deterioration (PSD)
    - Clarify that pre-2020 definition of “project emissions accounting” applies in Washington
- Questions or comments

# Next Steps

- Upcoming stakeholder meetings
  - April 19, 2022, 9 a.m. – 11 a.m.
    - Draft rule language
  - May 24, 2022, 9 a.m. – 11 a.m.
    - Draft rule language
- Comment online
  - Informal public comment period ends May 29, 2022
  - <https://aq.ecology.commentinput.com/?id=UZmpG>
- Rulemaking web page
  - (search for ZEV or ZEV rulemaking)
  - <https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Rulemaking/WAC173-423-400Jan18>

# More Information

- Join project email list: [elena.guilfoil@ecy.wa.gov](mailto:elena.guilfoil@ecy.wa.gov)
- Rulemaking Lead
  - Elena Guilfoil
  - [elena.guilfoil@ecy.wa.gov](mailto:elena.guilfoil@ecy.wa.gov)
  - 360-972-5166
- Technical Lead
  - Dustin Watson
  - [dustin.watson@ecy.wa.gov](mailto:dustin.watson@ecy.wa.gov)
  - 360-764-6785