Climate and Transportation Programs Overview

Informational Presentation to EQC
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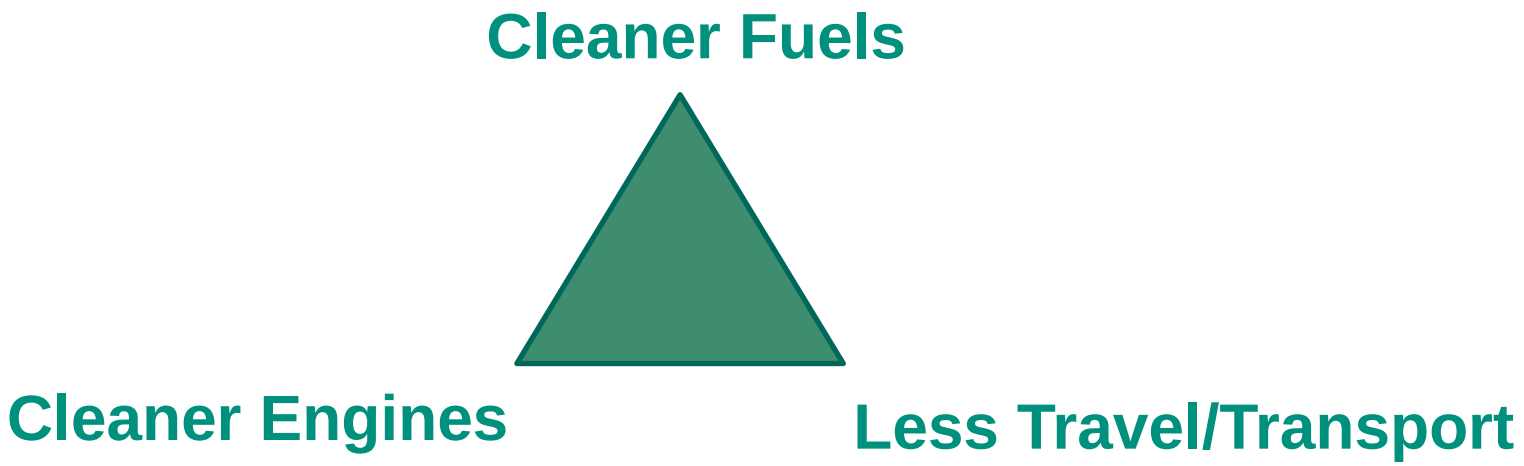
Item B
July 21, 2022, EQC meeting

How to address transportation GHG emissions

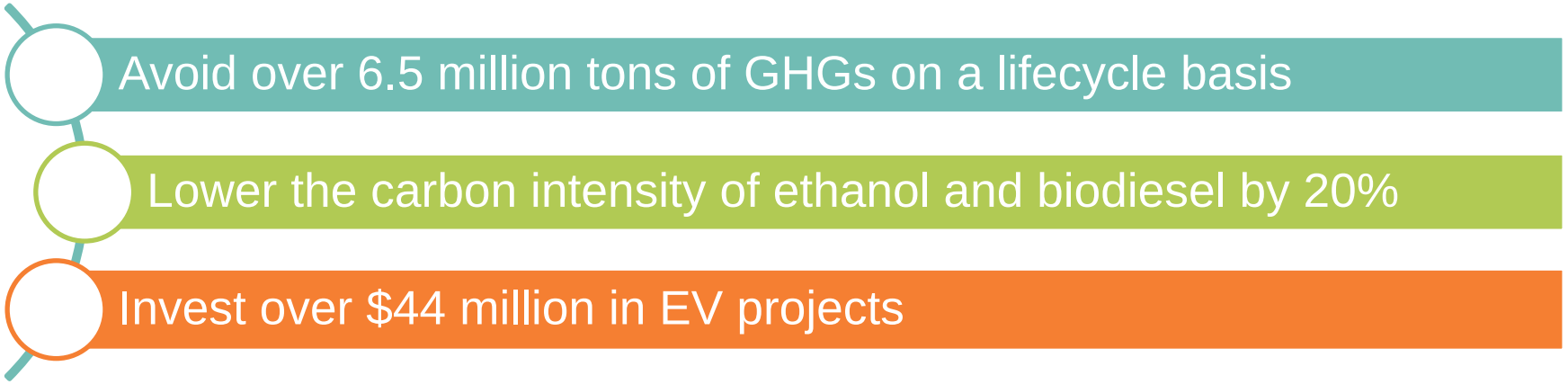
Transportation GHG emissions can be addressed with:

1. **Cleaner engines**
2. **Cleaner fuels**
3. **Reducing travel and transport distances**



Cleaner Fuels: The Clean Fuels Program

- Requires a 10 percent reduction in the carbon intensity of transportation fuels in Oregon over 10 years (2016 – 2025)
  - More renewable fuels
  - Cleaner renewable fuels
  - Electricity
- Since 2016, the Clean Fuels Program has helped fuel suppliers and others to:



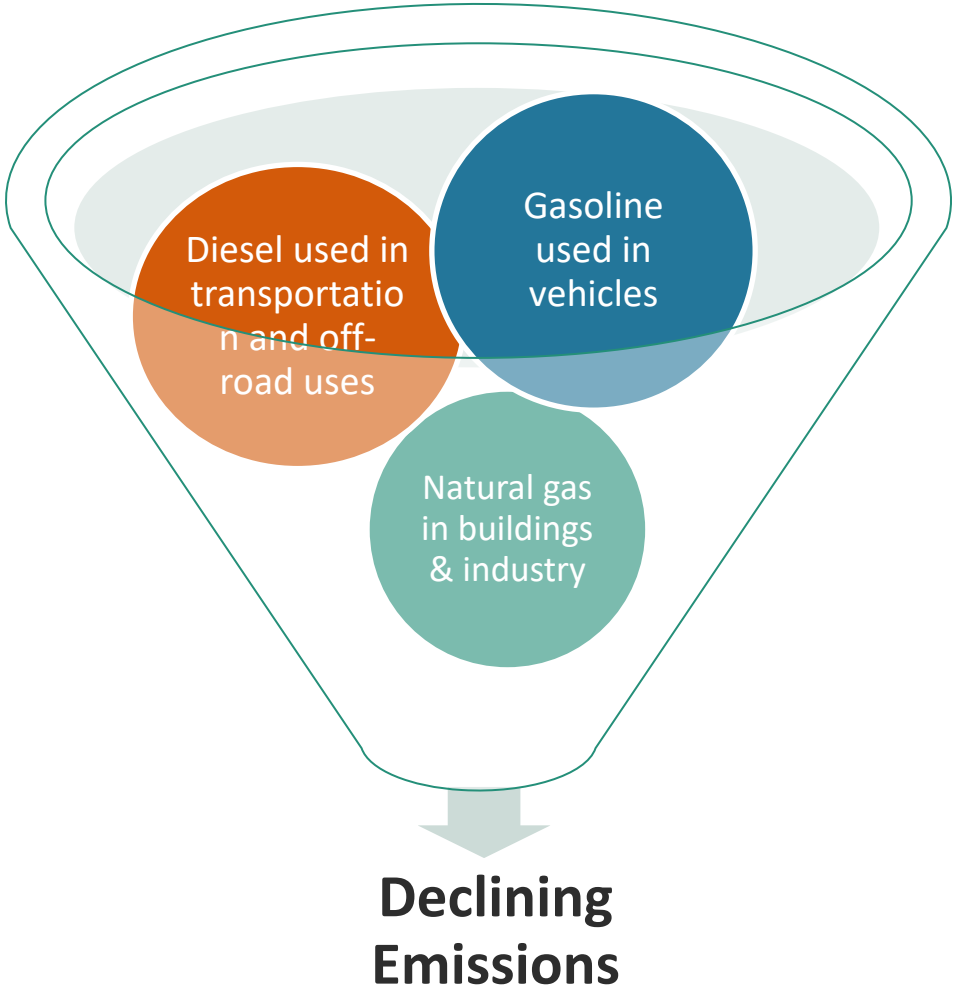
- DEQ is proposing that the Clean Fuels Program expand to a ***37 percent reduction by 2035.***

Cleaner Fuels: The Climate Protection Program (CPP)

Establishes declining limits on fossil fuels:

- 50 percent reduction in fossil fuel use by 2035
- 90 percent reduction by 2050

- Reductions can be achieved by fuel suppliers:
  - Switching to cleaner non-fossil fuels,
  - Banking and trading, and
  - Investing in third-party actions to reduce emissions (Community Climate Investments)



Cleaner Fuels: Economic Investments for Oregon Production

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

ALTO INGREDIENTS
Producing: 40 mil gallons of ethanol from corn

NEXT Renewable Fuels, Inc.
In Permitting: 750 mil gallons of renewable diesel from waste & virgin oils

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

Producing: Renewable natural gas from dairy manure

EWEB
Proposed: renewable hydrogen

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

Infrastructure:
- 3,000 EV chargers
- ~2 dozen CNG dispensers
- ~4 dozen LPG dispensers

Cleaner Fuels: Other Efforts

- Clean Fuels Investments by Utilities:
  - Electric utilities have received more than $44M worth of clean fuels credits
  - Utilities have invested public chargers in dozens of cities and communities across Oregon
  - CFP credits also have helped ODOT's fleet use renewable diesel (99 percent blend)
- Diesel Reduction Programs:
  - VW Mitigation Fund ($73M grant program over 10 years);
  - HB 2007 (2019) Medium- and Heavy-Duty Diesel Engine Retrofit Program (model year 1996 or older diesel engine cannot be titled or registered in Clackamas, Multnomah and Washington counties unless retrofitted and approved by DEQ)
- Medium- and Heavy-Duty Vehicle Charging Infrastructure:
  - $15M from 2022 Oregon Legislature

Cleaner Engines: Consumer Incentives
(demand side measures)

- Rebates for purchase or lease of electric vehicles
- $5,000 - $7,500 for low- and moderate-income households
- Up to $2,500 for all other households
- $12M annually with one-time additional $15M investment from 2022 Legislature
- Success of the program means it may run out of funding mid-2023

Cleaner Engines: Requirements for Vehicle Manufacturers *(supply side measures)*

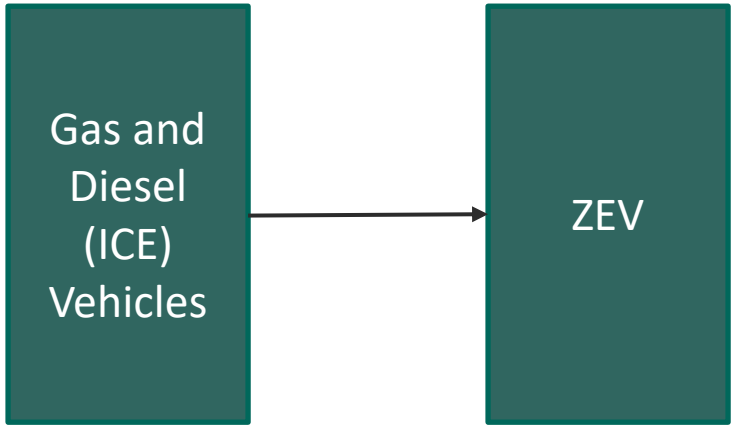
- **LEV/ZEV:** CA ZEV requirements for Light-Duty Vehicles through model year 2025
  - 2.5% in model year 2018 to 7.8% in model year 2025
- **Advanced Clean Trucks:** CA ZEV requirements for Class 2b-8 Trucks through model year 2035
  - 55% of Class 2b – 3 truck sales;
  - 75% of Class 4 – 8 truck sales;
  - 40% of Class 7-8 truck tractor sales
- *Proposed*: **Advanced Clean Cars – 2:** CA ZEV requirements for Light-Duty Vehicles through model year 2035
  - Detailed information included as Item C

Cleaner Engines: Reasons for Optimism
Recent EV Sales Trends

ZEV Sales Market Shares for 2021			
State	Q3 2021 (%)	Q4 2021 (%)	Full Year 2021 (%)
California	13.9	16.7	12.6
Washington	8.6	11.1	7.7
Oregon	9.2	10.7	7.8
Colorado	7.0	7.6	6.0
National	5.0	3.6	3.9
Sources: Atlas EV Hub Automaker Dashboard; NESCAUM			

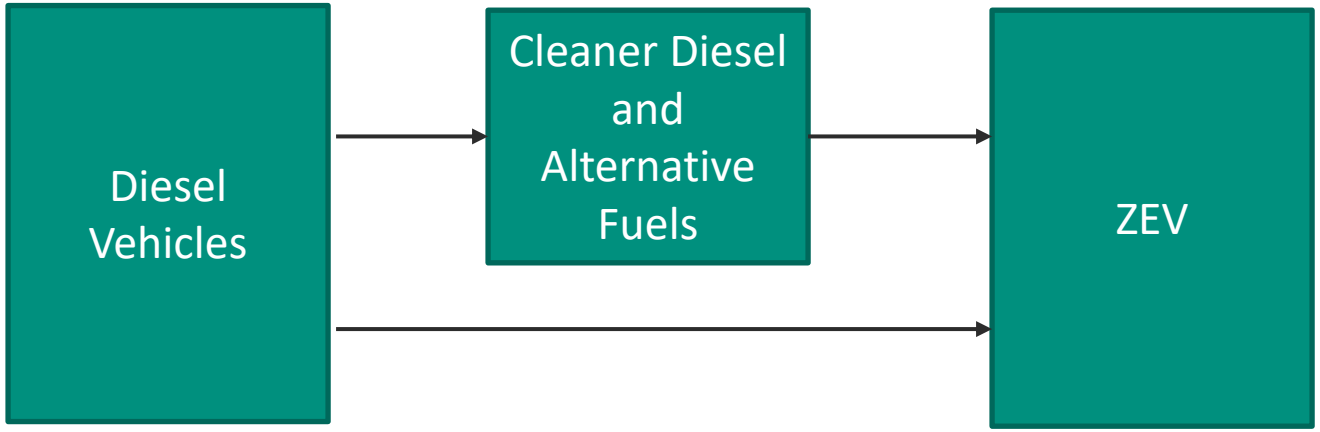
Cleaner Engines and Fuels: Moving towards cleaner transportation

Light-duty vehicles



- Proposed ACC II rule
- OCVRP
- ECO

Medium and heavy-duty vehicles



- Clean Fuels Program
- Advanced Clean Trucks Rule
- Heavy-Duty Low NOx Rule
- Future regulations?

Incentives and Grants (Light, medium and heavy)
Vehicle and infrastructure charging

Every Mile Counts

Office of the Governor
State of Oregon

EXECUTIVE ORDER NO. 20-04

DIRECTING STATE AGENCIES TO TAKE ACTIONS TO REDUCE AND REGULATE GREENHOUSE GAS EMISSIONS

WHEREAS, climate change and ocean acidification caused by greenhouse gas (GHG) emissions are having significant detrimental effects on public health and on Oregon's economic vitality, natural resources, and environment; and

WHEREAS, climate change has a disproportionate effect on the physical, mental, financial, and cultural wellbeing of impacted communities, such as Native American tribes, communities of color, rural communities, coastal communities, lower-income households, and other communities traditionally underrepresented in public processes, who typically have fewer resources for adapting to climate change and are therefore the most vulnerable to displacement, adverse health effects, job loss, property damage, and other effects of climate change; and

WHEREAS, climate change is contributing to an increase in the frequency and severity of wildfires in Oregon, endangering public health and safety and damaging rural economies; and

WHEREAS, the world's leading climate scientists, including those in the Oregon Climate Change Research Institute, predict that these serious impacts of climate change will worsen if prompt action is not taken to curb emissions; and

WHEREAS, the Intergovernmental Panel on Climate Change has identified limiting global warming to 2 degrees Celsius or less as necessary to avoid potentially catastrophic climate change impacts, and remaining below this threshold requires accelerated reductions in GHG emissions to levels at least 80 percent below 1990 levels by 2050; and

WHEREAS, Oregon, as a member of the U.S. Climate Alliance, has committed to implementing policies to advance the emissions reduction goals of the international Paris Agreement; and

WHEREAS, GHG emissions present a significant threat to Oregon's public health, economy, safety, and environment; and

ODOT
DLCD
DOE
DEQ

Implement the Statewide Transportation Strategy

Oregon Statewide Transportation Strategy

Executive Summary

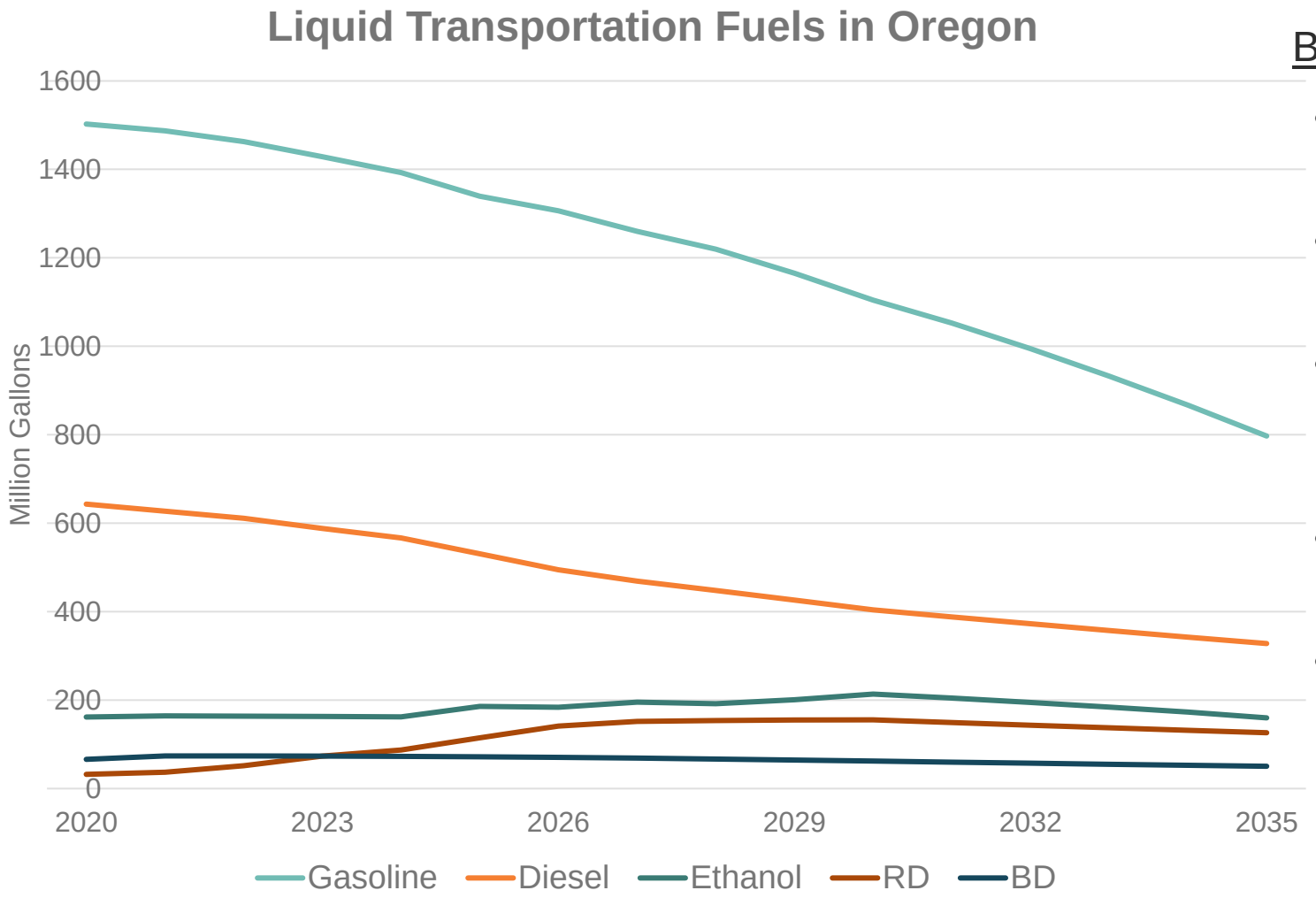
Identify cross-agency actions

EVERY MILE COUNTS

Reducing Greenhouse Gas Emissions from Transportation in Oregon

STS Multi-Agency Implementation Work Plan

What does this all mean for transportation fuels?



By 2035:

- Gasoline and diesel decreases by about 50 percent
- Biofuels increase through 2030 with increased blending
- Higher blending can't keep pace with liquid fuel displacement by electricity
- Post-2030 even biofuels begin slight decline
- Renewable diesel plays an important medium- or long-term role for certain equipment/vehicles and rural communities