Oregon Department of **ENERGY**

Oregon Energy Strategy
Transportation Electrification Policy Working Group

Meeting 1
February 12, 2025

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AGENDA

11:15 – 11:30	Member Introductions
11:30 – 11:35	Meeting Schedule and Process
11:35 – 11:55	Review Modeling Key Findings for Transportation
11:55-12:00	Next Steps

Comments and questions from observers can be submitted to: https://odoe.powerappsportals.us/en-US/energy-strategy/

TE WORKING GROUP ROSTER

ORGANIZATION	NAME
City of Portland	Ingrid Fish
Climate Solutions	Brett Morgan
Columbia Willamette Clean Cities	Michael Graham
Daimler	Bret Stevens
Eugene Water & Electric Board	Juan Serpa Munoz, Kelly Hoell
Forth	Stu Green
Green Energy Institute	Jamie Johnson
IBEW Local 48	Marshall McGrady
City of Eugene	Logan Telles
Oregon Citizen's Utility Board	John Garrett
Oregon Trail Electric Coop	Charlie Tracy
Oregon Trucking Association	Jana Jarvis
Port of Portland	Lewis Lem
Portland General Electric	Nancy Bennett
Renewable Hydrogen Alliance	Rebecca Smith
Titan Freight Systems	Jason Altamirano
TriMet	Kyle Whatley
Wy'East	Robert Wallace

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INTRODUCTIONS

- Please share the following with the group:
  - Name
  - Affiliation
  - What is a policy area you are excited to talk about?

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PURPOSE OF THIS WORKING GROUP

- Build understanding of learnings coming out of the model, specifically those related to transportation in Oregon.
- Provide feedback on transportation priorities, policy gaps and opportunities.
- Develop policy actions that could help advance progress toward transportation electrification, grid integration and reduced VMT.

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TE Working Group Expectations

- Inform the Oregon Energy Strategy by working to understand, and provide feedback on, and draft content for TE policy recommendations.
- Review materials, prepare for, and attend working group meetings.
- Share all relevant research, references, and information that will assist the group in achieving its goals.
- Stay focused on the specific agenda topics for each meeting.
- Participate in a free, open, and mutually respectful exchange of ideas, views, and information.
- Participate in good faith in a collaborative way while seeking common ground wherever possible.
- Consult regularly with colleagues, memberships, constituencies, or communities to inform them of the process, gather their input and be able to represent their concerns and interests.
- **Refrain from revisiting state energy goals or existing energy policy and/or question the validity of climate science or Oregon's commitment to reducing greenhouse gas emissions.**

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TE Working Group Meeting Schedule

Wednesday, February 12th (Today) **9 a.m. – 12 p.m.**	Opening Plenary Meeting – All Working Groups
Tuesday, March 4th **9:30 a.m. – 12:30 p.m.**	First Break Out Meeting – Transportation Electrification Working Group
Thursday, April 10th **9:30 a.m. – 12:30 p.m.**	Second Break Out Meeting – Transportation Electrification Working Group
Wednesday, April 30th **9 a.m. – 12 p.m.**	Third Break Out Meeting – Transportation Electrification Working Group
Wednesday, May 21st **9 a.m. – 11:00 a.m.**	Final Plenary Meeting – All Working Groups

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Developing Policy Actions

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EXAMPLE: WA ENERGY STRATEGY KEY ACTIONS

- Buildings
  - Replace the direct consumption of fossil fuels, primarily natural gas, with high-efficiency electric heat pumps for space and water heating.
  - Strengthen and deepen energy efficiency programs and standards to focus on avoiding and reducing emissions
  - Adopt specific targets and accountability for greenhouse gas emissions in the built environment

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EXAMPLE: NET ZERO NW KEY ACTIONS

Table 3. Key Actions by Decade from Scenario Analyses

	2021-2030	2030-2040	2040-2050
Core Case	▪ Research and development investments in geologic negative emissions technologies (CO_2 sequestration, land sink measures) ▪ Investments in energy efficiency and transportation and buildings electrification ▪ Reform siting and permitting processes to ensure that the pace of renewable investment and supporting transmission investment keeps pace with demand for clean energy	▪ Hydrogen network development of electrolysis and pipelines, especially to access Montana production ▪ Retrofit retiring coal and gas plans with nuclear small modular reactors ▪ Rapid expansion of renewable generation capacity in the region, taking advantage of Inflation Reduction Act (IRA) incentives through 2035—especially Montana wind ▪ Initial expansion of carbon capture and sequestration, especially in Montana	▪ Continue hydrogen network expansion ▪ Continued renewable generation capacity expansion, especially of less economic resources that were not developed in 2030s (e.g., Washington solar) ▪ Rapid increase in Montana of carbon capture and sequestration ▪ Achieve close to full decarbonization of liquid fuels to achieve net-zero targets ▪ Expansion of carbon sequestration and land-based carbon offsets to achieve net-zero
Non-CO_2 Emissions	▪ Pursue cost-effective strategies to control emissions from non-CO_2 sources	▪ Continue to pursue cost-effective non-CO_2 mitigation measures ▪ Research opportunities to achieve deeper cuts in non-CO_2 emissions	
Transmission	▪ Begin transmission expansion process, as assets take 10+ years to bring online ▪ Regional coordination, permitting reform, detailed studies of different options for specific lines (reconductoring, high-voltage direct current, high-temperature low-sag conductors)	▪ Expand transmission access to Wyoming and Montana to access low-cost wind resources	▪ Continue transmission expansion, including other corridors

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TE WORKING GROUP: FINAL PRODUCT

SUMMARY OF FINDINGS

PATHWAY	ISSUE STATEMENT/BARRIERS	STRATEGY TO ADDRESS BARRIERS	POLICY ACTION
VEHICLE ELECTRIFICATION	**1. Upfront Cost** *EVs have a higher purchase price than traditional internal combustion engine vehicles.*	"Expand EV market share through incentives"	"Continue funding the Oregon Clean Vehicle Rebate Program"
GRID INTEGRATION			
VMT REDUCTION			
LOW CARBON FUELS			

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STEP BY STEP PROCESS

Today → Meeting 2 → Meeting 3 → Meeting 4

PATHWAY	ISSUE STATEMENT/BARRIERS	STRATEGY TO ADDRESS BARRIERS	POLICY ACTION
VEHICLE ELECTRIFICATION	**1. Upfront Cost** *EVs have a higher purchase price than traditional internal combustion engine vehicles.*	"Expand EV market share through incentives"	"Continue funding the Oregon Clean Vehicle Rebate Program"
GRID INTEGRATION			
VMT REDUCTION			
LOW CARBON FUELS			

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Key Transportation Findings

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RECAP: MODELING QUESTIONS

EVOLVED ENERGY RESEARCH

0. Reference: What are the key elements of a least-cost pathway to meeting Oregon's energy policy objectives?

0a. Sensitivity: No Change in VMT (vs. Reference) – what if VMT per capita remains flat to 2050?

0b. 50% Lower Tech Load Growth (vs. Reference) – what if electricity demand for data center growth were 50% lower through 2035?

0c. Sensitivity: No Advanced Clean Trucks regulation (vs. Delayed TE Alt. Scenario) – what if there were no near-term electrification targets for MHD vehicles?

1. What if energy efficiency and building electrification is delayed by 10 years?
2. *Alternative: Delayed TE – What if full transportation electrification of medium- and heavy-duty vehicles is delayed 10 years, from 2040 to 2050?*
3. *Alternative: Limited Demand Response – What if there is limited participation in demand response programs?*
4. What if there is limited utility-scale electricity generation in Oregon?
5. What if there are higher levels of rooftop solar and behind-the-meter storage and transmission is limited to reconductoring only (no new build)?
6. What might an alternative portfolio of flexible resources for electricity reliability look like?

RECAP: BACKGROUND INFORMATION

EVOLVED ENERGY RESEARCH

- **Oregon Energy Strategy Overview:** https://www.oregon.gov/energy/Data-and-Reports/Documents/OES-Project-Overview-Flyer-12-2024.pdf
- **Jan 31 Final Modeling Results Presentation & Recording:** https://www.oregon.gov/energy/Data-and-Reports/Pages/Oregon-Energy-Strategy-Engagement.aspx
- **Final Model Data Sources and Assumptions:**
  Coming soon

KEY FINDING #1

Transportation electrification reduces system-wide energy demand and the cost of decarbonization, and the <u>pace matters.</u>

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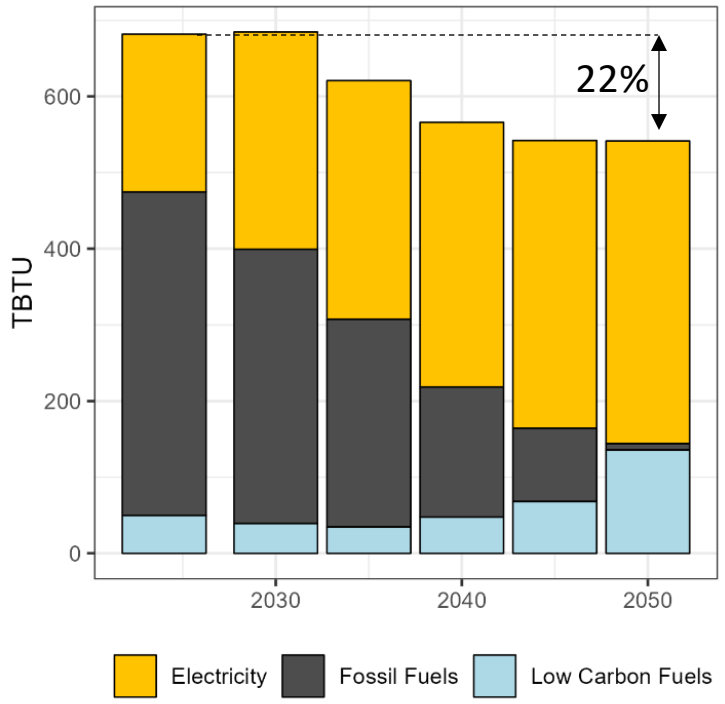
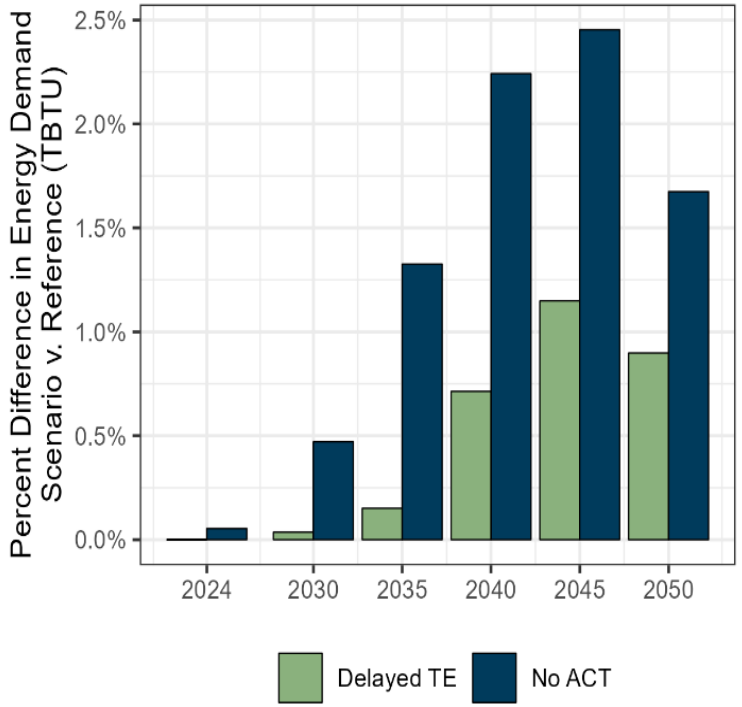
EARLY EV ADOPTION KEY TO COST CONTAINMENT

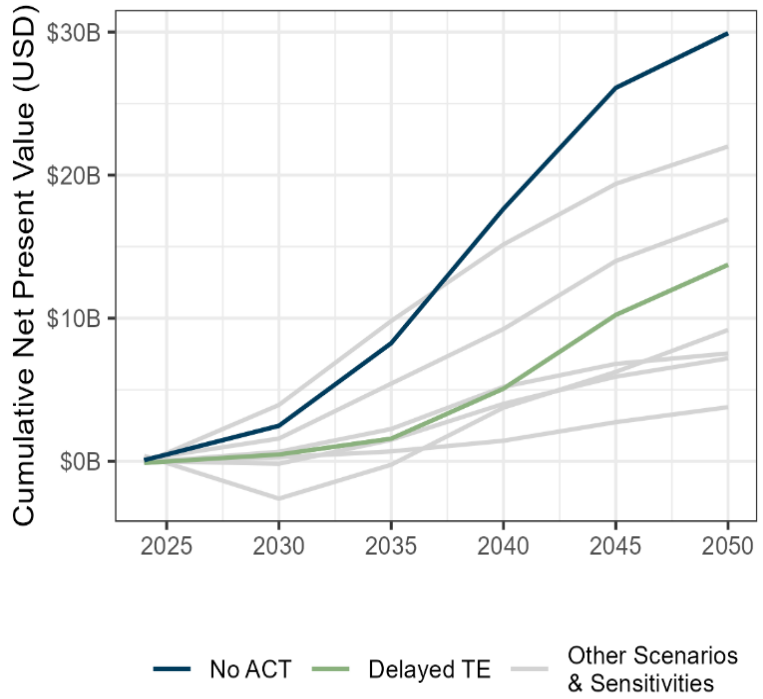
Energy Demand by Fuel in Reference Scenario



% Change in Energy Demand Across TE Scenarios Compared to Reference



Difference in System-wide Costs in All Scenarios Compared to Reference



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Transportation electrification will significantly increase electricity demand but EVs can provide a net benefit to the grid if managed flexibly.

KEY FINDING #2

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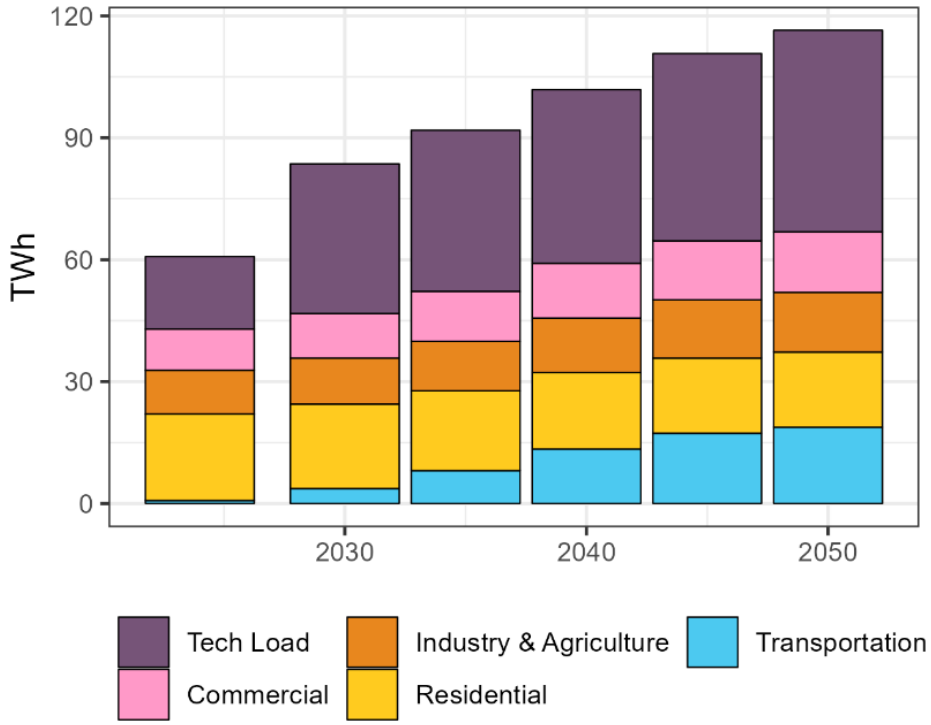
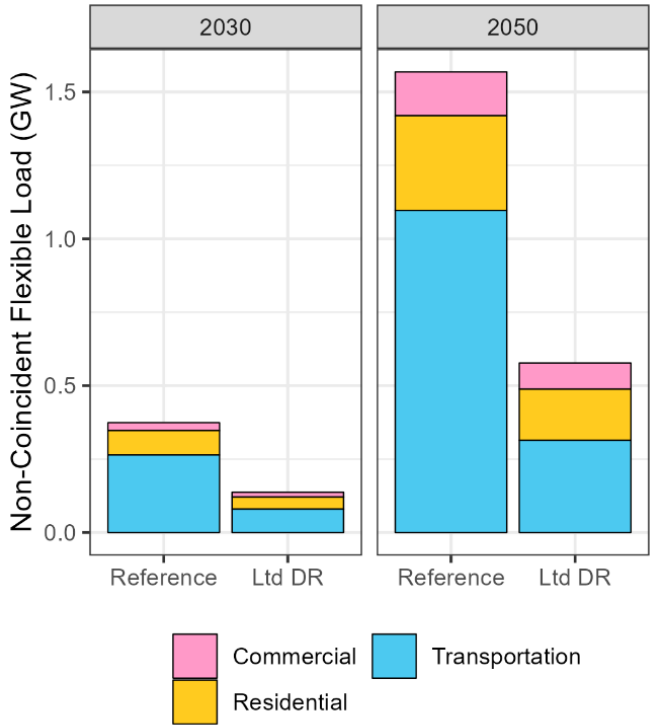
EVS CAN SERVE AS A FLEXIBLE RESOURCE

Electricity Demand by Sector in Reference Scenario



Non-coincident Flexible Load for Reference and Ltd DR Scenarios



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KEY FINDING #3

Reducing vehicle miles traveled has a large impact on overall energy demand and therefore costs for maintaining and upgrading the electric grid.

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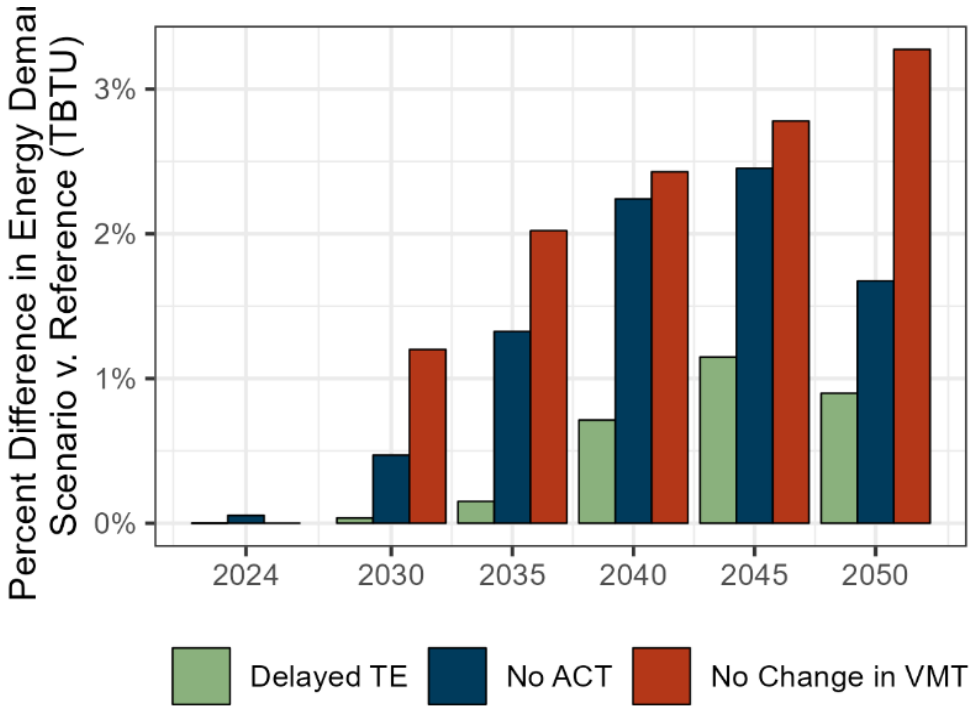
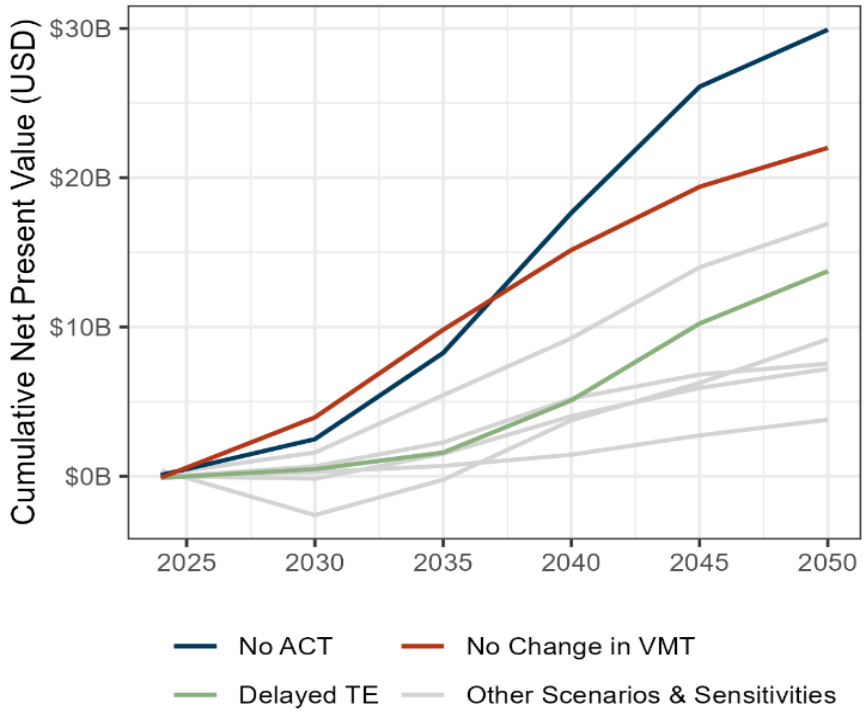
VMT REDUCTION IS A WORTY INVESTMENT

Percent Difference in Energy Demand in Transportation Scenarios vs. the Reference



Difference in System-wide Costs in All Scenarios vs. the Reference



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Low carbon fuels play a role in decarbonizing transportation across all scenarios, and that role increases as the pace of transportation electrification slows.

KEY FINDING #4

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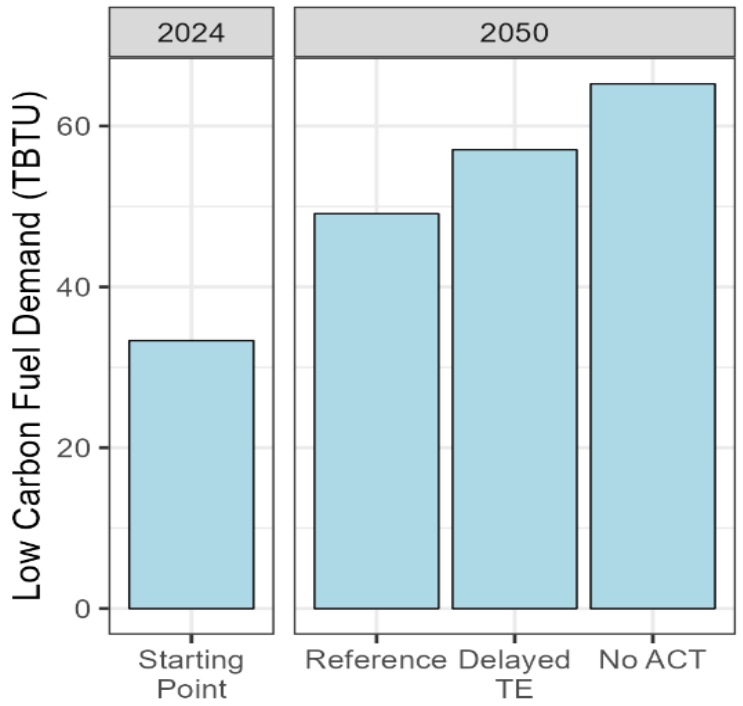
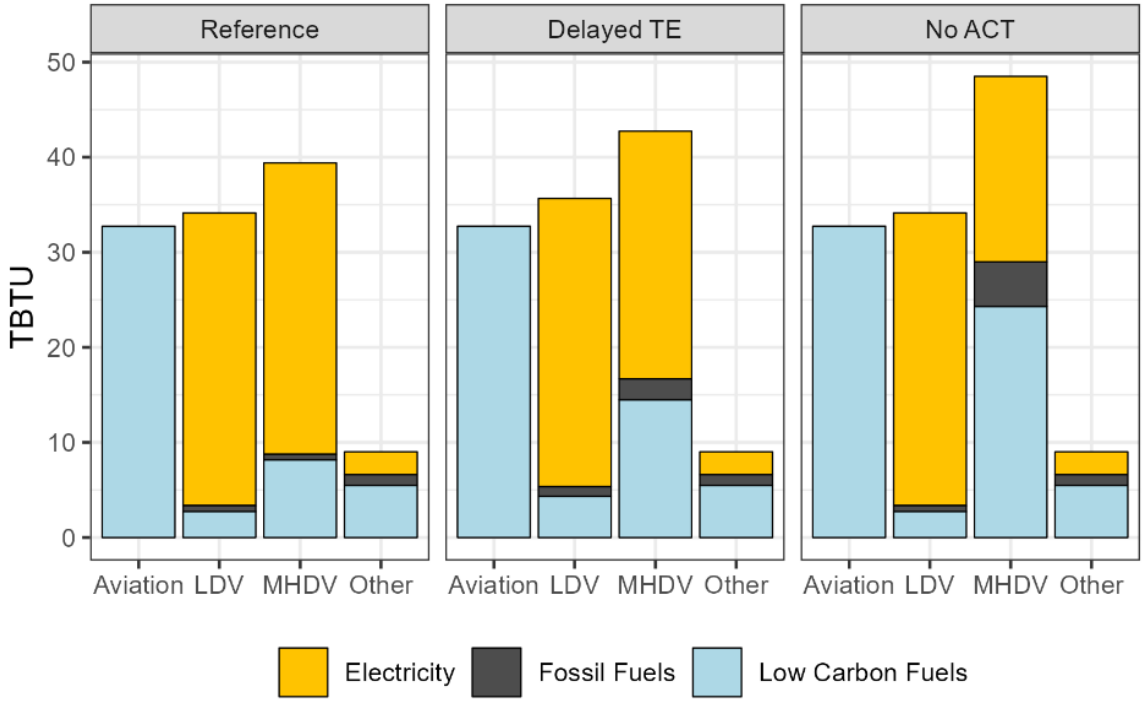
LOW CARBON FUELS ARE NECESSARY BUT USING THEM STRATEGICALLY REDUCES COSTS

Low Carbon Fuels in Reference and Pace of TE Scenarios, 2024 & 2050



Fuel Use in Transportation by Type and End Use in Reference and Pace of TE Scenarios, 2050



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SUMMARY: TRANSPORTATION KEY FINDINGS

1. Vehicle Electrification: Transportation electrification reduces system-wide energy demand and the cost of decarbonization, and the pace matters.
2. Grid Integration: Transportation electrification will significantly increase electricity demand but EVs can provide a net benefit to the grid if managed flexibly.
3. VMT Reduction: Reducing vehicle miles traveled has a large impact on overall energy demand and the costs for maintaining and upgrading the electric grid.
4. Low Carbon Fuels: Low carbon fuels play a strategic role in decarbonizing transportation across all scenarios, but that role increases as the pace of transportation electrification slows.

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SCOPE FOR TE POLICY DISCUSSIONS

1. Vehicle Electrification
2. Grid Integration
3. VMT Reduction

TE Policy WG Scope

4. Low Carbon Fuels

Low Carbon Fuels Policy WG Scope

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NEXT MEETING: BARRIERS & EXISTING POLICIES

- Office Hours with consultant for modeling questions: Date(s) and time TBD

- Before the next meeting (March 4)

  - Review:

    1. Transportation Key Findings
    2. Existing Policies
    3. Presentations of modeling results

  - Consider:

    1. What are the primary issues or barriers to the identified policy pathways?
       - Vehicle electrification, grid integration and VMT reduction
    2. What existing policies are in place to address those barriers?
    3. Where are there gaps?

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THANK YOU!

RESOURCES:

Project page: https://www.oregon.gov/energy/Data-and-Reports/Pages/Energy-Strategy.aspx

ODOE's website: www.oregon.gov/energy

Contact us: energy.strategy@energy.Oregon.gov

Public Comment Portal: https://odoe.powerappsportals.us/en-US/energy-strategy/

EXISTING POLICIES

Overarching
E.O. 20-04 – Economy-wide GHG Emissions Reduction Targets
HB 2021 – "Clean Electricity Targets" for IOUs and ESSs
Climate Protection Program – Declining Cap on GHG Emissions from fossil fuels
Oregon Clean Fuels Program

Policies to Encourage and Enable Light-Duty Vehicle Purchase
Advanced Clean Cars I / Advanced Clean Cars II
Direct Sales of EVs to Consumers
DEQ's Oregon Clean Vehicle Rebate Program (OVCRP) (ongoing)
SB 1044 Statewide LD ZEV targets
Federal Vehicle Tax Credits (30D / 45W)

Policies to Encourage and Enable Medium- and Heavy-Duty Vehicle Purchases
Advanced Clean Trucks / Heavy Duty Engine and Vehicle Omnibus
DEQ's Zero Emission Rebates for Oregon Fleets (ZERO Fleet) (one time, $18M, state and federal)
DEQ's Diesel Emissions Mitigation Grants
Federal Tax Credits (45W)
Diesel Emissions Reduction Act Grants (state & federal)
Multi-State Medium- and Heavy-duty Zero Emission Vehicle MOU

Policies to Increase Availability of Charging and Fueling Infrastructure
ODOT's National EV Incentive Program (NEVI) (one time, $52M)
ODOT's Charging & Fueling Infrastructure (CFI) (one-time, $30M)
ODOT's Community Charging Rebates (CCR) (~$17M, state & federal)
ODOT's Electric Vehicle Charging Reliability and Accessibility Accelerator (EVC-RAA) (one-time, $10M)
ODOE's Energy Efficiency & Conservation Block Grant Program (one time, $1.2M)
ODOT's Carbon Reduction Program (one time, $82M)
DEQ's Oregon Zero Emission Fueling Infrastructure Grant (OZEF) (one time, $18M, state & federal)
Federal Congestion Mitigation and Air Quality Funds (CMAQ) (ongoing)
Federal Tax Credit (40C)
Building Code: HB 2180 EV Charging Parking Space Requirements
Building Code: ORS 94.762 HOAs/Condo Assoc. Must Allow Chargers

Policies to Electrify Fleets
SB 1044 – LD ZEV Purchasing Requirements for State Fleets
E.O. 17-21 – State Agencies to Assist School/Transit Agency Fleets
VW Settlement Funds / School Bus Replacement Program
ODOE's Public Purpose Charge Schools Program (ongoing)
DEQ's Zero Emission Rebates for Oregon Fleets (ZERO Fleet) (one time, $18M, state and federal)
DEQ's Clean HDV Program for School Buses (one time, $6.5M)
EPA's Clean School Bus Program grant (closed)

Utility TE Investments and Policies
SB 1547 – IOUs Must Submit TE Plans, Rate Recovery for TE
HB 2165 – Monthly Meter Charge for TE
HB 3055 – Authorizes Gas Utilities to Invest in Trans. Infra.
Central Electric Coop Level 2 Charger Rebate
Central Lincoln PUD Level 2 Charger Rebate
City of Ashland – EV and Commercial Charging Rebates
Clatskanie PUD – Level 2 Charger Rebate
Columbia River PUD – Residential and Comm. Charger Rebate
Consumers Power, Inc – Level 2 Charger Rebate
Emerald PUD – Level 2 Charger Rebate
Eugene Water & Electric Board – MFH EV Charging Rebates
Northern Wasco County PUD – Res. & Comm. Charger Rebate
PAC Electric Fleet Pilot Program
PAC Oregon Electric Mobility Grants
PAC Residential, MFH, Business EV Charger Rebates
PAC Time of Use Rates
PGE Business EV Charging Rebates
PGE Fleet Partner Program
PGE Smart Charging (Managed Charging/Panel Upgrade Rebates)
Salem Electric – Residential EV Charger Rebate
Springfield Utility Board – Residential EV Charger Rebate
Tillamook PUD – Residential Charger Rebate

Policies/Programs for Education, Data and Awareness
EV Dashboard
Go Electric Oregon Webpage
SB 1044 – Biennial Zero Emission Vehicle Report
E.O. 17-21 – Establishes ZEVIWG and ZAP
E.O. 20-04 – Establishes Every Mile Counts Initiative
CCR Community Outreach and Engagement Program
DEQ OCVRP Dealer and DAC Outreach Program
Oregon Transportation Emissions Webpage

Policies to Encourage and Enable VMT Reduction
Employee Commute Options rules (OAR 340-242-0010-0290)
Climate Friendly and Equitable Communities
HB 2017 – Established Statewide Transportation Improvement Fund & Safe Routes to School Fund (ORS 184.740)
HB 2592 – Established Multimodal Active Transportation Fund (ORS 367.091)
ODOT's Oregon Transportation Plan – 20% VMT reduction per capita
Metro's Climate Smart Strategy
City of Ashland E-bike Incentive
EWEB E-Bike Incentive
Portland E-bike Incentive and Workforce Training Program
ODOT's Innovative Mobility Program (one time, $20M)
ODOT's Safe Routes to School Program (ongoing)
ODOT's Oregon Community Paths Program (ongoing, state & federal)
Carbon Reduction Program (one time, $82M)

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