

# Transportation Electrification Plan



2023 – 2025 Planning Period

May 2, 2023

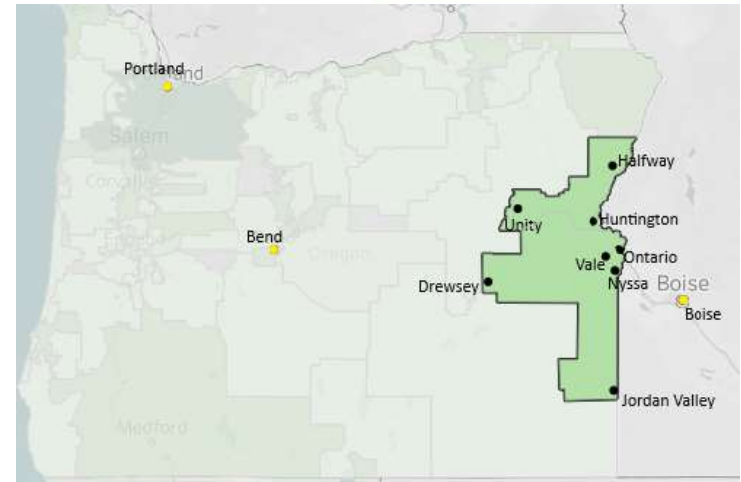


# Agenda

- ① Idaho Power's Oregon Service Area
  - Market Barriers
  - Current State of TE Market
- ② EV Forecast & TEINA Investment Guardrail
- ③ TE Plan
- ④ Performance Measurement
- ⑤ Budget & Customer Impact
- ⑥ Conclusion

# 1 Oregon Service Area

- 20,311 total customers
- Almost completely defined as underserved according to HB 2165
- Largest towns
  - Ontario: 11,600
  - Nyssa: 3,000
  - Vale: 2,000
- Closest Metropolitan Areas
  - Boise: 56 miles
  - Bend: 260 miles



# 1 Market Barrier: Public Charging

- 2 fast charging locations
  - Tesla
  - Electrify America
- Level 2 chargers
  - Downtown Vale
  - Campgrounds/RV parks



*Level 2 EV Charger:  
Copperfield Campground*



*Electrify America Charging Station:  
Huntington, Oregon*

# 1 Market Barrier: Driving Range

- *Not realistic for my location and driving habits*
- *Concerns on traveling distances*
- *Can't be driven long distance without recharging*

Miles between towns and various services  
(hospitals, airport, retail, etc.)

Start	Ontario	Boise, ID	Bend	Portland
Ontario	0	56	260	375
Nyssa	13	51	264	388
Vale	17	71	244	389
Huntington	30	85	287	346
Drewsey	90	145	174	326
Unity	81	136	201	351
Jordan Valley	90	82	267	419
Halfway	126	182	285	352

\*July 2022 EV Survey Comments

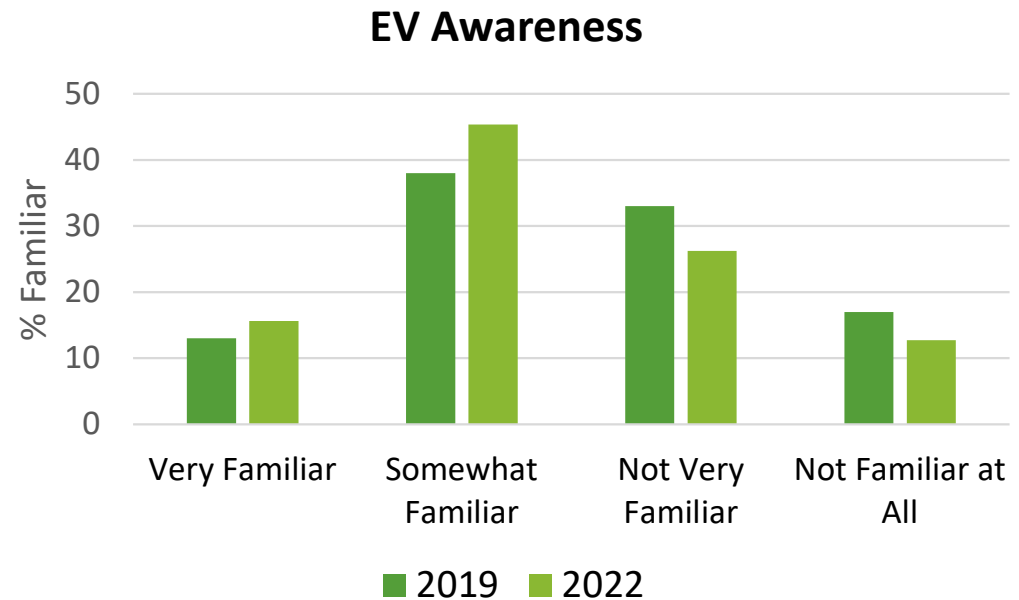
# 1 Market Barriers: Price

- Median Household Income
  - Ontario: \$42,568
  - Portland: \$78,476
- 20% of people in Malheur county live in poverty, according to the U.S. Census Bureau

Vehicle	Base Model Range (miles)	Base MSRP (2023)
Tesla Model 3	272	\$39,990
Chevy Bolt	259	\$26,500
Ford Lightning	240	\$55,974
Hyundai Ioniq	266	\$45,500
Nissan Leaf	149	\$28,040

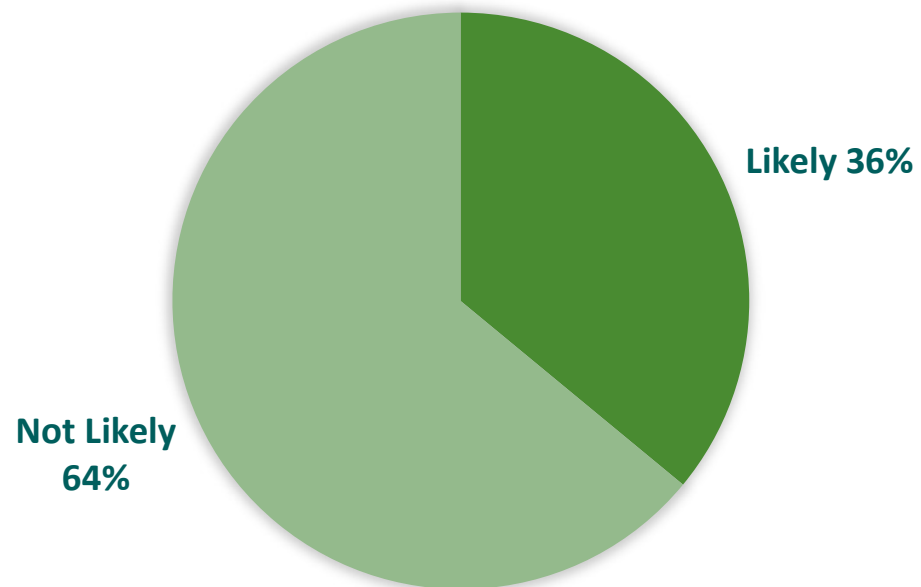
# 1 Current State of TE Market

- 52 EVs - represents less than 0.09% of EVs in Oregon
- Survey: uncertainty and lack of awareness



# 1 Current State of TE Market

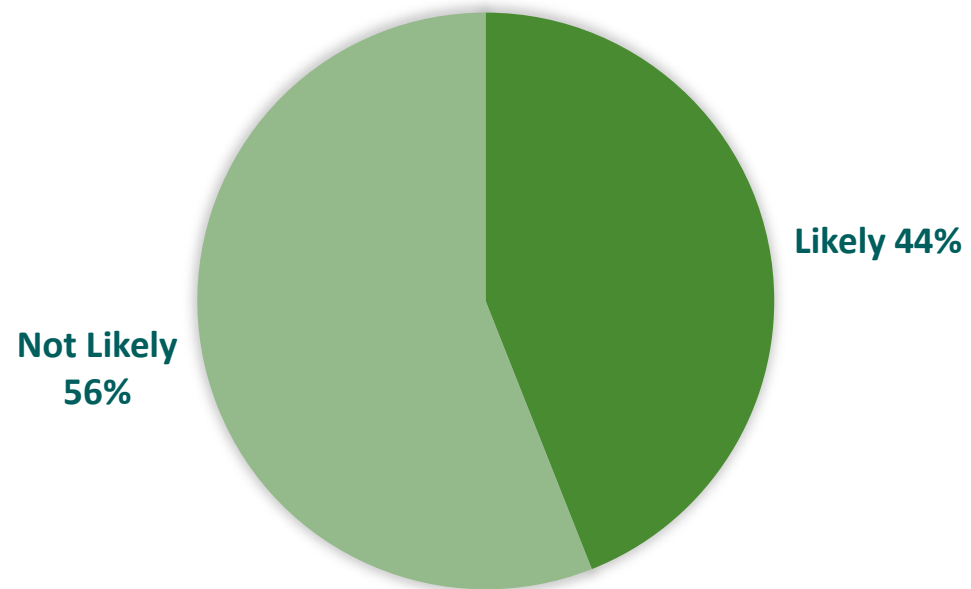
- If available in your area and the **purchase price** of a new vehicle of your choice was the same for an EV and a traditional gas- or diesel-powered vehicle, how likely would you be to purchase the electric powered version of the vehicle of your choice?





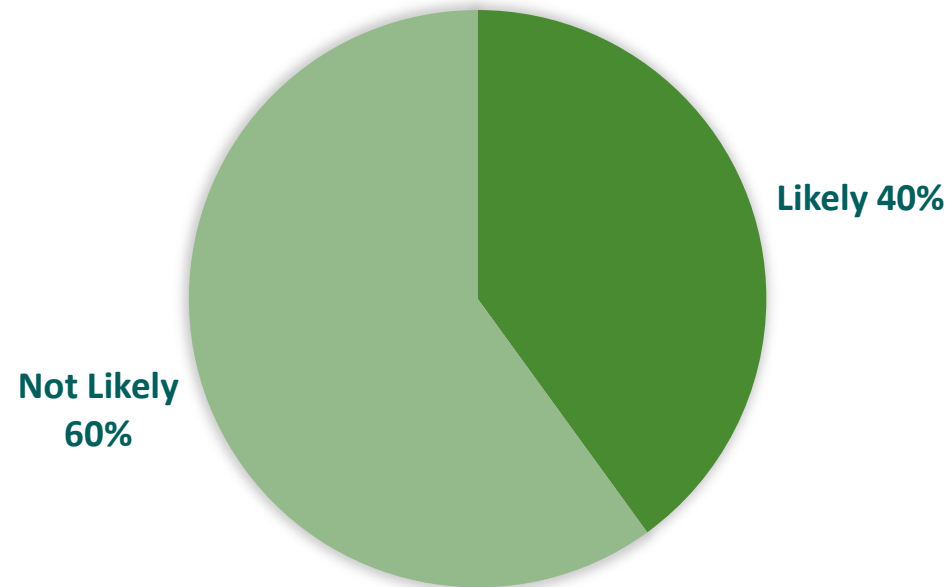
# 1 Current State of TE Market

- If available in your area and the **distance you could drive** on a tank of gas or battery charge was the same for an EV and a traditional gas- or diesel-powered vehicle, how likely would you be to purchase the electric powered version of the vehicle of your choice?



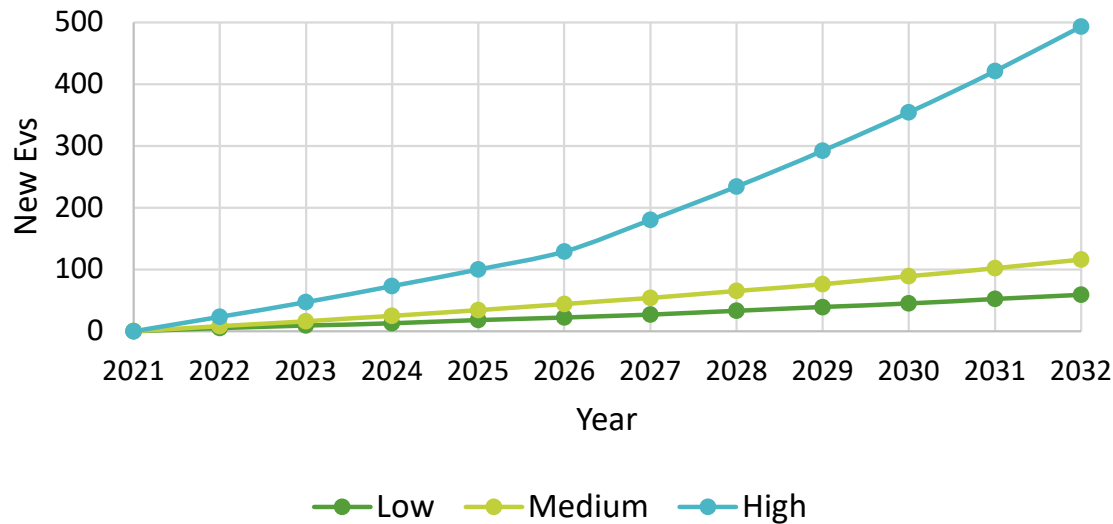
# 1 Current State of TE Market

- If there were **more public charging stations** located in your area, or along highways, how likely would you be to purchase the electric powered version of the vehicle of your choice?



## 2 EV Forecast

10-Year EV Forecast Scenarios



- Idaho Power selected the “high” scenario from the Distribution System Plan report to use as the starting scenario within the TEINA model

## 2 TEINA Model



### Starting Forecast

- 1.36% e-LDVs by 2035

### Aggressive Forecast

- 25% e-LDVs by 2035

### TEINA Defaults

- 50% e-LDVs by 2035
- Matches the goal set in SB 1044

## 2 TEINA Results: Starting Forecast

- The region meets or exceeds the needs forecasted through 2025.

Current Total		Additional Ports Required			Ending Total
Type	2022	2025	2030	2035	2035
Level 1/2	7	0	0	33	40
DCFC/Corridor	16	0	0	7	23

0.23% e-LDVs by 2025

1.36% e-LDVs by 2035

## 2 TEINA Results: Aggressive Forecast

- Identifies 40 additional Level 2 charging ports and 18 additional DCFC or corridor charging ports needed by 2025
- Biggest need identified in Malheur County

Current Total		Additional Ports Required			Ending Total
Type	2022	2025	2030	2035	2035
Level 1/2	7	<b>40</b>	233	479	759
DCFC/Corridor	16	<b>18</b>	66	139	239

2% e-LDVs by 2025  
25% e-LDVs by 2035

## 2 TEINA Results: TEINA Defaults

- Identifies 142 additional Level 2 charging ports and 66 additional DCFC or corridor charging ports needed by 2025

Current Total		Additional Ports Required			Ending Total
Type	2022	2025	2030	2035	2035
Level 1/2	7	<b>142</b>	549	824	1,522
DCFC/Corridor	16	<b>66</b>	159	227	468

6% e-LDVs by 2025  
50% e-LDVs by 2035

## 2 TEINA Results: Costs

Port Type	Port Cost	Stations Needed			Costs		
		Starting	Aggressive	TEINA Default	Starting	Aggressive	TEINA Default
Level 2	\$24,000	0	40	142	\$0	\$960,000	\$3,408,000
DCFC/Corridor	\$150,000	0	18	66	\$0	\$2,700,000	\$9,900,000
<b>Total</b>	-----	0	58	208	<b>\$0</b>	<b>\$3,660,000</b>	<b>\$13,308,000</b>

- Based on the Company-developed “high” forecast of EV adoption, no additional investment is required to meet 2025 EVSE targets



## 3 TE Plan

- Idaho Power's strategy to accelerating TE in its Oregon service area is focused on three key areas:
  - Conducting at least **three outreach activities per year**
  - Providing **resources to customers**
  - Targeted **technical assistance** to those interested in learning more about EVs, installing public charging, or converting their fleet



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- ✓ **Discover the benefits:** Fuel savings, fewer emissions, instant acceleration and a smooth ride.
- ✓ **Calculate your savings:** Mile for mile, it costs less to drive an EV.
- ✓ **Compare vehicles:** From buses, trucks and cars – find an EV with the range you need.
- ✓ **Find a charging station:** Locate a public charging station or learn about workplace or fleet charging.
- ✓ **Sign up for our EV network:** Join to hear about EV opportunities and news from Idaho Power.



## 3 Outreach Activities

- Displaying an EV at county fairs or community events
  - Drexel H Foundation, Four Rivers Cultural Center, Treasure Valley Community College
- In person or on-line trainings and webinars



**Drexel H. Foundation**  
**REST, REPAIR, RECHARGE & REJUVENATE  
DOWNTOWN VALE**

We listened to the youth from Drexel Foundation's Engaging Young Voices in Shaping our community:

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A bike repair station: for fixing bikes & skateboards

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Electric vehicle charging station: to do our part to go green

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Map for a self-guided tour: to share public art assets in Vale

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Displays of untold stories: showcasing the inclusivity and diversity reflected in the public conversation of Malheur County history

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QR codes of historic buildings: to learn more about the historic buildings in Vale

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**Please respect this space, which was requested by the youth of Vale.**

147 Main Street N. Vale, Oregon  
(541)473-3470  
[www.thedrexelfoundation.org](http://www.thedrexelfoundation.org)



*Ribbon cutting ceremony for new Level 2 EV Charger in downtown Vale, Oregon*

# 3 Resources


- EV Webpage
  - EV costs and benefits
  - Charging options and charging station locations
  - Available tax credits and other incentives
  - Workplace and fleet charging

Content Provided by **ChooseEV** Sponsored by **IDAHO POWER**  
An IDACORP Company

**Overview** | Vehicle Models & Savings | Charging Basics | Commercial Charging Equipment | Incentive Programs & Grants | Commercial Case Studies


## Realize the Benefits of Electric Vehicles

The EV market is rapidly expanding, offering new opportunities for your business.




**Fleets**

Lower operating costs and low-to-no tailpipe emissions are just some of the benefits of electric transportation. Paired with a range of incentives, exploring an EV fleet transition may be a smart move for your organization.



**Customers**

Attract customers and encourage them to stay longer by installing EV charging stations.



**Employees**

Recruit and retain employees by offering workplace charging.

## 3 Resources

- EV Marketing Materials
  - Monthly billing newsletter
  - Brochures, posters, handouts
  - Bill inserts




**Consider an Electric Vehicle (EV)**  
With prices among the lowest in the nation, record reliable service and clean-energy goals, Idaho Power proudly supports customer use of EVs.

**WANT TO LEARN MORE?**

- ✓ Calculate savings
- ✓ Compare cars
- ✓ Learn about Oregon tax credits and incentives
- ✓ Find charging stations
- ✓ Learn about providing charging stations at your business

Visit [idahopower.com/EV](http://idahopower.com/EV)


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\$\$  
AVERAGE EV

\$\$\$\$  
AVERAGE GAS-POWERED VEHICLE

Mile for mile, EVs cost one-third to one-half the cost to fuel compared to gas-powered vehicles.



### 3 Technical Assistance

- Support commercial customers
  - Connect businesses to funding opportunities
  - Help identify the right type and capacity for their charging needs
  - Provide billing evaluations
- Connect customers to IIJA funds
  - Corridor charging
  - Electric school busses
  - Community charging



*ODOT Planned Implementation Year for Alternative Fuel Corridors – NEVI State Plan*



## 4 Performance: EV Adoption Rates



- Goals of TE Plan
  - Raise awareness
  - Educate customers
  - Support commercial customers
  - Break down barriers
- Idaho Power does not anticipate adoption rates changing significantly in the 2023 – 2025 planning period.

## 4 Performance: Environmental Benefits

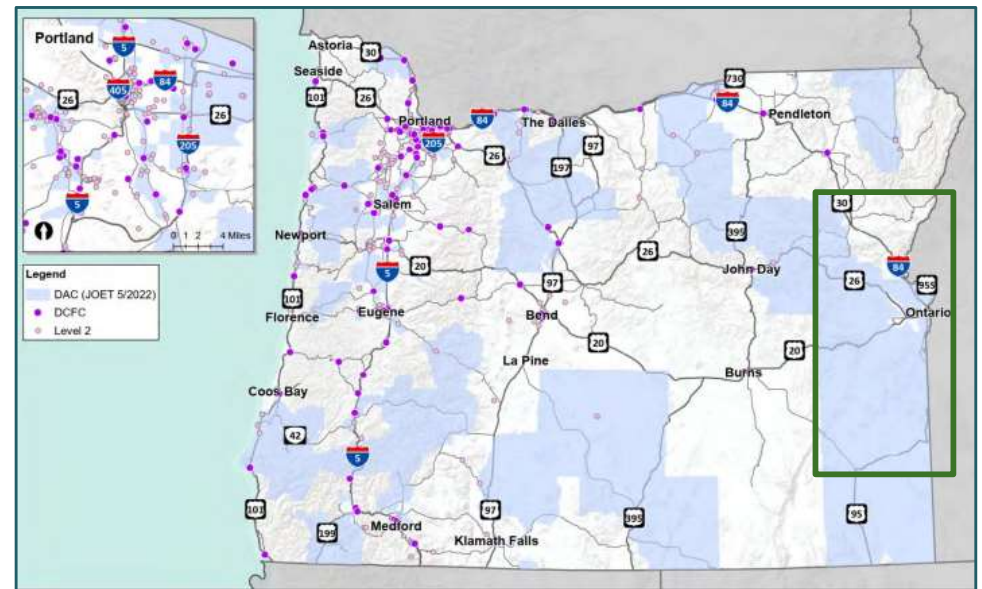
- GHG emissions savings of at least 266,774 lbs. per year
  - Based on ODEQ’s 2021 calculated metric tons CO<sub>2</sub>e emissions per MWh of 0.333 and 37 BEVs
- Non-GHG Emissions:

Pollutant	Tailpipe Emissions		EV Emissions		Net Emissions
	Grams per Mile	Total Annual Pounds	Grams per Mile	Total Annual Pounds	Total Annual Pounds
Total Hydrocarbons (HC)	0.251	237	0.009	9	-228
Carbon Monoxide (CO)	3.812	3,593	0.047	44	-3,549
Nitrogen Oxides (NO <sub>x</sub> )	0.157	148	0.062	59	-89
PM <sub>2.5</sub>	0.004	4	0.007	7	3

## 4

# Performance: Underserved Community Inclusion and Engagement

- Oregon service area falls completely under the definition of underserved communities
  - Area comprised of rural or frontier communities
  - Malheur, Baker, Harney Counties' median and per-capita household income levels fall under median and per-capita incomes of state of Oregon



*Map of Oregon Disadvantaged Communities (DAC) included in Oregon state NEVI Plan*



## 5 TE Budget and Customer Impact

TASK DESCRIPTION	2023	2024	2025
Admin Staff Labor (O&M)	\$8,376	\$8,627	\$8,886
Admin Staff Business Expense	\$650	\$675	\$700
Marketing	\$2,000	\$2,100	\$2,250
Training, Education, & Workshops	\$3,550	\$3,650	\$4,000
<b>Total</b>	<b>\$14,576</b>	<b>\$15,052</b>	<b>\$15,836</b>

- De minimis to rates
- Outreach efforts + state and federal funding could position eastern Oregon to meet an aggressive EV adoption scenario over the next 10 years

## 5 Benefit/Cost Analysis

TASK DESCRIPTION	Participant Cost Test	Ratepayer Impact Measure	Societal Cost Test
Benefits	\$4,196,759	\$435,033	\$3,028,289
Costs	\$1,906,056	\$248,947	\$3,908,336
Ratio	<b>2.20</b>	<b>1.75</b>	<b>0.77</b>

- The TE Plan will provide an estimated net benefit according to the Participant Cost Test and Ratepayer Impact Measure

*Incremental EV sales attributable to Idaho Power efforts are based on the difference between the High and Medium EV adoption forecast*

## 6 Conclusion

- Goal: accelerate TE in eastern Oregon while supporting customers
- How?
  - Outreach, technical assistance, resources
  - Connect customers with state and federal funding
  - Ensure programs do not place undue financial burden on customers
  - Continue building relationships with businesses and community organizations



# Questions?



## Idaho Power's 2023 -2025 Transportation Electrification Plan

May 2, 2023