

# NASEO Annual Meeting

*Electric Vehicle Charging:  
Infrastructure Reliability and Impact on the Grid,  
Resilience, and Demand*

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# Making the Case: Are we prepared for large-scale electrification by 2030?

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- The **pace of needed year-over-year action and investment to prepare the grid in advance of this load** and support charger installations is not clear
  - To date, regulators and others have been focused on incremental EV load growth and charger utilization – both **near-term issues**
- A robust on-road electric transportation system means **consumers and fleet operators must have confidence in the availability, reliability, and affordability of charging infrastructure**
- **Consumers and fleets operators will increasingly look to the utility industry (with regulator support)** to scale up efforts to support charging solutions, address equity in the transition, and ensure the grid is capable of meeting vehicle loads
  - Just as all customers today expect utilities to “**keep the lights on**”

# OEM Goals, Commitments, Investments

Automaker	EV Commitments and Goals	\$\$\$ Investment
Bentley	100% PEV sales by 2026; <b>100% BEV sales by 2030</b>	
Ford	<b>50% EV sales by 2030</b> (100% in Europe by 2035)	\$50B (thru 2026)
GM	<b>50% EV sales by 2030; 100% EV sales by 2035</b> (Cadillac 100% EV by 2030)	\$35B thru 2025
Honda	<b>40% EV (incl. FCEV) sales by 2030</b> ; 100% by 2040	
Hyundai/Kia	<b>20% EV sales by 2025 (Kia)</b> ; <u>no new ICE investment (Hyundai)</u>	\$7.4B (by 2025)
Jaguar Land Rover	<b>100% EV sales by 2030</b>	\$3.4B/yr
Mazda	<b>25% EV sales by 2030</b>	
Mercedes-Benz	<b>100% EV sales by 2030 (goal)</b> ; <u>ICE investment “close to zero” by 2025</u>	\$47B (global thru 2030)
Stellantis (Chrysler)	<b>50% EV sales by 2030</b> (70% in Europe)	\$35.5B thru 2025
VW Group	<b>50% BEV sales in 2030</b> (70% in Europe); <u>No ICE investment after 2026</u>	\$86B (global thru 2025)
Volvo	50% BEV sales by 2025 (global); <b>100% BEV sales by 2030</b>	\$1B/yr
Other: BMW, Nissan, Toyota - Vague timing and scale goals		

Largest mfg investments in their history

BEV = Battery Electric Vehicle    PHEV = Plug-in Hybrid Electric Vehicle    FCEV = Fuel Cell Electric Vehicle  
 PEV = Plug-in Electric Vehicle (PHEVs and BEVs)    EV = Electric Vehicle (PHEVs, BEVs and FCEVs)

# Other Notable Stakeholder Commitments

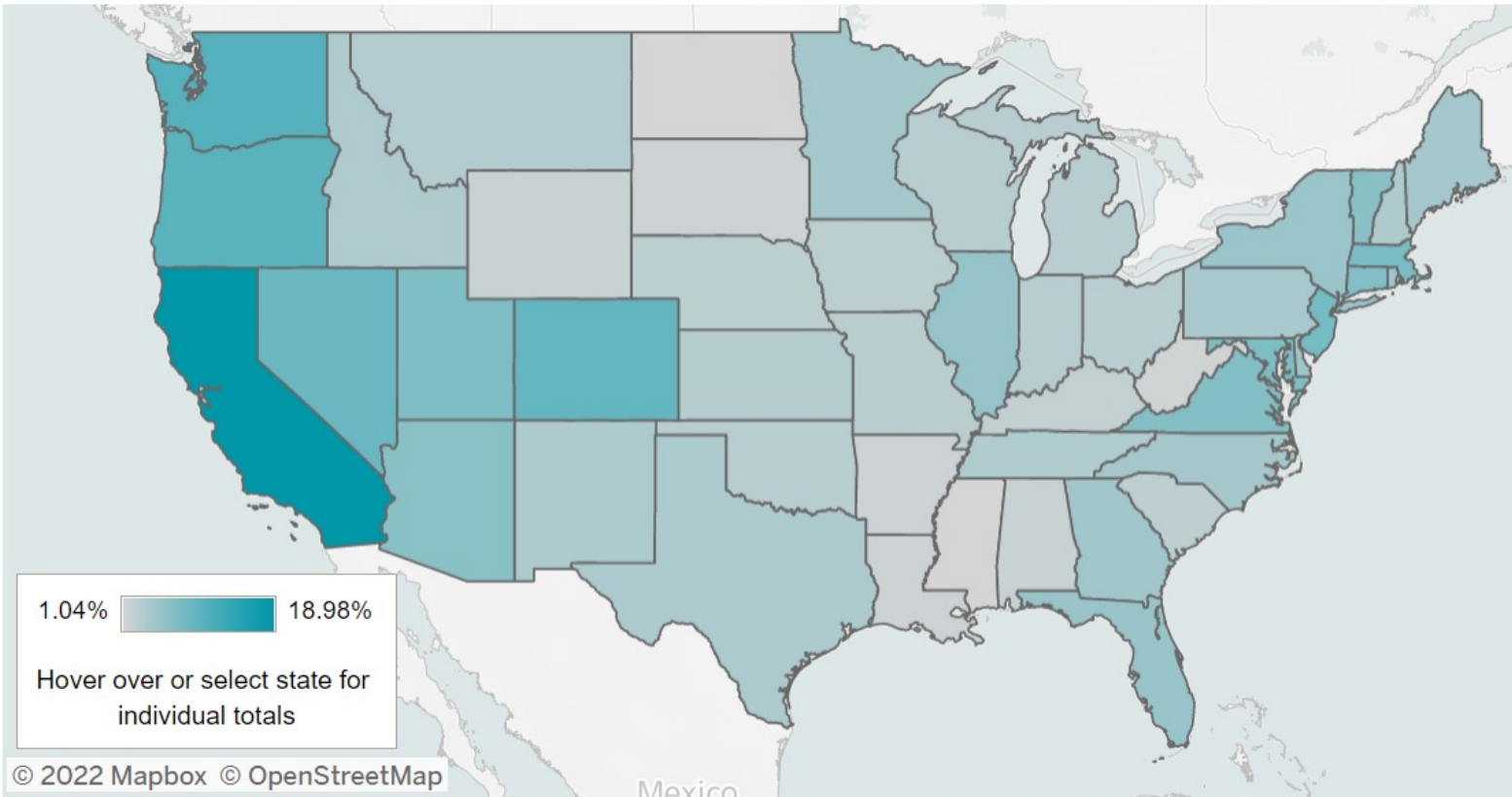
Stakeholder	Commitment
Washington State	100% EV sales by 2030
California	100% EV sales by 2035
Walmart	100% EV fleet by 2040
FedEx	100% EV purchases after 2030
Uber and Lyft - California	100% EV by 2030 (90% miles traveled required by CA mandate)
Federal Administration	50% EV sales by 2030
Joint Office/DOT/DOE	National EV Infrastructure (NEVI) Program and Community Charging
US Securities and Exchange Commission	Proposed climate-risk disclosure requirements for publicly traded companies

**Unprecedented stakeholder alignment towards 2030 goals  
(Federal/State Govt, Industry, Fleets, Finance/Banking)**

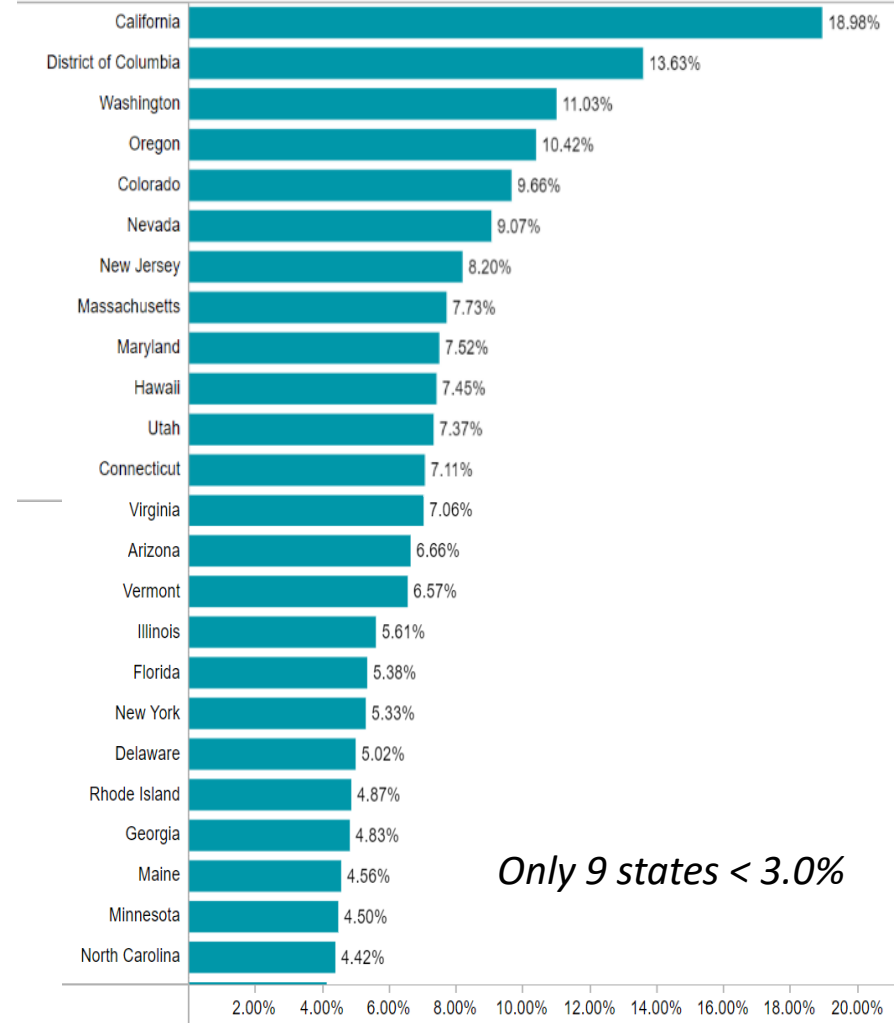
# EV Market Share January to June 2022

= **6.67%** (5.2% BEV, 1.4% PHEV, .03% FCEV)

### ATV Market Share by State

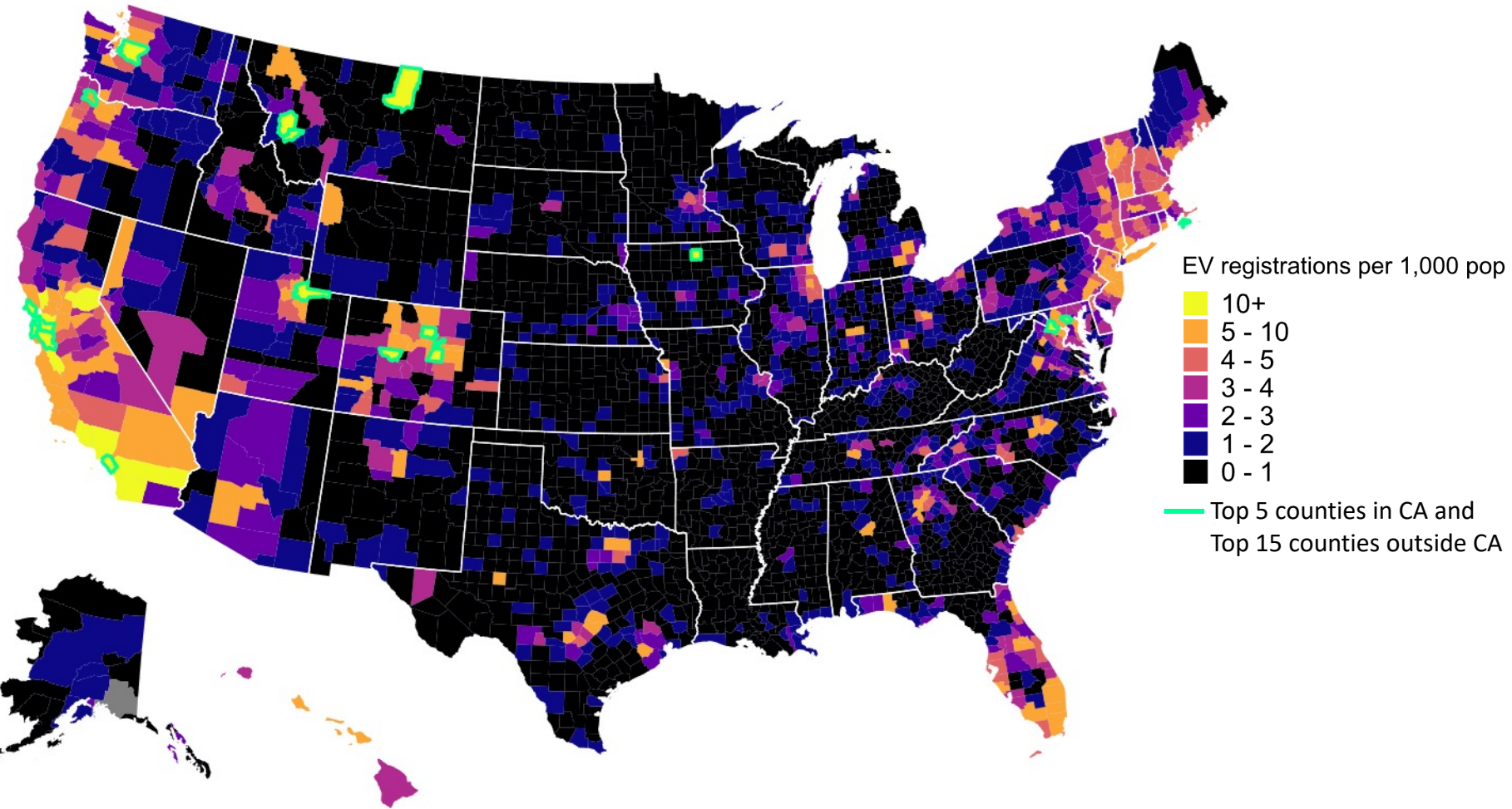


### Top States by ATV Market Share



# US Nationwide New EV Registrations Per 1,000 Population (Jan. - July 2022)

- Nationwide avg EV market share **6.7%**
- Number of counties exceeding avg **192**
- Number of states with counties exceeding avg: **37**



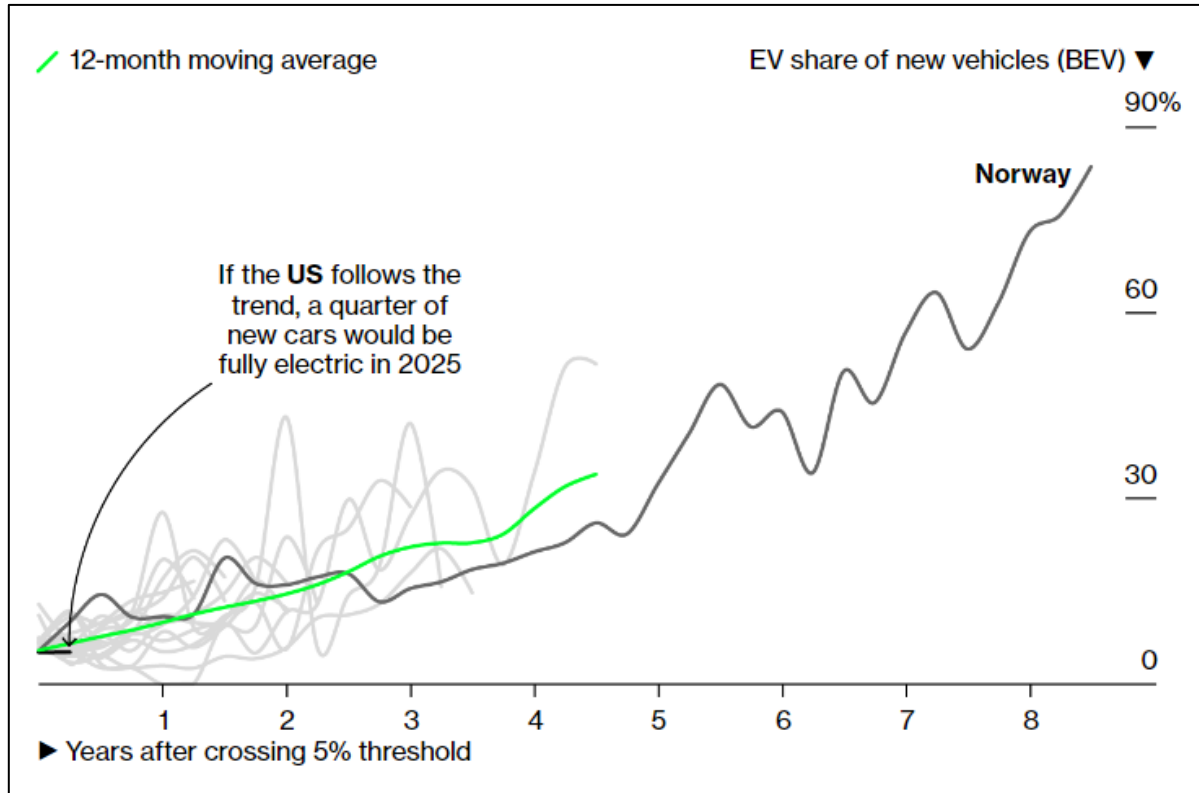
Top 5 counties in CA and Top 15 counties outside CA by New EV Registrations Per 1,000 Pop.

County Name  
Registrations Per 1,000 Pop.  
[New EV Market Share]

San Mateo, CA	Santa Clara, CA	Marin, CA	Orange, CA	Alameda, CA	Summit, UT	Granite, MT	Deer Lodge, MT	Loudoun, VA	Pitkin, CO	Boulder, CO	Dukes, MA	King, WA	Cerro Gordo, IA	Douglas, CO	Phillips, MT	Broomfield, CO	Howard, MD	Denver, CO	Washington, OR
29.0 [30.8%]	25.0 [34.5%]	23.5 [32.6%]	20.7 [23.5%]	17.9 [31.4%]	18.5 [13.7%]	44.9 [6.3%]	17.5 [7.6%]	15.9 [16.6%]	13.4 [8.0%]	12.0 [19.8%]	11.9 [9.6%]	11.8 [16.9%]	11.5 [13.9%]	11.0 [9.5%]	10.7 [5.4%]	10.7 [12.9%]	10.2 [13.3%]	10.0 [11.4%]	10.0 [12.9%]

# US Crosses EV Tipping Point for Mass-Adoption

- US has passed 5% EV sales for the past six months
- 18-country trend analysis suggests US will pass 25% EV sales by the end of 2025
- The Biden administration has called for 50% EV sales by 2030 (including plug-in hybrids). According to the tipping-point analysis, it “should beat that goal with several years to spare”



Country	EV sales in Q1 2022	EV share of new cars	First quarter to cross 5%
Austria	7,772	14.8%	2018 Q3
Belgium	10,898	11.0	2020 Q4
China	924,530	16.7	2018 Q4
Denmark	5,945	17.4	2020 Q3
Finland	3,025	13.9	2020 Q4
France	44,774	12.3	2020 Q1
Germany	84,749	13.5	2020 Q3
Iceland	1,630	51.7	2017 Q3
Ireland	6,483	13.0	2019 Q4
Italy	14,263	4.2	2021 Q3
Netherlands	12,501	15.9	2018 Q4
New Zealand	2,896	6.2	2021 Q3
Norway	27,023	83.5	2013 Q3
Portugal	4,025	11.6	2020 Q1
South Korea	29,306	6.5	2021 Q2
Sweden	20,024	28.7	2020 Q1
Switzerland	8,898	16.4	2020 Q1
United Kingdom	68,954	16.5	2020 Q2
United States	172,748	5.3	2021 Q4

Sources: BloombergNEF; Bloomberg Intelligence; ACEA; CATARC; OFV; New Zealand Ministry of Transport (BEV trends shown)

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2022 2023 2024 2025 2026 2027 2028 2029

2030

2035+

50%  
EV Sales

100%  
EV Sales

**P18 Advisory Meeting Question (26 Sept 2022):** To support 50% EV sales by 2030, what problems do we need to solve?



2022 2023 2024 2025 2026 2027 2028 2029

**2030**

2035+

**50%  
EV Sales**

**100%  
EV Sales**

## EVs2Scale2030: Three-part Strategy

### Coalitions & Roadmaps



### Structural System Reforms



### Unifying Tools & Pilots



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