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BETTER TRAVEL, STRONGER GRID.

Presentation
NJ Board of Public Utilities
EV Stakeholder Group

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Who we are

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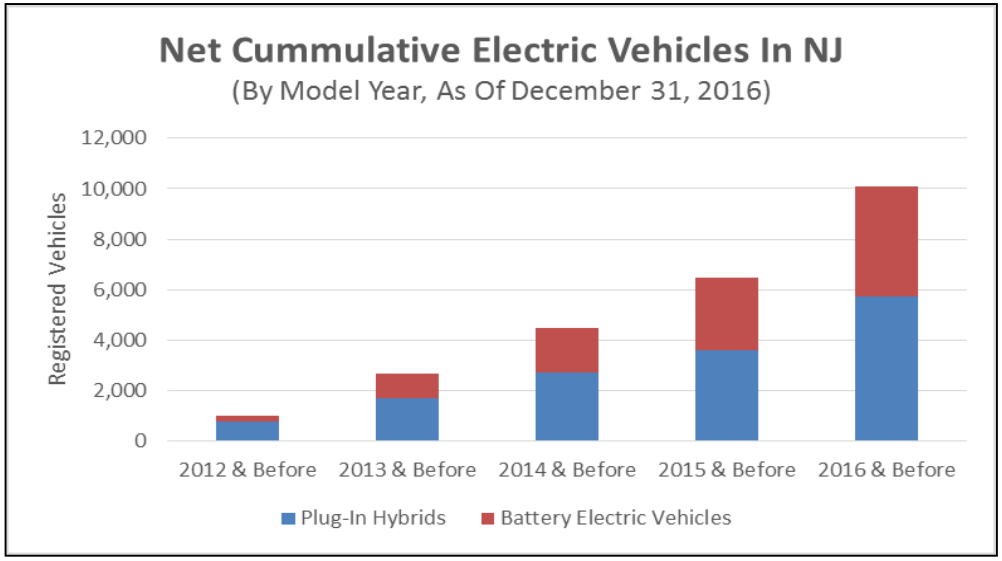
NJ PEV sales to date



Sales of 2016MY PEVs was 79% higher in NJ than for 2015MY vehicles, over twice the national PEV sales rate.

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Charging segments

Residential Chargers

Private Home Chargers

Multi-Family (& hotels)

Semi-Public Chargers

Workplace Chargers

Fleet Chargers

Public Chargers

Community Chargers

Corridor Chargers

Convenience Charging, Slower OK

Must Do Charging, Very Fast

Long Dwell Time (Authorized Users)

Short Dwell Time (Public Users)

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The Roadmap

Action 1 – Goals: Set specific goals for EV adoption and infrastructure development, focusing on market leadership short term, and a growth trajectory that achieves Global Warming Response Act goals medium term.

Action 2 – Public Charging: Reduce range anxiety through public chargers, especially "Quick Charge" facilities along travel corridors and in community locations.

Action 3 – Affordability: Make EVs accessible to more mainstream buyers short term through a vehicle purchase rebate.

Action 4 – Private Charging: Ensure the "Right To Charge" for all drivers at home and work.

Action 5 – Electrification Equity: Ensure the development of electric mobility solutions appropriate for all communities.

Action 6 – TTF Funding: Ensure EVs pay their fair share into the transportation trust fund, after a suitable transition.

Action 7 – Consumer Awareness: Make the availability, benefits, and feasibility of modern EVs common knowledge.

Action 8 – Supporting Programs: A variety of complimentary initiatives that ensure long term success.

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Impacts Of Plug-In Vehicles

Benefits For Plug-In Vehicle Drivers:

- Lower "fuel" cost (~4.49 cents/mile for EV, ~10.67 cents/mile for gas)
- Lower maintenance expense, especially for drive-train
- Satisfaction of reduced environmental impact
- Improved vehicle safety, advanced tech features, fun to drive!

Benefits For ALL (not just drivers):

- Significant reduction in overall electricity costs, social cost of carbon ($ Billions)
- Massive reduction in GHG and other emissions (in NJ, 72% - 82% cleaner)
- Numerous other social, environmental, and strategic benefits

Implications For Utilities And Electricity Infrastructure:

- Each EV increases home kwhr-consumption by ~33%, ~66% for two cars
- Consumer home charging trends increase residential power loads significantly
- Managed charging is essential to avoid negative impacts, maximize benefits
- Minimal circuit impacts short term, but even modest adoption will force upgrades
- Widespread EV adoption is an unprecedented opportunity for load optimization

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Benefits – a teaser

CARBON:

The Roadmap achieves 32.7% reduction in car induced CO2 emissions by 2040 compared with No-EV Baseline.

A 69.5% reduction by 2040 in the High Adoption Scenario.

PUBLIC HEALTH:

Health Incidence Category	Public Health Impacts From NOx Reductions By 2050					
	Scenario One		Scenario Two		Scenario Three	
	# in 2050	% Change	# in 2050	% Change	# in 2050	% Change
Premature Mortality (deaths)	-9	-18.1%	-16	-31.9%	-27	-53.2%
Morbidity						
Respiratory Emergency Room Visits	-3	-18.1%	-5	-31.9%	-9	-53.2%
Acute Bronchitis & Respiratory Symptoms	-8	-18.1%	-15	-31.9%	-25	-53.2%
Minor Restricted Activity Days	-106	-18.1%	-187	-31.9%	-312	-53.2%
Work Loss Days	-151	-18.1%	-266	-31.9%	-443	-53.2%
Asthma Exacerbation	-4,030	-18.1%	-7,087	-31.9%	-11,820	-53.2%
Hospital Admissions (Cardio and Respiratory)	-672	-18.1%	-1,181	-31.9%	-1,970	-53.2%
Non-fatal Heart Attacks	-375	-18.1%	-659	-31.9%	-1,100	-53.2%

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You asked

1. Do EVs fall under the definition of demand side management and energy efficiency as set forth at N.J.S.A. 48:3-51 and/or N.J.S.A. 48:3-98.1.d.?

YES.

+ Vehicles powered by electricity are a much more *efficient* way of fueling transportation then the existing internal combustion engine;

+EE and DSM statutes/programs as a means to an end – reduce consumer costs and reduce energy related emissions, especially CO_2. Increased use of EVs helps achieve both of these objectives directly;

+BPU has authority to ensure that electricity is used in the most efficient way possible, while at the same time, ensuring cost effectiveness for all ratepayers.

2a. Should owners and operators of EVSE that provide electric vehicle charging service be regulated as electric utilities?

NO.

+Asked and answered in many jurisdictions around the country: California, New York, and approximately fifteen other states including Oregon, Colorado, Florida, Hawaii, Illinois, Maryland, Minnesota, Washington, Virginia, and DC.

+ EVSE providers neither own, operate, manage or control electricity distribution systems in the State of New Jersey. Should not be regulated as a public utility. See language in N.J.S.A.48:2-13 a.

You asked

2b. Are operators of EVSE reselling electricity or providing a charging service?

SAME ANSWER AS 2a

- The fact that electricity is inside the service they provide does not automatically subject them to utility regulation;
- Consistent finding in the jurisdictions that have determined that EVSE providers should not be regulated as a public utility;
- Find that EVSE providers provide a service.