



Joint Office of
**Energy and
Transportation**

Building a Future Where Everyone Can Ride and Drive Electric

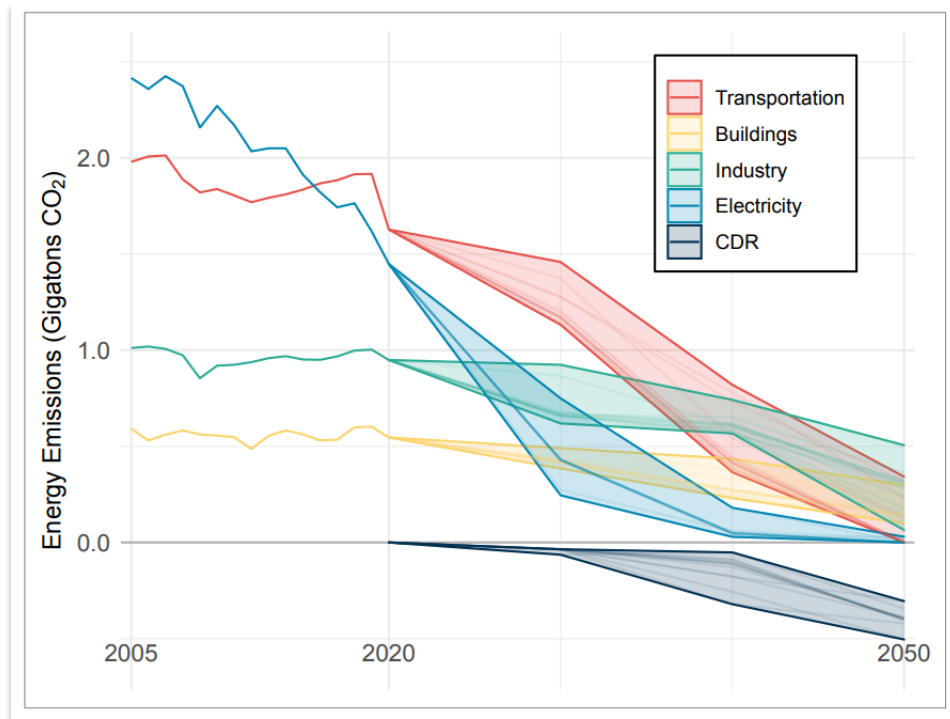
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PCAST

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driveelectric.gov

This is the **biggest change to our transportation system in a century** – and we are right in the middle of it.



Source: U.S Department of State and Executive Office of the President
November 2021



Numerous strategies and solutions are required to tackle transportation emissions



Figure A. Summary of transportation decarbonization strategies.

	BATTERY/ELECTRIC	HYDROGEN	SUSTAINABLE LIQUID FUELS
Light Duty Vehicles (49%)*		—	TBD
Medium, Short-Haul Heavy Trucks & Buses (~14%)			
Long-Haul Heavy Trucks (~7%)			
Off-road (10%)			
Rail (2%)			
Maritime (3%)			
Aviation (11%)			
Pipelines (4%)		TBD	TBD
Additional Opportunities	<ul style="list-style-type: none"> Stationary battery use Grid support (managed EV charging) 	<ul style="list-style-type: none"> Heavy industries Grid support Feedstock for chemicals and fuels 	<ul style="list-style-type: none"> Decarbonize plastics/chemicals Bio-products
RD&D Priorities	<ul style="list-style-type: none"> National battery strategy Charging infrastructure Grid integration Battery recycling 	<ul style="list-style-type: none"> Electrolyzer costs Fuel cell durability and cost Clean hydrogen infrastructure 	<ul style="list-style-type: none"> Multiple cost-effective drop-in sustainable fuels Reduce ethanol carbon intensity Bioenergy scale-up

* All emissions shares are for 2019

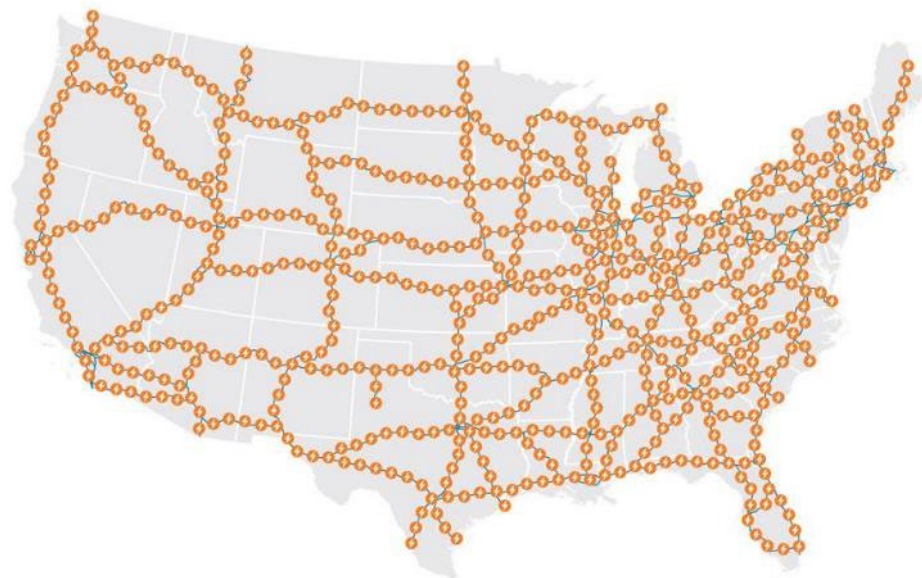
† Includes hydrogen for ammonia and methanol

Figure 7. Summary of vehicle improvement strategies and technology solutions for different travel modes that are needed to reach a net-zero economy in 2050 (more details provided in Section 5).

Source: U.S. National Blueprint for Transportation Decarbonization



**The
goal is a
national
network**



How do we connect regions? The nation?

Ohio, New York, Pennsylvania, Hawaii, Maine, Vermont, Utah, and Rhode Island NEVI stations are open!

OH



NY



PA



ME



HI



RI



UT

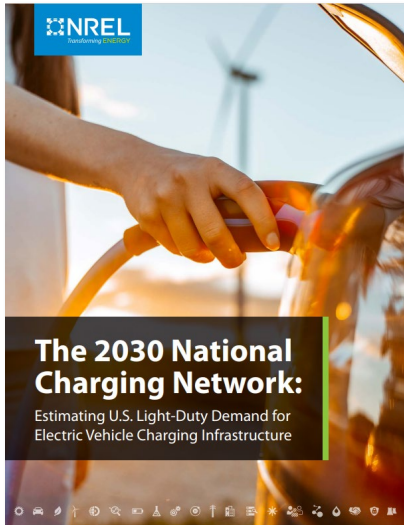
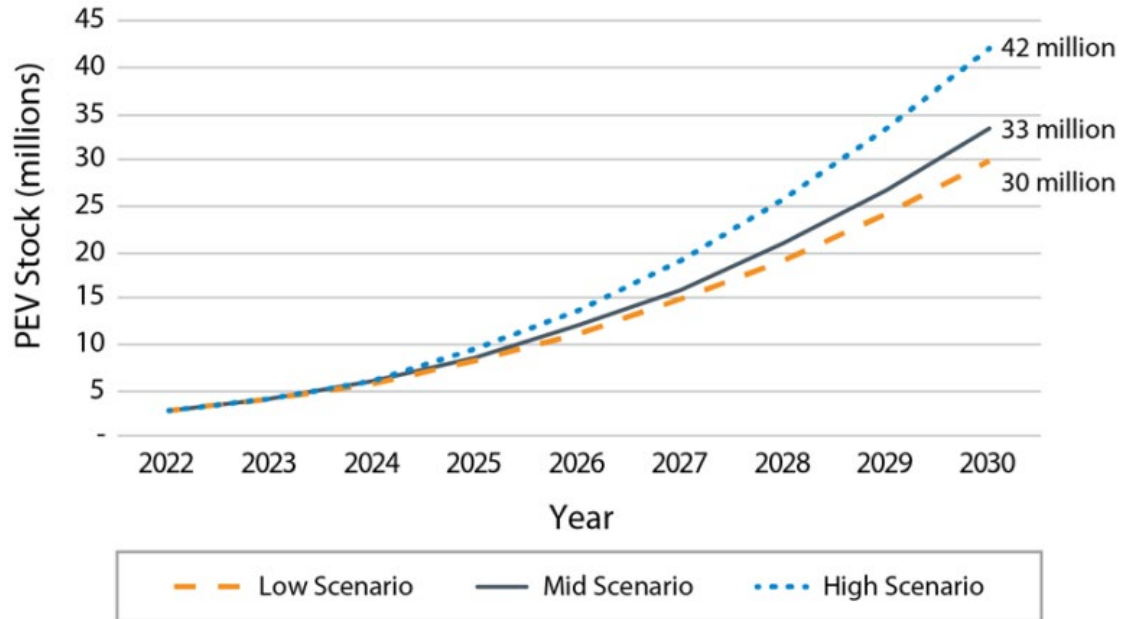


VT



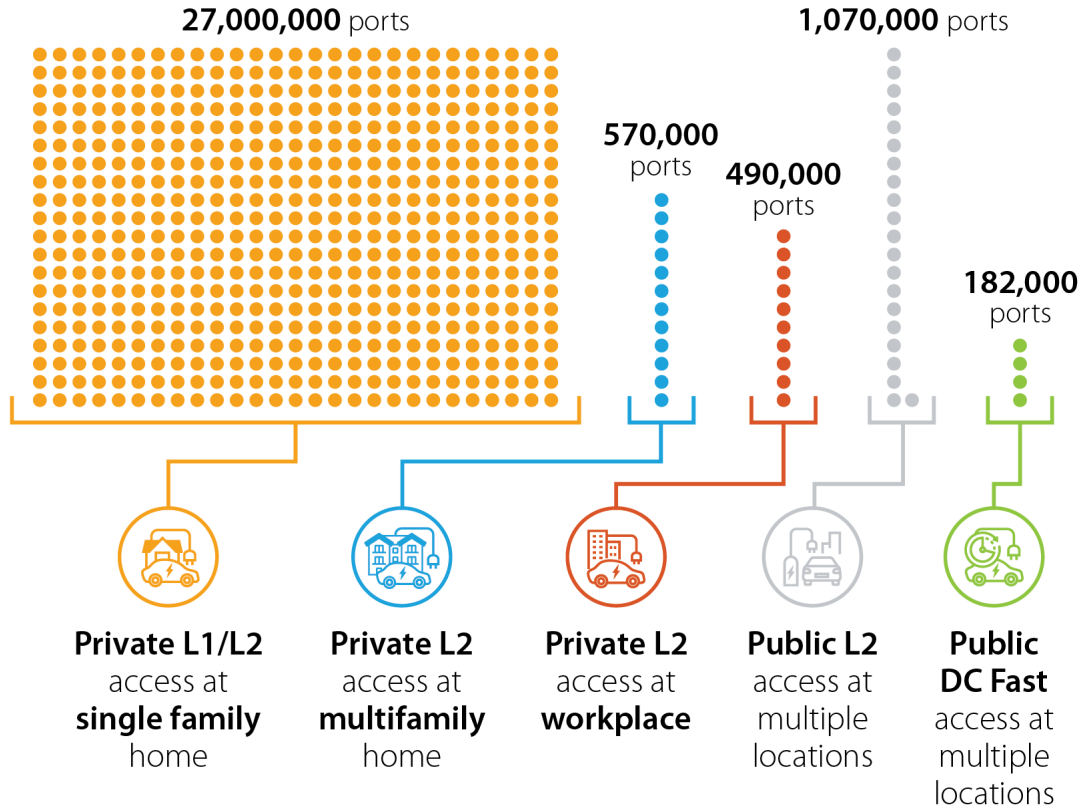
U.S. national light-duty PEV stock under three adoption scenarios

U.S. PEV Adoption Scenarios (light-duty)

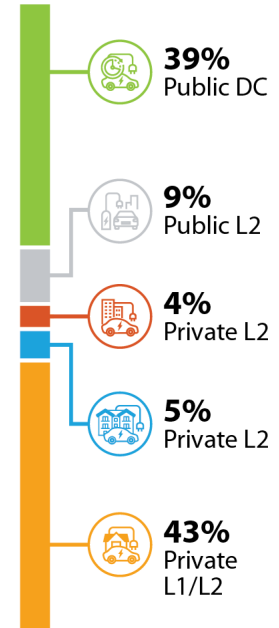



National EV Charging Network Size

Each ● represents 50,000 charging ports



Relative Capital Cost Distribution





Success = *Achieving a national charging network that embodies foundational principles:*

(and creates jobs, supports EV adoption, and reduces transportation emissions)

Convenient

- Great customer experience

Affordable

- Open market that fosters competition and innovation

Reliable

- Works every time
- Foundations for vehicle-grid integration

Equitable

- Any driver, any EV, anywhere



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Thank You

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