

Increasing Adoption of Plug-In Electric Vehicles

January 2015



WASHINGTON STATE ELECTRIC VEHICLE ACTION PLAN

Consumer Incentives

Infrastructure Deployment

Coordination with Utilities

Regional Collaboration

Codes, Policies, and Zoning

Fleet Purchases

Education and Outreach

Workplace Charging

Washington's Electric Vehicle Action Plan provides recommendations to increase market demand for battery and plug-in hybrid electric vehicles. There are currently about 10,000 plug-in electric vehicles (PEVs) registered in Washington, less than one percent of all cars. The state's Results Washington goal is to have 50,000 PEVs on our roads by 2020.

Why electric vehicles?

Vehicles that run on electricity drawn from the state's clean-energy mix of hydro, wind, and solar energy are far cleaner than petroleum-dependent cars. In Washington, the transportation sector accounts for nearly half of the state's greenhouse gas emissions. Encouraging a shift from petroleum-based fuels to fuels with low or no carbon emissions contributes to a suite of strategies needed to reduce the transportation sector's impact on the environment.

How do citizens benefit from electric vehicles?

Drivers of electric vehicles benefit by:

- having more vehicle choices
- saving money on gas and vehicle maintenance
- reducing dependency on foreign oil
- helping meet greenhouse gas reduction goals
- creating green technology jobs

What are some of the challenges to EV adoption?

EV prices tend to be higher than those of similar conventional and hybrid electric vehicles. Some costs may be recovered through fuel savings, a federal tax credit, and state incentives. Washington's sales tax exemption on the purchase of new clean cars expires July 1, unless policymakers renew the incentive.

Where do electric vehicle drivers recharge?

Most charging is done at home or at the workplace. EV drivers also benefit from a growing network of more than 400 public charging locations, particularly in the Puget Sound Region. Residents have limited access to public charging equipment in many parts of the state.

What is an electric vehicle?

Battery electric vehicles run exclusively on electrical energy stored in onboard batteries to power the vehicles' motors. The batteries are charged by plugging into an off-board electrical power source and through regenerative braking. EVs produce zero tailpipe emissions. In Washington, where electricity is generated primarily with low-cost, clean hydropower, EVs have substantial emissions benefits. Most EVs can travel about 60 to 100 miles on a single charge, depending on the model.

Which electric vehicles are sold in Washington?

EV models are being offered by nearly every auto manufacturer. Some "compliance" models are only available in California or in states that have adopted the Zero Emission Vehicle program.

Models currently for sale in Washington include:

- BMW i3
- Ford Focus Electric
- Mitsubishi i-MiEV
- Nissan Leaf
- Smart ForTwo Electric Drive
- Tesla Model S

What is a plug-in hybrid electric vehicle?

Plug-in hybrid electric vehicles (PHEVs) use batteries to power an electric motor and use another fuel, such as gasoline or diesel, to power an internal combustion engine. Plug-in hybrids provide flexibility in fueling and charging. The batteries can be charged from an off-board electrical power source, through regenerative braking, or by the internal combustion engine. Most commuters drive less than 30 miles per day and could power the vehicle with electricity most of the time to reduce operating costs, petroleum use, and tailpipe emissions.

Which PHEVs are sold in Washington?

- Cadillac ELR
- Chevrolet Volt
- Ford C-MAX Energi and Ford Fusion Energi
- Toyota Prius Plug-In

Through Governor's Executive Order 14-04, Washington Carbon Pollution Reduction and Clean Energy Action, WSDOT was directed to develop (in collaboration with federal, state, regional, and local partners) an action plan to advance electric vehicle use. Included in the plan are recommendations on targeted strategies and policies for financial and nonfinancial incentives for consumers and businesses, infrastructure funding mechanisms, signage, and building codes.

WSDOT is suggesting 13 action items to increase the adoption of plug-in electric vehicles (PEVs) in Washington to help reach the state's Results Washington target of 50,000 PEVs by 2020. As outlined below, the actions are grouped under three broad categories: EV sales incentives and outreach, EV charging infrastructure, and regional coordination.

Potential Actions to Advance Electric Vehicles

Accelerate Electric Vehicle Sales/Adoption in WA

1. Renew the sales and use tax exemption for the purchase of Clean Cars.
2. Transform public and private fleets.
3. Conduct public education and outreach to increase consumer awareness.
4. Provide more EV charging signage to increase public awareness of availability.
5. Explore providing incentives for driving electric vehicles.

Strengthen Washington's EV Charging Network

6. Complete the build-out of WA's fast charging network along highways and at key destinations.
7. Explore funding mechanisms and business models to bolster business/residential installation of Level 2 EVSE.
8. Support workplace charging.
9. Address building codes, policy, and zoning barriers to EV infrastructure.
10. Engage utilities.
11. Require future state-supported fast charging stations to support both standards (CHAdeMO and SAE CCS).

Synergize Actions throughout the Region

12. Support and participate in regional alternative fuel partnerships.
13. Track and participate in national EV efforts.

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