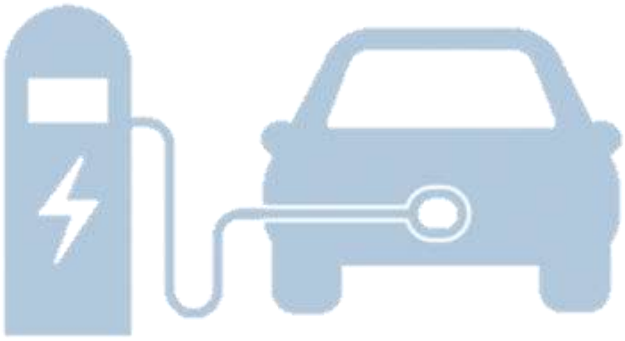
Electric Vehicle Roadmap for Connecticut

A Framework for Accelerating EV Deployment

The **draft** *Electric Vehicle Roadmap for Connecticut* represents Connecticut's comprehensive strategy for accelerating the deployment of electric vehicles (EVs) through policies and regulatory tools addressing transportation equity, purchasing incentives, consumer education, charging infrastructure, consumer protection, integration of EVs into the electric grid, utility investment, and rate design.



The transportation sector continues to be Connecticut's largest source of greenhouse gas (GHG) emissions (approximately 38%). It also accounts for two-thirds of nitrogen oxides (NOx) emissions, a major component of harmful smog, and other hazardous air pollutants.

Reducing emissions from the transportation sector is a primary solution to achieve the state's mandatory economy-wide reduction targets of 45 and 80 percent below 2001 levels by 2030 and 2050, respectively.[1] At the same time, reducing other harmful air pollutants from the transportation sector will help Connecticut meet federal health-based air quality standards and reduce exposure to mobile source air toxics.

The transition to EVs is an essential strategy toward the state's commitment to creating cleaner, healthier, and more sustainable communities. Although EV sales are currently a relatively small percentage of overall new vehicle sales in Connecticut compared to internal combustion engine (ICE) vehicles, the market is growing at a rapid pace largely due to advances in battery technology, expanded vehicle range, increased model availability, purchase incentives, and clean car regulations that require EV adoption. The transition from ICE vehicles to EVs raises a number of opportunities and challenges; the *Roadmap* identifies these challenges and proposes an ambitious path to EV deployment while ensuring that low-income residents and underserved communities are able to benefit from vehicle electrification.

The *EV Roadmap's* Key Recommendations

- Ensure Equitable Access to Clean Transportation | It is vital that Connecticut's EV deployment efforts ensure that underserved and disproportionately impacted communities benefit from the implementation of a clean transportation strategy. Reducing ICE vehicle emissions in these communities and increasing access to clean transportation options are important considerations influencing all recommendations.

- Preserve & Strengthen Existing Purchasing Incentives | Purchase price is the most significant barrier to EV adoption. Advances in battery technology will continue to bring EVs closer to price parity with ICE vehicles. Until market maturity, financial incentives, like the Connecticut Hydrogen and Electric Automobile Purchase Rebate (CHEAPR), remain essential to accelerating EV adoption.

[1] GHG reduction targets set forth in the 2008 Global Warming Solutions Act and the 2018 Act Concerning Climate Change Planning and Resiliency

- Develop the Secondary EV Market | Efforts are needed to develop the secondary market for those drivers who cannot buy new are essential. Moreover, Public Act 19-117 requires the CHEAPR Board to develop a rebate for pre-owned EVs, with an associated income-level cap. Expanding the program into the secondary EV market and will benefit many Connecticut residents who primarily purchase pre-owned vehicles.

- Expand EV Charging Infrastructure | There are 344 publicly accessible EV charging stations with a total of 823 charging outlets in the state, including 34 Direct-Current Fast Charger (DCFC) locations. An estimated deployment of 5,858 workplace Level 2 charging plugs, 3,848 public Level 2 charging plugs, and 282 public DCFC plugs is necessary to meet future charging demands. We must build the proper regulatory framework and identify cost-effective strategies to enable a robust charging infrastructure network that supports and accelerates EV adoption and limits negative impacts on the electric grid such as increased demand during peak times.

- Improve the Charging Experience | Fueling a conventional ICE vehicle is simple; the same must be true for EVs to increase adoption levels. Addressing pricing transparency, making charging stations easy and consistent to operate, and ensuring the charging stations of today meet the demands of tomorrow's EVs, will be critical to incentivize EV ownership. In addition to improvements to the user-experience, a robust utility regulatory framework must be established to incent installation of residential and workplace charging infrastructure, and rate designs that incent off-peak charging.

- Target Private and Public Fleets | Fleet vehicles' high annual mileage, operational costs, and public exposure make them viable and attractive candidates for electrification. When compared to ICE vehicles, EVs are cheaper to run when accounting for the operable lifetime costs of maintenance, fuel, and other ancillary costs. Setting EV fleet procurement targets, deploying telematics systems to capture fleet benchmark data, and aligning useful vehicle life with EV battery warranties are some strategies that can help transition public and private ICE fleets to EV fleets.

- Beyond Light-Duty Vehicles | It is anticipated that by 2035, heavy-duty vehicles will contribute 61 percent more NOx emissions than light-duty vehicles (LDV) due to decreasing LDV emissions as a result of stronger new vehicle standards. The electrification of medium- and heavy-duty vehicle classes such as trucks and buses will be vital to ensuring we remain on track with emission reduction targets.

- Support EV Technology Innovation | Connecticut is home to many innovative and industry leading technology-based businesses, including EVSE suppliers EVSE LLC and Juice Bar. Building upon this foundation, the state seeks to become a test bed for cutting-edge technology providers and mobility solutions businesses to deploy innovative vehicle electrification technologies and programs.

View Connecticut's Electric Vehicle Roadmap draft.