

NORTH CAROLINA TRANSPORTATION ELECTRIFICATION COMPLEMENTARY POLICY ROADMAP

North Carolina Transportation Electrification Roadmap

Key Takeaways

North Carolina stands to achieve significant benefits from increased transportation electrification. In addition to several key market-enabling policies that set the standard for the state (see box to left), an **important set of complementary policies** will put the State on a pathway to ensure that North Carolina's ambitious targets can be met and that the benefits of vehicle electrification can be maximized and distributed to all communities. Each of the core and complementary policies described could have a significant positive impact on communities across the state if implemented equitably.

Transportation Electrification: Enormous Emissions Reductions and Benefits for All Residents Of North Carolina

The Transportation sector is the largest source of greenhouse gas (GHG) emissions in North Carolina, and reducing these emissions is critical to human and environmental health. Executive Order No. 246 (EO 246), *North Carolina's Transformation to a Clean, Equitable Economy*, sets a new GHG emission reduction goal of net-zero emissions by 2050, increases the zero-emission vehicle (ZEV) registration target to 1.25 million vehicles and creates a new ZEV in-state sales target to be at least 50 percent by 2030. Transportation electrification is an important piece of the puzzle in reducing the state's emissions.

This analysis found that North Carolina could see up to \$150 billion in cumulative net benefits from transportation electrification, including air quality, benefits, utility customer savings, and EV owner savings.

This report includes a detailed analysis of four "core policies" to drive transportation electrification: 1) California's Advanced Clean Cars II (ACC II) rulemaking, 2) the Advanced Clean Trucks (ACT) rule, and 3) the NOx Omnibus rule, and 4) the Biden Administration's 2030 electric vehicle (EV) sales target. It also explores how complementary policies, such as infrastructure development and vehicle financing, can help ensure that transportation electrification is implemented equitably and with the lowest cost and impact on consumers.

Background

The core policies described to the left are achievable in North Carolina, however, the State, like many across the country, faces several barriers to electrification. A roadmap of complementary policies can help reduce barriers, increase awareness, and encourage greater electric vehicle (EV) adoption. This Roadmap highlights five categories of policies that will be critical to North Carolina to meet the States electrification targets and suggest that equity should be at the center of vehicle electrification work.

Infrastructure development: Address consumer concerns like range anxiety, infrastructure costs, and charging costs and accessibility.

Vehicle financing: Leverage the collective resources of federal, state, and local entities, and the private sector to reduce up-front costs, a key barrier to EV adoption.

Used Electric Vehicle Market: Expand the used market for EVs—70 percent of car sales in the U.S. are used cars.

Education and outreach: Increase the awareness around vehicle electrification through coordination between state and local governments and key stakeholders across all communities.

State leadership: Lead by example through government driven initiatives to increase electric vehicle awareness, improve air quality, and provide monetary savings for fleet operation and maintenance.

Recommendations

Below are, in part, a few key recommendations North Carolina should consider ensuring an affordable, equitable, and sustainable EV transition.

Infrastructure development

1. Develop infrastructure planning and incentives that promote equitably distributed charging infrastructure.
2. Develop a plan for accessing and utilizing Federal funding from the *Infrastructure Investment and Jobs Act* (IIJA) to support expanded EV infrastructure. IIJA provides nearly \$2.5 billion in grants to build out EV charging infrastructure, including at least \$500 million in North Carolina.
3. Collaborate at the state and regional level to develop infrastructure and partner with key stakeholders to ensure that charging infrastructure is developed strategically and cost effectively.

Vehicle financing

1. Allocate funding to the medium- and heavy-duty vehicle market to reduce the high costs associated with electrifying these fleets.
2. Structure grant funding approaches to support the needs of communities across the state of North Carolina.
3. Explore additional innovative financing solutions (e.g., leasing models; green back; vehicle to grid; pay as you save; transport energy service company).
4. Develop incentive programs that focus on increasing electric vehicle accessibility.

Used Vehicle Market

1. Provide incentives for used EVs to make them more cost competitive with used internal combustion engine (ICE) vehicles.
2. Increase and incentivize public and private fleet turnover to increase the number of EVs in the secondary vehicle market.

Education and outreach

1. Develop a statewide workforce ZEV training program to develop training and career programs for the new and existing workforce.
2. Develop state programming to increase public awareness of EVs.

State leadership

1. Lead by example in fleet electrification and EV job creation.
2. Support and develop EV infrastructure to foster low-emission travel.

Equity considerations

1. Carry-out authentic, sustained engagement of leaders in low-income and communities of color at every stage of the transition.
2. Focus incentives on low- to moderate-income drivers and residents in communities that are disproportionately burdened by pollution and include incentives for used EV purchases.
3. Engage with community advocates to increase understanding around the benefits of electrification to ensure that communities do not get left behind.
4. Commit to working directly with communities to understand their transportation needs.

The full report is available at [ERM.com](https://erm.com)