ACCELERATING OUR TRANSITION TO ELECTRIC CARS

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WHY IT MATTERS

To effectively fight climate change, we must address the largest source of carbon pollution in Virginia: transportation.[1] Over 80 percent of those transportation emissions come from vehicles, primarily cars and trucks.[2] Vehicles are also a major source of harmful tailpipe pollution that has been linked to respiratory and heart diseases and premature death.[3,4] Communities of color experience disproportionate exposure to traffic pollution in the Mid-Atlantic.[5] Students suffer exposure to these pollutants daily on Virginia's diesel school buses.

While the most important strategy to reduce pollution from vehicles is to reduce driving overall, we must also rapidly transition our remaining driving to **electric vehicles (EVs)**, which have zero harmful tailpipe emissions. Electricity to power an EV emits less than one-sixth of the carbon pollution of an equivalent gas-powered vehicle, and will emit even less over time as Virginia's electrical grid becomes cleaner.[6] Including a lifecycle comparison of vehicles, EVs still emit 58% less carbon on average than equivalent gas cars.[7]

Cleaner vehicles also save Virginians money. EVs require significantly less maintenance than gas cars, and charging at home in Virginia costs the equivalent of $1.43 per gallon.[8] Combined, Virginia EV drivers save an average of $1,206 annually compared to driving a gas-powered vehicle.[9,10]

The used EV market has made EV ownership more affordable for Virginia families. But many drivers aren't aware of these options, and access remains uneven across the state. People living in rural areas, multifamily housing, and rental properties often have limited charging options. Virginia's public EV charging network, while growing, still has significant gaps that the free market has been slow to fill.

CURRENT LANDSCAPE

Globally, 25% of new cars sold are electric, but in Virginia, that number is only 9%.[11] This gap reflects slower deployment of public charging, uneven regional access, and the lack of broad consumer incentives to reduce upfront purchase costs. Federal policy changes have further compounded these challenges by scaling back support for EV adoption and charging expansion — including eliminated consumer tax incentives, delays in funding for fast-charging buildout, and rolled back emissions and fuel economy standards.[12]

This makes state-level leadership more critical than ever. The two main barriers to EV adoption in Virginia are narrow market availability of affordable EV models and an inadequate statewide charging network.

Fortunately, EV market availability and affordability are improving. Consumers have more affordable EV choices than ever before, with new EV models available for less than $30,000 and many used EVs priced similarly to comparable used gas-powered vehicles.[13,14]

Many Virginians still lack equitable access to charging infrastructure at home. In 2026, the General Assembly took a key step to address this. Starting next year, local governments will have more ways to support the installation of EV charging stations or EV-ready parking spaces at workplaces or multi-unit dwellings like apartment complexes.

A comprehensive, statewide public charging network is still needed to make EVs work for every driver by supporting longer journeys. Today, rural and exurban areas have fewer convenient public charging options than urban areas or along major highways. Additionally, single-family home owners can more easily install EV charging infrastructure and take advantage of residential utility rates, while people who live in apartments, townhomes, and buildings without dedicated parking may not have a convenient and cost-effective option to charge.

OPPORTUNITIES

Though the market is already shifting towards EVs, our climate and health require a more rapid transition. The state can continue to look for opportunities to lower operating costs by electrifying its own fleet while learning from localities that are leading the way in fleet electrification and EV charger buildout.

Planning ahead for EV adoption can reduce grid upgrade costs for utilities and ratepayers. Anticipating the change in energy usage patterns as EV charging becomes more common is essential to ensure that these changes benefit the grid. With the right policies in place, Virginia can meet its energy needs, transition quickly to EVs, and even reduce the electricity rates that all customers pay.[15]

Virginia's major utilities must move forward with comprehensive **demand side management** strategies like EV managed charging to build on their existing EV programs. When designed well, **managed charging** can smooth out the impact of EVs on the grid and even deliver grid benefits.[16] Managed charging is the first step to a more comprehensive **vehicle-to-grid (V2G)** program. V2G would use EVs as grid assets, tapping into their stored energy when

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needed for less than the cost of new power plants and other infrastructure (*see Distributed Energy Resources, page 107*). Electric school buses are a great application for V2G, since they have large batteries and spend most of the day parked.[17]

Finally, while other states consider punitive taxes on EVs and EV charging, Virginia should continue to treat all drivers fairly, whether they drive electric, hybrid, or gas cars.

TOP TAKEAWAYS

Virginia's vehicles emit more carbon pollution than any other sector. As federal emissions standards weaken, Virginia cannot wait — accelerating the EV transition is essential to our climate goals, public health, affordability, and reducing reliance on gasoline.

A statewide charging network and convenient charging for multi-unit residents would deliver EV benefits more equitably across Virginia.

Utilities are key players in the EV transition and must scale programs that accelerate adoption while putting downward pressure on rates.

ENDNOTES

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