



Clean Cars Virginia

What Is Clean Cars Virginia?



What is LEV?

The LEV pollution-reduction standard requires car manufacturers continue to roll out, over time, steadily cleaner vehicles that emit less climate pollution, soot, and smog-forming pollutants that worsen asthma. Cleaner vehicle technologies are also cheaper to own due to reduced fueling costs.

What is ZEV?

The ZEV program requires car manufacturers offer drivers a slowly but steadily increasing number of cars, SUVs, and pickup trucks that are more-cheaply powered by electricity, known as plug-in electric vehicles (EVs).

With climate change already wracking Virginia's coast and sustained assaults on commonsense climate safeguards at the federal level, Virginia can seize its own destiny and tackle the Commonwealth's largest driver of climate change—pollution from tailpipes—with Clean Cars Virginia.

Clean Cars Virginia is an initiative to join the 16 states that either long-ago adopted, or are considering adopting, standards to tackle air pollution from cars and trucks in a way proven to reduce fuel bills and car-ownership costs for everyday consumers.

Transportation is by far Virginia's number one source of climate pollution in a state where we already face rising seas and increasing extreme weather.¹ Clean Cars Virginia is composed of (1) low-emissions vehicle pollution standards ("LEV") already in place in more than 35 percent of the American auto market, and (2) increased availability of zero-emissions electric vehicles ("ZEV"). These two components, LEV and ZEV, will reduce transportation pollution and expand the choices Virginians have for buying zero- and low-emission vehicles, which have been long shown to save drivers money.

Commonsense LEV and ZEV requirements are not directed at car dealerships; car manufacturers, like Ford and Volkswagen, are the entities that will increase the delivery of cleaner, more fuel-efficient, and electric models from which Virginians can choose.

It's worked for over a decade in more than one in five American states: it's time for Virginia to get rolling on cleaner cars and trucks that save drivers money.

The Benefits of Clean Cars Virginia

Reversal of the Trump assault on our climate, health, and economy

The Trump administration's rollback of federal clean car standards makes America's cars dirtier and more expensive, by weakening reasonable, long-standing national standards that would have reduced transportation costs for Virginians. The Clean Cars Virginia LEV standard ensures that our state's fleet will continue its progress toward cleaner and cheaper mobility.

Savings for vehicle owners

Historical data on the real-world impacts of clean vehicle standards, in combination with fuel economy standards, show that they have achieved enormous fuel savings and emission reductions for states and the nation overall.² A recent analysis by Shulock Consulting found that a Clean Cars Virginia standard, if adopted, will save new vehicle buyers in 2025 nearly \$1,100 over the life of the vehicle and in 2030 over \$1,400 compared with a gasoline vehicle, due mainly to spending less at the pump.³

Moreover, for the 85 percent of Americans who finance their new passenger vehicles, monthly expenditures with a typical six-year loan will be lower from day one even when including the minor, additional cost of the cleaner, more fuel-efficient technology. When these individual savings are combined, statewide savings under Clean Cars Virginia are projected to reach about \$300 million annually by 2040 and could exceed \$1 billion in that year in a scenario where ZEV adoption exceeds the minimum level required under the regulation.⁴

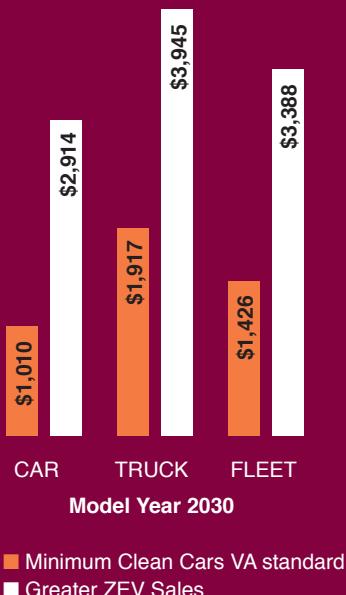
Reduced emissions of smog-forming pollutants that worsen asthma and other diseases

Richmond has some of the worst asthma rates in the country, and many respiratory diseases, including asthma, are associated with and worsened by air pollution.

Cars and trucks running on gasoline and diesel fuel release many health-harming pollutants such as particulate matter (PM) and smog-forming pollutants such as oxides of nitrogen (NOx) and volatile organic compounds (VOCs). These pollutants disproportionately impact those who live near freeways, often members of low-income households and communities of color. Low-emission and zero-emission vehicles reduce these pollutants using readily available technology and also help avoid the emissions that come from gasoline production, leading to improvements in public health.

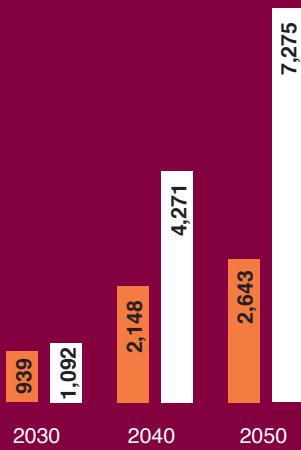
A recent analysis by the American Lung Association found that in Virginia, widespread transition to zero-emission transportation technologies could, by 2050, yield more than \$1.3 billion in avoided annual health costs—including the costs of 115 premature deaths, more than 1,780 asthma attacks, and nearly 8,190 lost work days—if significant reductions in transportation-related pollution were achieved.⁵ Due to methodological limitations, this study quantified only the impact of reductions in particulate matter: it is reasonable to assume that reductions in smog-forming pollutants will result in additional health benefits not included here.

Lifetime Savings Per Vehicle



■ Minimum Clean Cars VA standard
■ Greater ZEV Sales

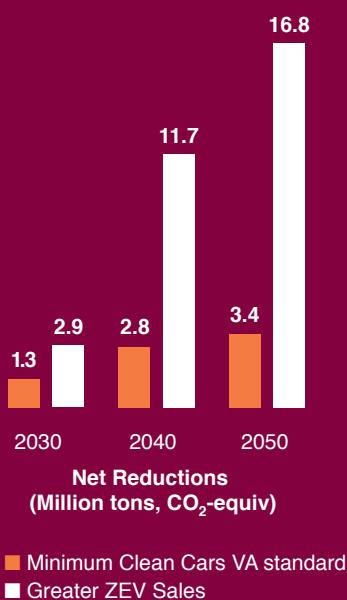
Smog-Forming Pollutants



Net Reductions (Tons, NO_x + VOC)

■ Minimum Clean Cars VA standard
■ Greater ZEV Sales

Climate Pollutants



More EVs on the road will also help drive Virginia's electricity rates down for everyone, regardless of whether they drive an EV.

Reduced emissions of climate pollutants

Climate pollution already impacts Virginians' way of life and our economy, via rising sea levels, higher temperatures, drought, and more extreme storms.⁶

The tailpipes of our cars and trucks cause the majority of Virginia's carbon pollution, which Clean Cars Virginia is designed to tackle directly. Statewide projections indicate that adoption of a Clean Cars Virginia program will reduce greenhouse gas emissions by almost three million metric tons (MMT) in 2040 alone and about 3.4 MMT in 2050.⁷ Substantially larger reductions are possible with increased levels of electric vehicle adoption in Virginia beyond the ZEV requirements.

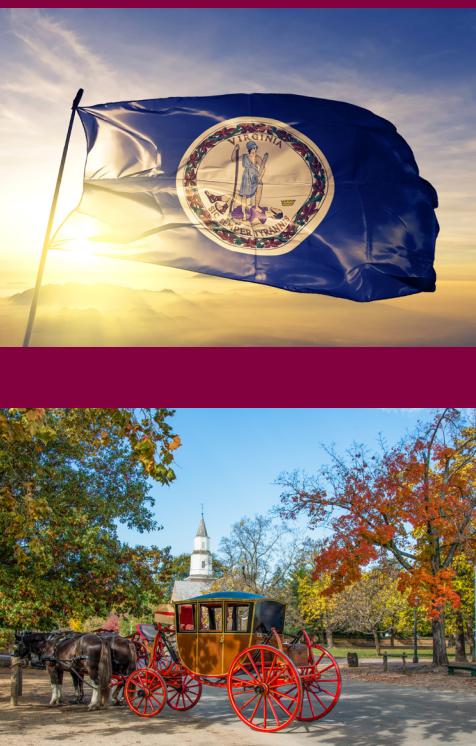
A stronger push for cleaner vehicles will result in more pollutants being taken out of our air, lessening their damage to us and the planet even more.

Job and economic benefits

More money in the pockets of Virginians means more money spent in ways that can stimulate local economies, leading to positive social and financial impacts throughout the state.

By putting more electric vehicles (EVs) on the road, Virginia can also attract additional investments in charging infrastructure, helping spur more jobs associated with its installation and operation. As of the end of 2019, Virginia had more than 97,300 jobs in the clean energy economy, with nearly 3,750 of those jobs in the clean vehicles and fuels category.⁸

More EVs on the road will also help drive Virginia's electricity rates down for everyone, regardless of whether they drive an EV.⁹ That's because EVs tend to be charged overnight, when people are sleeping and there is plenty of spare capacity on the grid. Better utilization of the electricity grid and locally produced electricity means lower costs for everyone. As just one example of this economy-boosting impact, in the two utility territories in the United States with the most EVs on the road, EV customers have contributed \$806 million in net revenues to utilities over the past eight years that have been returned to all utility customers in the form of reduced electricity rates and bills.¹⁰





The Truth About the Clean Cars Virginia Initiative

Opposition to Clean Cars has come from lobbyists for the oil industry who fight commonsense policies to reduce the dollars that everyday consumers spend on gasoline and diesel.¹¹ Other opponents, such as auto dealer associations, have also expressed unfounded concerns that state dealerships will only be able to offer specific types of low-emission vehicles, such as electric vehicles. We can dispel some of the misinformation and fears that have come from these opponents.

The truth is that:

Clean Cars Virginia sets pollution standards for global automakers, never for local dealers.

Automakers have been meeting state-level clean car standards for decades. They now do so in more than one out of five American states and have already been introducing cleaner vehicles, including electric vehicles, that pollute less and save consumers money. The program would ensure that manufacturers continue these trends in the future despite the recent rollback of federal clean car standards.¹² Both auto dealers and the public can continue to purchase the types of cars, SUVs, and pickup trucks they want, but with even more clean models and technologies from which to choose.

State enforcement of the Clean Cars Virginia standards is handled not at Virginia dealerships, but with global auto manufacturers already long familiar with meeting the standards in the U.S.

Auto manufacturers are responsible for reporting their sales to state agencies in order to demonstrate compliance with the LEV and ZEV programs. All the manufacturers have generally met and exceeded state standards elsewhere. Car dealers have no reporting requirements and are not regulated under the program.

Clean Cars Virginia will not increase the cost of owning a car, SUV, or pickup truck.



The lifetime cost of owning a 2025 vehicle meeting the Clean Cars Virginia standards will be more than \$1,000 lower, on average, even accounting for the additional upfront costs. For those who drive larger vehicles that use more fuel, such as SUVs and pickup trucks, the savings will be even greater. And those who are in the market for an EV will have a growing array of products as automakers bring more models to Virginia. With rapid improvements in technology, EVs are beginning to approach initial cost parity with their gasoline counterparts while having lower fuel costs.¹³

Clean Cars Virginia will help reduce costs for low-income families and rural families.

Cleaner, more fuel-efficient vehicles are not just for urban or wealthier drivers. People living in rural areas tend to drive longer distances and have larger vehicles (e.g., pickup trucks), so their savings on fuel will be even greater.¹⁴ Lower-income families tend to spend a larger proportion of their income on fuel than do higher-income families, and this “energy burden” disparity is particularly acute in Virginia.¹⁵ This means that the operating cost savings from the program will provide a greater benefit



Cost savings from the program will provide a greater benefit to the state's lower-income households.

to the state's lower-income households. Also, because lower-income households often disproportionately buy from the used car market, more-efficient used vehicles will deliver the same fuel savings without the added cost of new technology, which typically gets absorbed by the first owner.

Virginians show significant interest in electric vehicles but have too few choices.

A recent Virginia survey by Consumer Reports and the Union of Concerned Scientists found that 60 percent of prospective vehicle buyers have interest in buying an electric vehicle and that 72 percent of those prospective buyers want automakers to provide more EV options.¹⁶ As production increases, automakers are indeed planning to make more EV models available. By 2023, there will be more than 100 electric vehicles on the market, of which more than 60 percent will be crossover vehicles, SUVs, and pickup trucks.¹⁷ But since some automakers send new EV models to ZEV states first, the Commonwealth needs to adopt ZEV standards in order to make sure Virginians have the same vehicle options as neighboring states—and to ensure that sales stay in Virginia.

Auto dealers in other states that already have clean car programs have not documented hardships.

Revenue growth from 2012 through 2017 was more rapid in ZEV states than in non-ZEV states, according to a 2018 study conducted by Shulock Consulting that compared revenue for ZEV and non-ZEV state dealers.¹⁸ It found this greater revenue growth in clean car states even while controlling for personal income. Additionally, no negative impacts were discernable in the data.

Some auto dealers have raised concerns that the regulations would limit their ability to trade cars between states or buy cars out of state. A thorough investigation of such issues by parties in Colorado found that cross-border trade and registrations can still occur, dealers can continue shipping vehicles to and from other states, and residents can keep purchasing vehicles in the state or in other states.¹⁹

The program provides automakers multiple years of lead time.

The earliest the Clean Cars Virginia standards will be in effect is for model year 2025 vehicles.²⁰ This lead time is more than adequate for national car manufacturers to supply Virginia with the cleaner vehicles that are already being sent to more than one in five states that account for 35 percent of the U.S. auto market today. That multiyear delay also ensures that state auto dealers will be well prepared to sell the electric vehicle models that Virginians already want to buy.

Clean Cars Virginia will not impact farming equipment.

Clean Cars Virginia only affects new passenger cars and light-duty trucks for sale. It does not apply to heavy-duty vehicles like farming equipment or big rigs.²¹

What Are the Next Steps?

Once the legislation is passed, the Virginia Air Pollution Control Board will adopt the LEV and ZEV standards (already in place in other states) as soon as 2021, to ensure that Virginia's Model Year 2025 vehicles will be cheaper and cleaner.

ENDNOTES

- 1 EIA, Energy-related CO₂ Emission Data Tables, "Table 4: 2017 State energy-related carbon dioxide emissions by sector," May 2020. Also see U.S. Environmental Protection Agency, *What Climate Change Means for Virginia*, August 2016, EPA 430-F-16-048, <https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-va.pdf>.
- 2 David Greene, Judith Greenwald, and Rebecca Ciez, "U.S. Fuel Economy and Greenhouse Gas Standards: What Have They Achieved and What Have We Learned?," *Energy Policy* 146, November 2020, <https://doi.org/10.1016/j.enpol.2020.111783>.
- 3 Charles Shulock, *Clean Cars Virginia: An Analysis of Its Feasibility and Impact on Consumers and the Environment*, Shulock Consulting, forthcoming.
- 4 Ibid.
- 5 American Lung Association, *The Road to Clean Air: Benefits of a Nationwide Transition to Electric Vehicles*, September 2020, <https://www.lung.org/clean-air/electric-vehicle-report>.
- 6 U.S. Environmental Protection Agency, *op. cit.*
- 7 Charles Shulock, *op. cit.*
- 8 E2, *Clean Jobs America 2020: Repowering America's Economy in the Wake of COVID-19*, April 2020, <https://e2.org/wp-content/uploads/2020/04/E2-Clean-Jobs-America-2020.pdf>.
- 9 Max Baumhefner, "Electric Vehicles Are Driving Rates," NRDC Expert Blog, July 2020, <https://www.nrdc.org/experts/max-baumhefner/electric-vehicles-are-driving-rates-down>.
- 10 Jason Frost, Melissa Whited, and Avi Allison, "Electric Vehicles are Driving Electric Rates Down," Synapse Energy Economics, June 2020, https://www.synapse-energy.com/sites/default/files/EV_Impacts_June_2020_18-122.pdf.
- 11 Anjali Bains, "What's Up With Clean Car Standards and Why Do They Matter to Minnesotans?," Fresh Energy, July 2020, <https://fresh-energy.org/whats-up-with-clean-cars/>.
- 12 Luke Tonachel, "Six Facts About Trump's Clean Cars Rollback," NRDC Expert Blog, March 31, 2020, <https://www.nrdc.org/experts/luke-tonachel/six-facts-about-trumps-clean-cars-rollback>.
- 13 Nic Lutsey and Michael Nicholas, "Update on Electric Vehicle Costs in the United States Through 2030," International Council on Clean Transportation, April 2019, https://theicct.org/sites/default/files/publications/EV_cost_2020_2030_20190401.pdf.
- 14 Josh Goldman, "Fuel Efficiency, Consumers, and Income," August 2017, Union of Concerned Scientists. Also see Charles Shulock, *Clean Cars Minnesota*. August 2020, <https://www.shulockconsulting.com/reports-and-presentations>.
- 15 David Greene and Jilleah Welch, *The Impact of Increased Fuel Economy for Light-Duty Vehicles on the Distribution of Income in the United States*, Oak Ridge National Laboratory and the Energy Foundation, September 2016, http://bakercenter.utk.edu/wp-content/uploads/2016/09/Equity-Impacts-of-Fuel-Economy-Report_final.pdf.
- 16 Union of Concerned Scientists and Consumer Reports, "Electric Vehicle Survey Findings and Methodology: Virginia," November 2019, <https://www.ucsusa.org/sites/default/files/2019-11/Virginia-EV-Survey.pdf>.
- 17 Information provided in personal communication from Jukka Kukkonen, Shift2Electric, March 31, 2020.
- 18 Charles Shulock, *Comparison of Automobile Sales in States That Have Adopted a Zero Emission Vehicle Regulation Versus States That Have Not Adopted*, Shulock Consulting, May 2018, 2, <https://www.shulockconsulting.com/reports-and-presentations>.
- 19 Environmental Coalition, *Rebuttal Prehearing Statement in the Matter Regarding Proposed Addition of Regulation Number 20*, 2018, 26-30, <https://earthjustice.org/sites/default/files/ConservationGroupsREB.pdf>.
- 20 Bains, "What's Up With Clean Car Standards."
- 21 Luke Tonachel, "Six Facts About Trump's Clean Cars Rollback," NRDC Expert Blog, March 31, 2020, <https://www.nrdc.org/experts/luke-tonachel/six-facts-about-trumps-clean-cars-rollback>.

