

Electric Vehicle Incentives are an Investment in Virginia

Economic Benefits

- Every day, Virginia drivers spend over \$23 million on motor gasoline. That's over **\$8.5 billion** a year!¹
- Since Virginia doesn't have a large crude oil industry, at least 80% of the cost of every gallon of gas immediately leaves the state economy.² That's over \$18.7 million that leaves the state every day.³
- Driving an EV in Virginia will save a driver **~\$3,511** in fuel costs.⁴ This money can be used for eating out, groceries, home improvements, and entertainment. This consumer spending creates local jobs and support Virginia's economy.

Environmental Benefits

- Transportation is the leading cause of greenhouse gas emissions in the United States *and* in Virginia.⁵
- Climate change damages from vehicle emissions include reduced agricultural yields, health impacts in cities due to heat, and flooding and erosion in coastal areas.⁶
- Using the Social Cost of Carbon, each EV on the road in Virginia prevents **~\$1,616** in damages from carbon in the atmosphere.⁷

Health Benefits

- Transportation accounts for more than half of all the air pollution in the United States. The primary mobile source of air pollution is the automobile.⁸
- Exposure to on-road pollution leads to heart attacks, strokes, and asthma attacks resulting in ER visits, hospitalization, and premature death.⁹
- Every EV on the road prevents health damages of **~\$1,144**.¹⁰

Energy Security Benefits

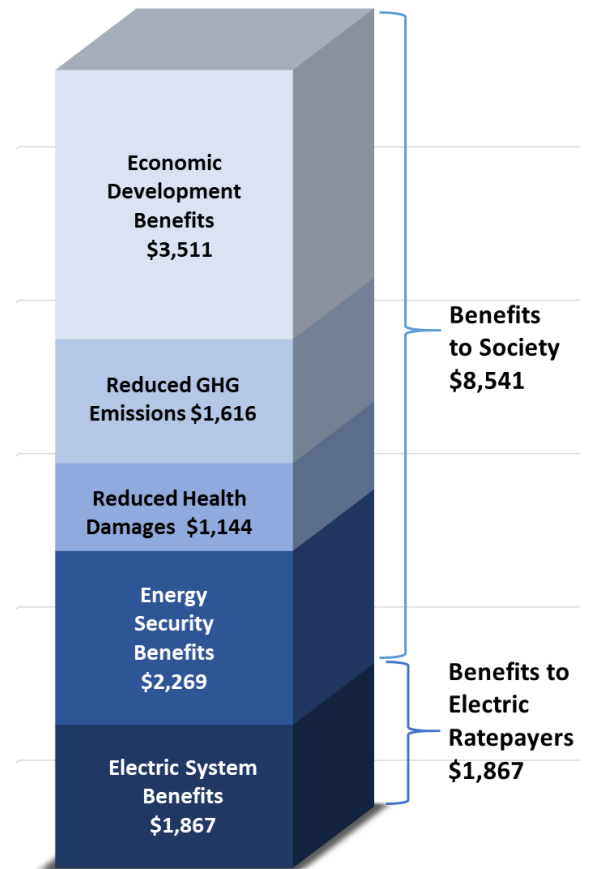
- Dependence on imported fossil fuels for transportation results in risk and costs associated with fuel security and national security.
- A 2018 study by Securing America's Energy Future (SAFE) measured money spent by the U.S. military to protect global oil supplies and calculated this value over the number of barrels of imported oil. They calculated a value of between 28¢ to over 70¢ per gallon.¹¹
- Every EV on the road could save **~\$2269** in energy security and national security costs.¹²

Electric System Benefits

- EV batteries can store electricity which can be used to create a more resilient and efficient electric system.
- Increasing grid efficiency spreads infrastructure costs out over more sales which puts downward pressure on electric rates, which can save *all* customers money on electric bills.
- Each EV can provide about **~\$1867** in benefits to the electric grid.¹³

These Benefits Add Up

Each EV in Virginia will contribute over **\$10,400** in benefits to people living in Virginia. EVs will help Virginia improve public health, meet climate change goals, grow the economy, and promote energy security.



Cumulative Benefits Per Car
\$10,408
(over 8 years of operation)

Read the full report "*The Far-reaching Benefits of Electric Vehicles*" at: <https://evadc.org/EVInfo>



Support Electric Vehicles--Support Virginia--Support these Bills

- HB 1979 **Electric vehicle rebate program**; creation and funding, report.
- HB 1965 **State Air Pollution Control Board; low-emissions and zero-emissions vehicle program**.
- HB 2118 **Electric Vehicle Grant Fund and Program**; creation, report.
- SB 1223 **Virginia Energy Plan**; amends Plan to include an analysis of electric vehicle charging infrastructure
- HB 2282 **State Corporation Commission; transportation electrification, utility recovery of certain costs**.

¹ Based on gasoline gallon sales/deliveries by prime supplier Dec.2019-Nov.2020: <https://www.eia.gov/state/?sid=VA> multiplied by gas price in MD for 1/30/2021 \$2.314 per gallon <https://gasprices.aaa.com/?state=VA>

² <https://www.eia.gov/petroleum/gasdiesel/>

³ Based on motor fuel gallons sold FY 2020: <https://www.Virginiataxes.gov/reports/static-files/revenue/motorfuel/gallonsold/gallonsoldFY2019-2020.pdf> multiplied by gas price in MD for 11/23/20 <https://gasprices.aaa.com/?state=MD>. Daily cost multiplied by 80%.

⁴ Based on driving 12,000 miles a year with 30 mpg fuel efficiency and paying \$2.23 per gallon of gas compared with a comparable EV driving the same mileage with 27kWh/100mile efficiency and electricity costs of 12.48 cents/kWh from https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_5_6_a. Over 8 years of driving vehicle.

⁵ <https://www.eia.gov/environment/emissions/state/>

⁶ <https://climate.nasa.gov/effects/#:~:text=Increased%20heat%2C%20drought%20and%20insect,coastal%20areas%20are%20additional%20concerns.>

⁷ Calculated by using the inflation-adjusted Social Cost of Carbon (\$53.34 per metric ton) multiplied by the tons of carbon equivalent emitted from driving a conventional gasoline vehicle vs. the carbon equivalent emitted from electricity generation of driving an EV in MD: https://afdc.energy.gov/vehicles/electric_emissions.html.

⁸ <https://www.nps.gov/subjects/air/sources.htm#:~:text=Mobile%2C%20stationary%2C%20area%2C%20and,to%20the%20Environmental%20Protection%20Agency.>

⁹ <https://gispub.epa.gov/air/trendsreport/2018/#effects>

¹⁰ Based on values in National Academies [Hidden Costs of Energy](#) cost per ton and multiplied by emissions from average vehicle emissions rates and eGRID emissions factors for electricity generation in MD.

¹¹ Securing America's Energy Future. 2018. The Military Cost of Defending the Global Oil Supply. <http://secureenergy.org/wp-content/uploads/2020/03/Military-Cost-of-Defending-the-Global-Oil-Supply.-Sep.-18.-2018.pdf>

¹² Based on cost per barrel of oil energy security from <https://19january2017snapshot.epa.gov/sites/production/files/2015-08/documents/ornl-tm-2007-028.pdf> multiplied by imported barrels of oil added to mileage values for military costs of defending global oils supply: . <http://secureenergy.org/wp-content/uploads/2020/03/Military-Cost-of-Defending-the-Global-Oil-Supply.-Sep.-18.-2018.pdf>.

¹³ Based on an average value of ratepayer benefits from the following studies:

<https://rmi.org/wp-content/uploads/2017/10/RMI-From-Gas-To-Grid.pdf>

http://www.b-e-f.org/wp-content/uploads/2020/06/BEF_EV-cost-benefit-study_2020.pdf

Benefit-Cost Analysis of Electric Vehicle Deployment in New York State Final Report | Report Number 19-07 | February 2019