Methodology

- Fuel savings and emissions reductions are estimated for an average driver switching from a passenger car to an electric vehicle (EV).

- Geographic scope consists of 378 counties in 12 states (CT, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VA, VT) and the District of Columbia.

- Vehicle miles driven (VMT) is based on annual VMT per driver for ten typical population density areas in three regions (New England, Middle Atlantic, South Atlantic)[i]. See Table 1.

Table 1 – Annual miles driven by an average driver in 10 typical population density areas in New England, Middle Atlantic and South Atlantic.

Persons / sq mile	New England	Middle Atlantic	South Atlantic
0-99	12231	13422	14378
100-499	14042	12620	13028
500-999	12017	11003	12999
1,000-1,999	11612	11562	11729
2,000-3,999	10684	11546	10660
4,000-9,999	10656	10064	10822
10,000-24,999	6117	8465	10841
25,000-999,999	3176	4244	7675

- The driver is assumed to switch from a gas-powered car with a fuel efficiency of 25.2 miles per gallon (average for new passenger cars in 2017)[ii] to a battery-electric vehicle with an efficiency of 0.32 kWh/mile[iii].

- Drivers are assumed to charge their vehicles at home. Electricity prices are 2017 residential retail rates in the state[iv].

- Gas prices are 2018 state averages[v].

- Emissions reductions are based on an emission factor of 8.8 kgCO_2 per gallon of gasoline[vi].

[i] From National Household Travel Survey -Category of population density (persons per square mile) in the census tract of the household's home location.

[ii] https://www.epa.gov/fuel-economy-trends/report-tables-and-appendices-co2-and-fuel-economy-trends

[iii] https://afdc.energy.gov/vehicles/electric_emissions_sources.html

[iv] https://www.eia.gov/electricity/sales_revenue_price/pdf/table4.pdf

[v] https://gasprices.aaa.com/state-gas-price-averages/

[vi] https://www.eia.gov/environment/emissions/co2_vol_mass.php