**Calculation Explanations:**

The Average Electricity Economy (AEE) values for each of our chosen vehicles were obtained from the Canadian Automobile Association’s (CAA) Driving Costs Calculator in kWh/100km. The AEE values for each vehicle were then divided by 100km to obtain a rate per kilometer. The AEE value for the Tesla Model S vehicle was not in the CAA’s calculator and was obtained using information from fueleconomy.gov. To obtain an approximate annual cost to use your electric vehicle, the following formula was used:

Approximate Annual Cost (AAC) = d x nt x AEE x CEBC x 52

d = Distance, as specified by end-user based on the locations of their start and end placements

nt = number of trips per, value to be specified by end-user

AEE = Average Electricity Economy, each vehicle has their respective AEE value, will be chosen based on the vehicle chosen from the drop-down list

CEBC = Cost of Electricity in BC at Step 2 ($0.1287/kWh), which is the highest rate that BC Hydro can charge its customers per hour

52 = this value represents how many there are in a year, it was chosen to make the whole equation representative of **annual** costs

The EPA reported that the average gasoline-using vehicle typically emits about 411 grams of carbon dioxide per mile. We converted this value into kilograms per kilometer and obtained a rate of 0.25538kg/km. We will be using this rate to calculate approximately how much end-users will be avoid emitting by using electric vehicles, which have no tailpipe emissions. The following formula was used:

Approximate CO2 Emissions Not Emitted = d x nt x 0.25538 kg/km x 52

d = Distance, as specified by end-user based on the locations of their start and end placements

nt = number of trips per, value to be specified by end-user

52 = this value represents how many there are in a year, it was chosen to make the whole equation representative of **annual** costs

We also want to compare how much you save annually by using an electric vehicle in terms of fuel savings. To do this, we need the amount the average person spends on a vehicle a year. We found an average fuel consumption rate of 10.8L/100km and an average price of gasoline in Vancouver, BC (144162963 cent per liter; prices from January 1, 2018 – March 16, 2018). Both values are representative of 2018 and were found from Natural Resources Canada and from a report by Pacific Analytics. The values were used to calculate an average rate that consumers spend on gasoline in 2018 which was $0.155696/km then used to calculate annual fuel costs. The following formula was used:

Average Fuel (Gasoline) Costs in Vancouver (2018) = d x nt x $0.155696/km x 52

d = Distance, as specified by end-user based on the locations of their start and end placements

nt = number of trips per, value to be specified by end-user

52 = this value represents how many there are in a year, it was chosen to make the whole equation representative of **annual** costs