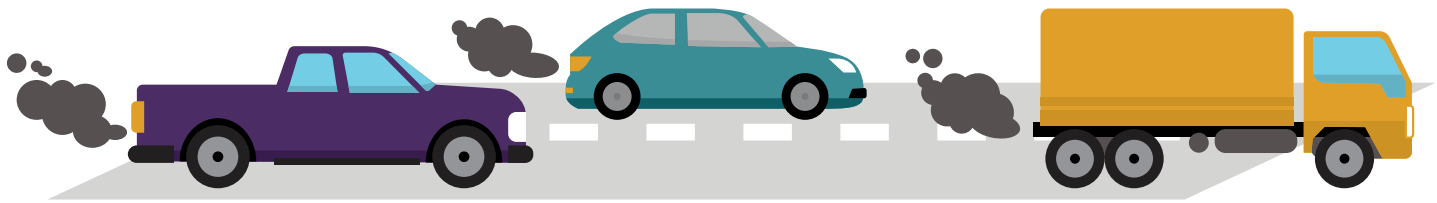
Tackling Climate Change Series

How Electric Vehicles (EVs) are paving the way to a low-carbon future

BIG MOVES 3 Decarbonize Transportation



How our driving habits affect climate change

We know that gasoline and diesel vehicles burn fossil fuels and create greenhouse gas (GHG) emissions. In Squamish, **transportation accounts for 52% of all community GHG emissions.** In other words, our dependence on traditional vehicles is a big contributor to climate change and we must find low-carbon transportation alternatives.

Driving an Electric Vehicle (EV) is a great way to make a big impact.

The benefits of driving an EV

Not only are you doing your part to reduce greenhouse gas emissions, but you'll enjoy perks and offset the costs of the EV in the long-term with less need for fuel and maintenance. Here are four of the main benefits of EVs:

1. Fight climate change - In BC, most of our electricity comes from hydroelectric sources, which are low carbon. Overall life cycle emissions from an EV in BC are much lower than a conventional car: by the time you've driven your EV for 100,000 km your total emissions are about 66% less than they would have been for a regular vehicle. The emissions created through the EV manufacturing process (which are currently slightly more than a regular vehicle) are offset in approximately 25,000 km of driving.

2. Save money - Although the cost of purchasing an EV is currently higher than a gas vehicle, there are plenty of ways to save money at the time of purchase and over the long-term.

Get a rebate

Take advantage of $8,000 in federal and provincial rebates available when you purchase an EV.

Skip the pump

Imagine never having to buy gas! For example, you could save about $2,900 per year in fuel if you commuted to Vancouver daily.

Say bye to oil changes

EVs typically have only 20 moving components versus more than 2,000 on a combustion engine, which means there's less to maintain, and less to go wrong.

3. Drive an efficient, futuristic vehicle - Electric Vehicles are much more efficient than traditional cars and take about one-quarter of the energy to power. Many EVs have a battery range of 400 km or more, which means you can go farther before you need to stop for a charge. Also, it is easier to implement technologies like autonomous driving in EVs.

4. Enjoy the perks of EV ownership - There's a growing list of perks for EV owners, including priority parking while charging and access to HOV lanes on BC Highways.

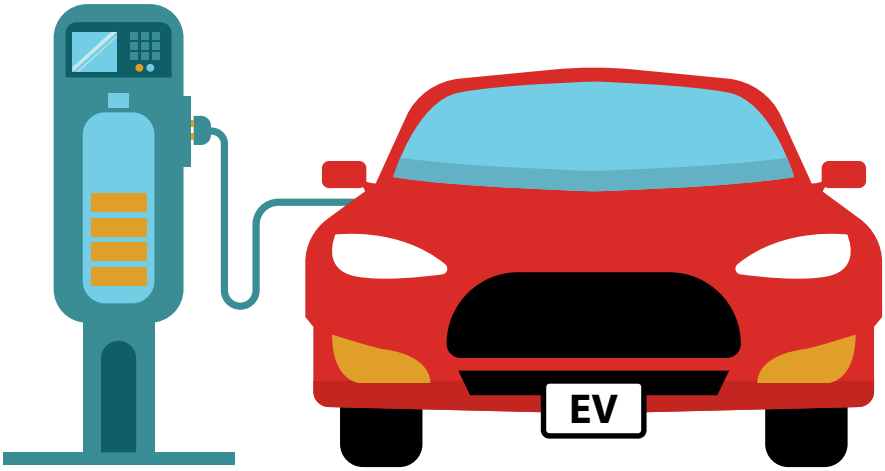
Charging up in the Sea-to-Sky

Preparing your home or work for EV charging is easier than you think. Rebates are available for the purchase and installation of an eligible Level 2 charger or energized 208V or 240V outlet. Home owners, strata councils, and businesses can apply through the CleanBC program. The District of Squamish is also working with developers to ensure all new commercial and residential buildings have EV charging stations.

The Sea-to-Sky Corridor is part of the "West Coast Green Highway," which extends from Whistler to San Diego, California. The District of Squamish currently has 10 charging stations throughout town, including the fast charging station downtown across from Municipal Hall.

EV charging infrastructure in the Sea-to-Sky is expanding rapidly! The District of Squamish, in partnership with Whistler and other neighbouring communities, is applying to the CleanBC Communities Fund to enhance charging stations in the region.

Find a charging station: PlugShare, ChargeHub, and BC Hydro EV.



Additional Resources

Continue your Electric Vehicle research with these helpful resources:

- Calculate my savings
- Plug in BC
- BC Hydro
- Emotive BC
- EV clubs in BC
- Tesla Owners Club of BC
- Natural Resources Canada (NRCAN) - Travelling with an EV
- Provincial rebates: BC Government Go Electric Incentive Program
- Federal rebates: Transport Canada's Zero Emissions incentives
- More info on the West Coast Green Highway

Q: Will an EV suit my lifestyle?

A: When deciding whether to purchase an EV, you'll want to consider where and how far away you plan to travel in your vehicle, as well as what kind of cargo needs you may have. Many EVs are smaller cars, so space is limited. A plug-in hybrid vehicle (PHEV) may be a good alternative if you need the extra room for people or cargo.

Q: Tell me more about EV battery life, costs of replacement, and environmental impacts.

A: Most EV batteries are covered by a five- to eight-year manufacturer's warranty; however, batteries can last longer (between 10 to 20 years). Costs of replacement batteries range, depending on the model, but can be between $5,000 and $9,000. There are environmental impacts associated with batteries, but most experts consider these to be much less significant than the impacts of driving a gasoline or diesel car. There are lots of opportunities for reusing or recycling batteries that are no longer fit for use in an EV.

Q: What is the range of an EV before it requires charging?

A: Electric Vehicle technology has come a long way over the last few years and the range has improved. Depending on the vehicle, the ranges currently run between 250 and 415km.

Q: What kind of EV technology do I want?

A: There are several types of EVs to choose from, ranging from fully battery powered with no combustion engine, to a hybrid electric and gasoline vehicle, which is more fuel efficient than a regular vehicle. Research what EV vehicles are available in BC and weigh the pros and cons against your budget, lifestyle, and transportation needs.

Q: What are the costs associated with EVs?

A: Because EVs currently cost more than regular vehicles, the majority of the costs are up front at the time of purchase, although government rebates can help offset this investment. Over the vehicle's life span, there is generally little maintenance required, other than a battery replacement. Battery warranties range from five to eight years, though they may last 10 to 20 years before requiring replacement.