Electric vehicles **reduce emissions**

Electric vehicles are better for the environment and produce significantly less greenhouse gas emissions than conventional vehicles

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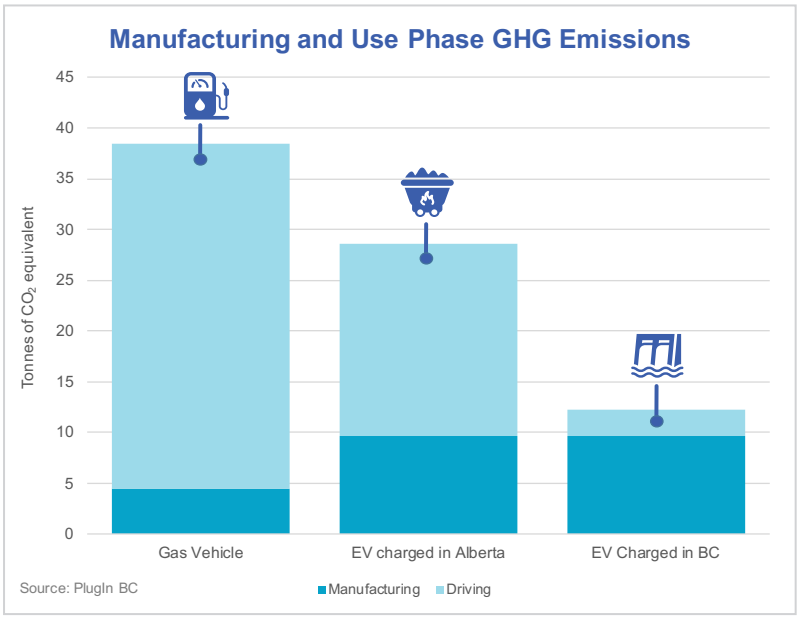
GHG emissions

Electric vehicles run on electricity, which in BC is generated using 97% renewable energy sources. Personal vehicles are one of the largest contributors to community greenhouse gas emissions in the Capital Region. By shifting to EVs, we can significantly reduce our community emissions and help reach our climate targets. And the good news gets better: EVs outperform gas-powered vehicles even when accounting for total lifecycle emissions.



There are three stages to a vehicle's lifecycle: manufacture, operations, and end-of-life. Because EVs store power in large lithium-ion batteries, which are material and energy-intensive to produce, their emissions at this early manufacturing stage can exceed those of conventional vehicles. In the operations stage, however, EVs in BC generate 99% fewer emissions than their gas-powered counterparts.

Depending on the range and other factors, EVs make up for their higher manufacturing emissions before they have clocked 30,000 km and continue to outperform gas-powered vehicles until their end-of-life. Overall, EVs in BC generate 85 to 90% fewer emissions than gas cars over their lifetime.

Batteries and recycling

The environmental impacts of EV batteries and opportunities for recycling are important considerations for would-be EV owners. First, EV batteries are lasting longer than originally projected and batteries in newer EV models are expected to last the lifetime of the vehicle. According to some reports, Nissan Leaf models that were used as taxis retained 75% of their battery capacity after 195,000 kms on the road. A Tesla is said to retain 90% of its battery capacity after 320,000 kms!

When a battery has reached the end of its useful life for powering an electric vehicle, there are an increasing number of applications for reuse, such as for grid infrastructure or backup power. Once depleted, EV batteries, like most of the batteries found in gas or diesel-powered vehicles, can also be recycled. EV battery recycling technologies and facilities are growing in response to demand, but there are already well-established companies with decades of experience right here in BC, such as Retriev Technologies in Trail. For more information, check out this article.