



Zero-Emission Vehicles & Low-Carbon Driving

Low-Carbon Driving

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An immediate transition to zero-emission vehicles is not a feasible solution for many individuals and families. However, there are still several ways to get from point A to point B while producing fewer emissions. Low-carbon driving offers ways of driving that produce less carbon dioxide (CO₂) emissions and are easier to implement in the short-term.



NOTE: This resource focuses on driving techniques that can reduce fuel consumption. If you are interested in exploring low-carbon commuting options such as walking, cycling, busing, and carpooling, please check out the **Active and Sustainable School Travel** action.

Eco-Driving

Eco-driving is a collection of driving practices and behaviors that offer a safe and accessible way to reduce fuel consumption via road transport. By implementing eco-driving techniques and practices while driving an internal combustion engine vehicle (ICEV), less fuel can be used to travel the same distance, resulting in the reduction of greenhouse gas emissions and fuel cost savings. Studies have shown that these simple techniques can save the average Canadian ICEV driver approximately \$500 in fuel and prevent 1,000 kg of CO₂ from entering the atmosphere each year.¹

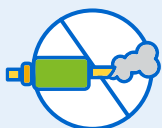
Eco-driving best practices:



Take time to accelerate - Taking 5 seconds to accelerate a vehicle up to 20 km/hr from a full-stop will maximize fuel efficiency. One way for a driver to do this is to imagine an open cup of coffee on the dashboard, and to try not to spill it while accelerating.



Slow down gently - If a driver looks ahead to anticipate if they will need to stop suddenly (e.g., pedestrians about to cross the street or obstacles up ahead), they can conserve fuel by taking their foot off the gas pedal and coasting to slow down rather than a hard brake.



Don't idle - If a driver will be stopped for more than 60 seconds, the car should be turned off if possible, which will avoid unnecessary GHG emissions.



Maintain steady speed - More power is required to move a car at higher speeds; avoiding speeding and when possible trying to maintain a steady speed will improve fuel efficiency.

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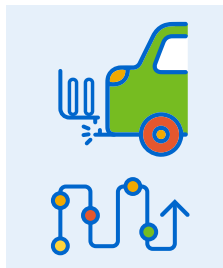
1. Auto\$mart Student's Guide. Natural Resources Canada. 2020.



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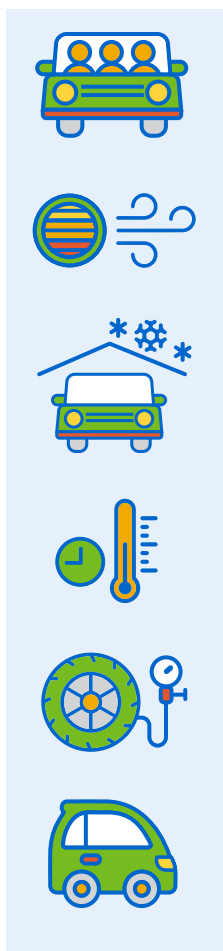
Eco-driving best practices:



Reduce drag - Removing roof or bike racks from a vehicle when they are not in use will reduce the drag created by the vehicle and therefore improve fuel efficiency.

Combine trips - When possible, drivers can plan ahead and try to combine as many stops into one trip. Vehicles are more fuel efficient when they are warmed up, so one longer trip is better than several short trips with a cold engine.

Other fuel-efficient tips!



Carpool - Sharing rides with friends and colleagues as often as possible will reduce energy use if the alternative is travelling in separate vehicles.

Use air conditioning sparingly - During the summer, air conditioning can increase fuel consumption by as much as 20%, so open the windows while driving on city streets when possible. While on the highway, it is more fuel efficient to drive with the windows closed. Open windows at higher speeds creates drag that causes your vehicle to burn more fuel.

Park in warm places if possible - Vehicles that are parked in warm areas during the winter, such as a garage or covered shelter can help fuel efficiency. Vehicles are less fuel efficient when they are cold.

Limit idling time to warm up a vehicle - In most cases, vehicles do not need more than 60 seconds of idling to warm up on a cold winter day. The most efficient way to warm the engine, drivetrain, and cabin is by driving at a moderate speed for a few minutes.

Check the tire pressure! A vehicle that is underinflated can increase fuel consumption by up to 4%.

The smaller the better - Smaller internal combustion engine vehicles are more fuel efficient. The heavier the internal combustion engine vehicle, the more fuel it consumes, therefore the more CO₂ it produces. Four-wheel or all-wheel drive vehicles consume up to 10% more fuel than their two-wheel drive counterparts. This is due to the extra weight and friction of additional drivetrain parts required for all-wheel drive vehicles.

Sources

- [Fuel-Efficient Driving Trips](#) (CAA)
- [Auto\\$mart for Students](#) (Natural Resources Canada)

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