



SMART FUELLING

INSIDER

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A MESSAGE FROM SMART FUELLING

WINTER 2018 EDITION | PG. 1

5 TIPS TO BOOST FUEL EFFICIENCY IN WINTER

5 HELPFUL TIPS THAT WILL HELP YOU BEAT THE WINTER
BLUES BEHIND THE WHEEL | PG. 2

HOW ICES ARE EVOLVING TO SUPPORT BETTER FUEL ECONOMY

FIND OUT WHICH AUTOMAKERS ARE INCREASING FUEL ECONOMY AND
REDUCING CARBON EMISSIONS | PG. 3

BECOME A PART OF SMART FUELLING

WANT TO JOIN? | PG. 5



A MESSAGE FROM **SMART FUELLING**

Whether it's hunkering down and staying warm by the fire or hitting the slopes and enjoying these snowy months outdoors, Canadians from coast to coast are experts at making the most out of winter.


As Canadians, we also know that cold weather and often treacherous winter driving conditions can significantly reduce fuel efficiency. Don't worry - we've got you covered! In this issue, we'll explore some helpful tips on how to increase your vehicle's fuel efficiency this winter, so you can still make that big ski trip while saving money at the pump and helping the environment.

Speaking of the environment, we'll also share Canadians' responses to a climate policy survey conducted by the Canadian Fuels Association, and talk about recent advancements to the internal combustion engine (ICE), and how these are working to reduce emissions.

So grab a cup of hot cocoa and settle in! We hope you enjoy this latest issue, and as always, we look forward to your feedback.

The Smart Fuelling Team

Smart Fuelling



SMART FUELLING

5 TIPS TO BOOST FUEL EFFICIENCY IN WINTER

It's no secret that the harsh winter months take a significant toll on your vehicle's fuel efficiency. According to Natural Resources Canada, a drop in temperature from 24°C to 7°C can increase fuel consumption by 12 to 28%. Other factors that also increase fuel consumption include increased aerodynamic resistance, challenging road conditions, and greater demands from your car's electrical system.

Luckily, we've compiled 5 helpful tips that will help you beat the winter blues behind the wheel. Check them out below.

TIP 1.

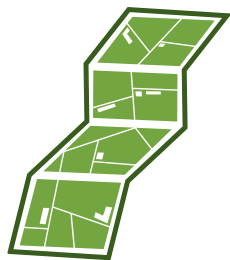


AVOID USING YOUR REMOTE STARTER WHENEVER POSSIBLE.

It's certainly tempting to start your vehicle to warm up ahead of time, especially when the temperatures dip well below zero. However, using a remote starter to warm up for ten minutes burns 0.25 to 0.50

litres of fuel, and emits 600 to 1,200 grams of carbon dioxide, according to Natural Resources Canada. In fact, idling for more than 30 seconds has no added benefit. Instead of idling, drive your vehicle to warm the engine and cabin. You'll find it heats up in no time at all.

TIP 2.



COMBINE YOUR ERRANDS.

Rather than taking several small trips throughout the day, make a plan to combine all of your errands into one big trips. Try squeezing in some quick stops on the way to work, or after you pick up the kids from school. With one big trip and

shorter stops in between, your engine won't cool completely and need to use as much fuel to heat back up again.

TIP 3.



KEEP AN EYE ON YOUR TIRE PRESSURE.

Did you know that proper air pressure extends tread life, improves safety, and reduces fuel consumption? Tire pressure fluctuates with temperature, and

in the winter, it decreases as temperatures drop. According to Natural Resources Canada, operating a vehicle with tires under-inflated by 56 kilopascals (8 pounds per square inch) can reduce the life of the tires by more than 10,000 km and increase fuel consumption by up to 4%. Transport Canada also suggests checking your tire pressure at least once a month during the winter.

TIP 4.



DON'T SLACK ON MAINTENANCE.

When the snow starts flying, make sure that your car is winter ready. In addition to checking your tire pressure, you should also ensure that

your vehicle's oil grade is appropriate for cold temperatures, hard starts and rough idling are checked by a reputable repair shop, and dirty air filters are replaced. A poorly running engine is less fuel efficient and burns more gasoline.

TIP 5.



DITCH ROOF RACKS AND CARGO BOXES.

While they may have been helpful when packing for last summer's camping trip, these accessories increase wind

resistance, and will seriously undermine your fuel economy now that winter is here. Removing them will result in significantly improved fuel efficiency.



HOW ICES ARE EVOLVING TO SUPPORT **BETTER FUEL ECONOMY**

Across the country, the reduction of carbon emissions remains a top priority for politicians, corporations and consumers alike. Provinces have implemented numerous mandates and carbon-reducing tax programs, and automakers are producing more battery electric and gas-electric hybrid vehicles than ever before.

Unfortunately, fuel efficient vehicles such as BEVs and hybrids represent less than one per cent of the total Canadian fleet, according to Dennis DesRosiers, from DesRosiers Automotive Consultants INC. There are many reasons for this – such as higher costs, lack of choice, dealer's reluctance

to stock and sell these new vehicles, and lack of charging infrastructure.

Luckily, many automakers have been making vast improvements in the technology that goes into their current internal combustion engine (ICE) vehicles, which not only increases fuel economy, but also reduces carbon emissions and supports climate change efforts. Here are some examples:

- Ford recently invested half a billion dollars in a new plant to develop its twin turbo 2.7-L V6 EcoBoost engine for the popular F-150 truck, resulting in improved MPG.

- Engineers at GM are improving efficiency by including added transmission gears, lowering engine operation speed, enabling lower numerical axle ratios, and reducing engine accessory loading. According to Roger Clark, senior manager, energy center for GM, the company also using start/stop technology to stop the engine at idle and seamlessly restart it when the brake is released, and advanced battery charging that helps to charge the battery from regenerate vehicle kinetic energy.

- BMW has added brake energy regeneration to both gasoline- and diesel-powered BMWs, which reduces fuel consumption over time. This system only charges the battery when the car is coasting, braking, or decelerating. During acceleration, the alternator is decoupled from the drivetrain, leading to better fuel economy and improved performance, according to Brent Dunn, Electro-Mechanical Engineering Technician.
- Mercedes-Benz is using alternative fuels, such as ethanol blends, and supports advanced biofuels of the second generation like hydrotreated vegetable oils and BTL, according to Bernhard Heil, vice president product group powertrain passenger cars for Mercedes-Benz Cars Development, Daimler AG.
- For the last several years, Mazda has been engineering a more efficient vehicle using **SkyActiv technology**. This involves:
 - **Cleaner, more fuel efficient engines**, which use high compression within an engine's cylinders to increase fuel efficiency as well as engine output.
 - **Lower fuel consumption** from its new SkyActiv-G 2.0-L engine, which produces more low/mid-range torque and has lower fuel consumption and emissions than its previous 2.0-L engine.
 - **A 6-hole direct fuel injector**, which helps keep fuel cool to improve combustion efficiency.

These examples are among the hundreds of technologies that are altering the fuel efficiency of ICE vehicles, according to DesRosiers. In fact, researchers in the U.S. estimate that vehicle companies should be able to reduce fuel efficiency to under 3.5 litres per 100 kilometers by 2050, and this level is achievable with moving to BEVs or hybrid vehicles.

Want to reduce the CO2 footprint of your vehicle?

Experts agree that buying a new one is by far the simplest way, as these latest advancements have made them at least 20 per cent more fuel efficient.

Climate Change Policy: What Do Canadians Think?

When it comes to the fight against climate change, Canada is certainly a world leader in attitude and innovation. But what do Canadians really think about Canada's climate policy?

Recently, the Canadian Fuels Association conducted a public awareness and attitudes survey that asked Canadians what they thought. Here are some of the results:



46% of Canadians

view a price on carbon as having potential negative impacts on businesses in Canada than believe it will help spur innovation (36%) if the United States does not implement a similar system.



66% of Canadians

report that they cannot afford to pay more to reduce emissions.



The population

believes that major impacts on GHG reductions are most likely to come from shifting to electric vehicles (50%) and improving fuel efficiencies (47%), though the latter is more realistic.



77% agree

that "fossil fuel will continue to play an important role in the fuel mix for many years to come".



75% of the population

feel that the government has a "major responsibility" to inform citizens about the cost of pursuing different emissions reduction options.

The **Canadian Fuels Association** is the official association for the petroleum refining, distributing and marketing sector and works to promote meaningful discussion around policy choices, their benefits and their unintended consequences. To read more about the public awareness and attitudes survey on climate change policy, click [here](#).



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REDUCE EMISSIONS, SAVE MONEY

BECOME A PART OF **SMART FUELLING**

WANT TO JOIN IN OUR EFFORTS TO HELP CANADIANS IMPROVE THEIR FUEL EFFICIENCY AND REDUCE GREENHOUSE GASES?

We are always looking for new industry partners and municipalities who want to inform and motivate consumers through Smart Fuelling. Whether it's a helpful tip on being efficient at the pump, a handout at a gas station convenience store or information on your website, we can all work together to create a better, cleaner tomorrow.

Join West Vancouver and many other communities that have already implemented the program today! Call us at (613) 470-8555, email us at admin@smartfuelling.ca, or sign up to receive our updates on smartfuelling.ca.

We look forward to the opportunity to partner with you to set a positive precedent to reach Canadians everywhere!

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