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Natural gas yields considerable savings

Fuel costs dip one-third, plus greenhouse gases and pollutants reduced

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TORONTO STAR

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Q: What fuel savings do natural gas vehicles offer? Can any car or truck be converted? Are factory models available? Is performance affected? Is it safe?

A: Mike Tremayne, manager of the natural gas vehicle department at Enbridge Gas, replies:

Most domestic light-duty trucks and passenger cars can be converted to operate on natural gas. These are bi-fuel conversions that can run on natural gas or switch back to gasoline at any time.

Currently, transit buses and garbage trucks are the only factory-built natural gas vehicles sold in Canada. (The 2008 Honda Civic GX, a dedicated natural gas vehicle, or NGV, is only available in the United States.)

With a provincial tax rebate of \$1,000, the net cost of converting a vehicle to operate on natural gas is about \$3,000 (passenger vehicles) to \$6,000 (commercial trucks).

At time of writing, the filling station price for natural gas was 69.9-cents per litre-equivalent to gasoline. With a home or workplace refuelling appliance, available for high-volume users, the cost is about 45 cents per litre-equivalent, plus appliance rental.

Natural gas will cut your motor fuel costs by one-third overall. Additionally, greenhouse gas emissions are reduced by 23 per cent and smog-causing pollutants are cut by 18 per cent.

High-mileage drivers, such as cabs, couriers and company fleets, will realize the biggest savings and quickest payback on conversion; these are the primary NGV users in Canada.

There are 12,140 NGVs in Canada and 7.55 million worldwide. Natural gas has an outstanding track record as a safe, clean-burning motor fuel – including indoor use in forklifts and ice resurfacers. (Conversely, using gasoline engines indoors can be fatal.)

Many drivers don't differentiate between natural gas and propane powered vehicles, which has led to confusion over safety issues.

In the past, vehicle propane tanks let users know they were full by venting the fuel everywhere; this led to some highly-publicized fires that forever stigmatized both fuels for many consumers.

The reality today is that refuelling both propane and natural gas autos is a closed process and, unlike with gasoline, there is virtually no vapour loss. The tanks are extremely strong compared to gasoline tanks since natural gas is stored under high pressure.

Natural gas is lighter than air and would dissipate almost immediately if released, whereas propane or gasoline would pool on the ground creating an extended fire hazard.

Unlike gasoline, natural gas has an extremely narrow range of ignition. It will only burn when mixed 4 per cent to 15 per cent with air – anything higher or lower and nothing happens. Live impact/burn tests have proven this. In NGVs, the gas is only mixed to a flammable ratio within the engine itself.

There are 33 public filling stations in Ontario, which are ideal for vehicles operating around those stations. When travelling, drivers can always revert to gasoline in their bi-fuel auto if no NGV station is available.

Eric Lai adds:

I've test driven NGVs and found their performance is indistinguishable from that of gasoline-powered vehicles. Natural gas is 130-octane, which is higher than gasoline or propane, and will satisfy even high-performance engines.

Natural gas has the same energy value as gasoline but, being a gas rather than a liquid, you can't store as much on board. For example, the typical natural gas car goes about 175 km on one tank of natural gas, which costs about \$11. Larger trucks may have multiple tanks.

Where adequate ground clearance exists, cylinders can be mounted under a vehicle. In most cases, cylinders are mounted in the box or trunk, resulting in some loss of cargo space. However, that's a small price to pay for the huge potential savings to be had.

For more information, visit www.ngvontario.com or call 1-888-NGV-4728.

Email your non-mechanical questions

to Eric Lai at wheels@thestar.ca.

Please include year, make, model and kilometres of autos cited, plus your name, address and

telephone number.