

# Auto Propane

## A Smart Fuel Solution



Canadian Propane Association | Association canadienne du propane

Propane is an affordable, safe and low-emission energy option, abundantly available in Canada. It has many environmental and economic advantages over traditional and alternative automotive fuels.

For fleet managers, auto propane is ideally suited for school and transit buses, courier vans, police cars, taxis and other high-mileage vehicles.



## Reduced Cost to Operate and Maintain

### Propane costs less than gasoline and diesel

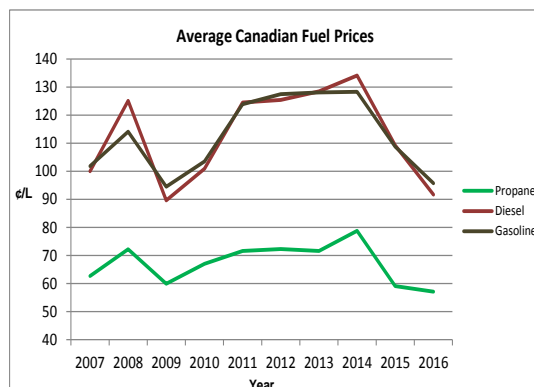
- The average Canadian price of auto propane is around 40% less than gasoline and diesel.

### Propane vehicles are more cost-effective than natural gas vehicles

- Vehicle conversion costs are typically about half, and refuelling station installation costs are up to 95% less.

### Maintenance costs are lower than for gasoline and diesel

- Propane burns cleaner and experiences significantly less carbon build-up, increasing engine life.



### Vehicle conversion costs are quickly absorbed

- Due to the low cost of propane, fleet operators on average can expect a one-year payback on conversion costs.

## Readily Available

Propane is easily accessible and transportable across the country.

- Propane has the largest refuelling infrastructure of any alternative fuel in Canada.
- Canada is the world's 10<sup>th</sup> largest producer of propane.
- Approximately 60% of Canada's propane is currently exported.



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### Cleaner & Healthier

#### Propane has a lower carbon footprint than gasoline

- Up to 26% less lifecycle greenhouse gas (GHG) emissions:
  - Up to 18% less CO<sub>2</sub> at the point of combustion.
  - 20% less nitrogen oxide at the point of combustion.

#### Propane emits fewer Criteria Air Contaminants

- 98% less particulate matter (PM) than diesel-fueled vehicles.
- 60% less carbon monoxide (CO) compared to gasoline.

#### Propane emits significantly less harmful toxic substances than gasoline

- Up to 96% less benzene, acetaldehyde, formaldehyde, and 1,3-butadiene.

#### Propane will not contaminate the surrounding environment

- Auto propane is non-toxic, lead-free and has virtually no sulphur content – a contributor to acid rain.
- If released, propane will dissipate into the air and have no lasting impact on water, soil or the atmosphere.

### Reliable & High Performance

#### Propane is a trusted automotive fuel worldwide

- Over 25 million propane vehicles worldwide, with around 60,000 in Canada.

#### Propane vehicles enjoy comparable performance and safety characteristics to gasoline vehicles

- Excellent cold start properties and high octane.
- Similar vehicle power, range and acceleration to gasoline vehicles.
- Auto propane tanks are 20x more puncture-resistant than gasoline tanks.
- Technology features that:
  - Precisely regulate fuel delivery through advanced computer control units and direct injection.
  - Allow fuel to flow only when the engine is operating.
- Propane has the lowest flammability range of all alternative motor fuels.

### CASE STUDIES

#### Airways Transit

Airways Transit, the largest provider of on demand, shared ride airport ground transportation in Canada, operates on a fleet that is 100% fuelled by propane.

Their use of propane has resulted in a reduction of 588 tons of GHG emissions per year.

#### London Police

In the early 1980s, London Police converted their fleet to propane, and they still use it today. They enjoy significant fuel cost savings, reduced emissions and enhanced engine life.

#### UPS

United Parcel Service (UPS) is one private-sector company that has turned to propane for its large vehicle fleet. UPS currently has more than 600 propane-powered vehicles in Canada.

#### Calgary School Board

Southland Transportation recently added another 100 propane buses to their Calgary school bus fleet. The buses provide clean air, a quiet engine and easy fuelling.

They immediately start in temperatures of minus 30 degrees Celsius and lower, without the use of block heaters.