



About Propane

In Canada and Ontario

PROPANE GAS
ASSOCIATION OF CANADA
ASSOCIATION CANADIENNE
DU GAZ PROPANE



Propane is Safe!

Production, storage, transportation and use are subject to strict standards and regulations.

Propane tanks are 20 times more puncture proof than conventional gasoline tanks.

The PGAC, through its training division, the Propane Training Institute, offers over 30 propane-related courses and issues over 20,000 government-recognized training certificates annually.

The PGAC, via its subsidiary, the LPG Emergency Response Corporation, offers emergency response capability to members, ensuring safe and timely response to incidents involving liquefied petroleum gas (LPG).

Propane is Everywhere!

Propane provides approximately 1.5% of the total energy consumption in Ontario with the largest share used in the agricultural sector.

Propane fuels the lives of Canadians in many ways:

...aerosol propellant, asphalt, barbecues, crop drying, dryers, fireplaces, forklifts, fryers, furnaces, generators, indoor lighting, petrochemical feedstock, pipeline testing equipment, pool heaters, refrigerators, school buses, service trucks, space heaters, steam cleaners, stoves, taxis, water heaters, weed control...

THE PROPANE INDUSTRY: A NATIONAL AND PROVINCIAL OVERVIEW

Propane is a multi-billion-dollar industry in Canada. The propane industry has an important role to play in the energy mix and is committed to maximizing its value to Canadians over the long term.

The industry is dominated by small and medium sized businesses that handle the wholesaling, retailing, marketing and transportation sides of the business. The largest industry players are some of Canada's best known energy companies, and they are concentrated on the production side of the business.

The Propane Gas Association of Canada (PGAC) is a national member driven organization established to support its 300+ members in matters affecting them individually and Canada's propane industry generally.

In 2008, the total economic value of propane in Canada, which includes direct impacts plus spin-off effects on the economy, was \$9.9 billion (\$1.5 billion in Ontario). Over \$3.8 billion of that value was in direct economic activity (\$512 million in Ontario). The value of the Ontario propane industry increased 121% from 2003 to 2008.

Propane Direct Value 2008 (millions)		
Source	Ontario	Canada
Extraction	\$ -	\$ 400.5
Wholesale Transportation	\$ 3.6	\$ 156.2
Exploration	\$ -	\$ 2,105.0
Sales Tax	\$ 42.1	\$ 155.7
Retail Margin	\$ 214.9	\$ 474.6
Transportation - Pipeline	\$ 75.3	\$ 168.6
Transportation - Rail	\$ 175.7	\$ 393.5
Total	\$ 511.6	\$ 3,854.1

Government revenue from the industry nationally was \$911 million in 2008, through taxes & royalties, including a tax contribution of approximately \$42 million from Ontario.

Canada, including Ontario, has a well-developed propane infrastructure, with tremendous capacity to produce an abundant supply with high portability via truck, rail and pipeline across Canada, and into the U.S.

- Canada's propane supply was 11 million cubic metres in 2008, with approximately 237,000 cubic metres – or 2% – produced in Ontario.
- Ontario's four refineries represent 18% of Canada's refinery propane production: Imperial Oil Limited in Nanticoke and in Sarnia; Shell Canada Limited in Corunna; and Suncor Energy in Sarnia.
- 4.5 million cubic metres were used domestically in 2008, while 6.4 million cubic metres (59%) were exported.
- Ontario has been the biggest domestic consumer of propane, at 32% in 2008. That demand increased 66% from 2003 to 2008.
- Direct propane industry employment in Ontario reached over 1,100 jobs in 2008, an increase of 25% from 2003.



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Clean Fleets!

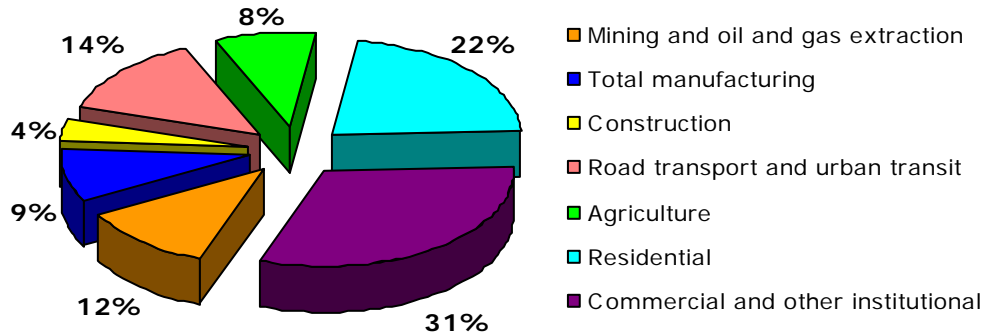
London Police Service (Ontario)

In the early 80's they converted the fleet to propane. From 1983 to 1994, they tracked results and found:

Over \$2 million in fuel cost savings. Significantly reduced emissions. Enhanced engine life. Increased value on resale market. All vehicles were parked in an underground garage, and no incidents were reported where propane created a health concern!

A CLEAN ALTERNATIVE

Propane Demand in Ontario, 2008



Volume and value statistics source: Purvin & Gertz—2009

What is Propane?

It is a by-product of natural gas processing and crude oil refining. It is extracted and used as a gas, but stored and transported as a liquid under pressure.

It is often called liquefied petroleum gas (LP Gas or LPG), a term to describe a family of light hydrocarbons called natural gas liquids (NGL). Other NGLs include butane and ethane.

LP Gas Environmental Performance

The Argonne National Laboratory (division of U.S. Dept. of Energy) performed a complete fuel-cycle analysis (Wells-to-Wheels) to quantify & qualify energy use and emissions. The study shows that compared to conventional energy supplies, LP gas, which includes propane, produces lower green house gas (GHG) emissions and air toxics in virtually every application it is used.

Transportation is the greatest single use of petroleum fuel in the world – that's why it's often singled out as primarily responsible for global warming.

With respect to vehicle fuels, LP gas can save approximately 10,500 kg of CO₂ equivalent per year when compared to gasoline (Purvin & Gertz 2010 estimate), and it also significantly outperforms diesel when it comes to the number of pollutants present in emissions and the amount of air toxics emitted.

Did You Know?

For the past ten years across Canada propane has on average cost 36% less per litre than gasoline, and 35% less per litre than diesel.

There are approximately 270 propane vehicle refuelling outlets in Ontario – 13% of the national total.

Today, 40,000 propane vehicles are estimated to be driving on Canadian roads.

Well-to-Pump (Upstream) Energy Efficiency

- LP Gas is, on average, the most energy efficient fuel produced during the well-to-pump stage.
- When it comes to energy supplied to appliances, electricity production efficiency is 42-60% less efficient than the production of LP Gas.

Well-to-Wheels (Downstream) GHG Emissions

- LP Gas vehicles emit up to 27% fewer greenhouse gasses (GHGs) than gasoline vehicles.
- LP Gas vehicles emit about 50% fewer toxins and other smog producing emissions than regular gasoline engines.

Propane is a viable clean alternative for MANY applications