



The Propane Advantage:

For a Low-Emission
Canada Now

propane.ca



Canadian
Propane
Association

Association
canadienne
du propane

CANADA CAN CREATE JOBS WHILE REDUCING THE WORLD'S GHG EMISSIONS WITH CANADIAN PROPANE

In a future low-carbon economy, propane market penetration will most likely be shaped by its price competitiveness and lower comparative emissions relative to other fossil fuels. This will have positive impact on the economy, while helping to reduce Canada's emissions.

*"**Low-emission propane** provides billions of dollars and thousands of jobs annually to the Canadian economy. Over the period 2017-2025, Canadian propane supplies are expected to increase by more than 20 per cent.*

Meanwhile, the demand side of the market will also change significantly in the coming years, driven by two key trends, including (..) a continued westward shift in exports that will see a large portion of Canadian propane redirected to overseas LPG markets."

***Fuelled Up: An Updated Overview and Outlook of Canada's Propane Market and Industry,**
Conference Board of Canada (2018)*

Creating jobs. Producing Low-emission Energy. Fighting Climate Change.

The PROPANE Advantage: Vital for Canada's Energy Portfolio.

Canadian propane, a safe, affordable and reliable energy source, has often been ignored by policymakers in favour of other energy technologies that are heavily dependent on massive public investment and which can take a considerable amount of time to fully implement.

The PROPANE Advantage briefly describes the industry's capacity, the economic and environmental advantages of propane, as well as some of the applications to fight climate change.

Propane can offer immediate opportunities to reduce emissions and provide an affordable energy choice to Canadians. A truly holistic approach to GHG reductions in Canada must include low-emission energy options that are available for consumers today.

We welcome the opportunity to further discuss how propane can make an immediate contribution to develop our energy sector and create jobs, all while making our communities cleaner.

PROPANE Advantage: *Fighting Climate Change*

"We need to be bold as we tackle the challenge of reducing greenhouse gases. Shifting to lower emission fuels, like propane, is a sensible step in that direction."

Honourable Dennis King
Premier, Prince Edward Island

Recommendations for Policymakers

The Canadian Propane Association believes that being responsible to the environment, in combination with increased prosperity and competitiveness, can go hand-in-hand. In that regard, Canadian-produced propane checks all the boxes.

Including propane now in policy and programming development to transition to a lower carbon intensity economy and meet the Paris targets will result in an immediate energy solution to reduce GHGs while maintaining and growing jobs in Canada. The expanded use of propane will lead to a cleaner, more prosperous and competitive Canada.

Here are three (3) policy options that should be considered:

1. Work with the propane industry to incentivize Canadian homeowners, businesses, institutions, manufacturers, farmers and industries to reduce both their energy costs and GHGs by the enhanced use of propane and by switching from furnace oil to low-emission propane.
2. Commit now to provide a cleaner fuel option for Indigenous communities by investing in the conversion of public and commercial buildings from oil and diesel to low-emission propane.
3. Provide tax credits towards the conversion of government and commercial vehicles and school buses from traditional fossil fuels to low-emission propane.

PROPANE IS A LOW-EMISSION CANADIAN ENERGY SOURCE, AFFORDABLE AND RELIABLE, VITAL FOR CANADA'S ENERGY PORTFOLIO

HERE IS WHY:

As a safe, abundantly available, low-emission, Canadian-produced energy source, propane is perfect for applications as diverse as heating commercial and residential buildings, fuelling vehicles, drying crops and powering mines, amongst many others.

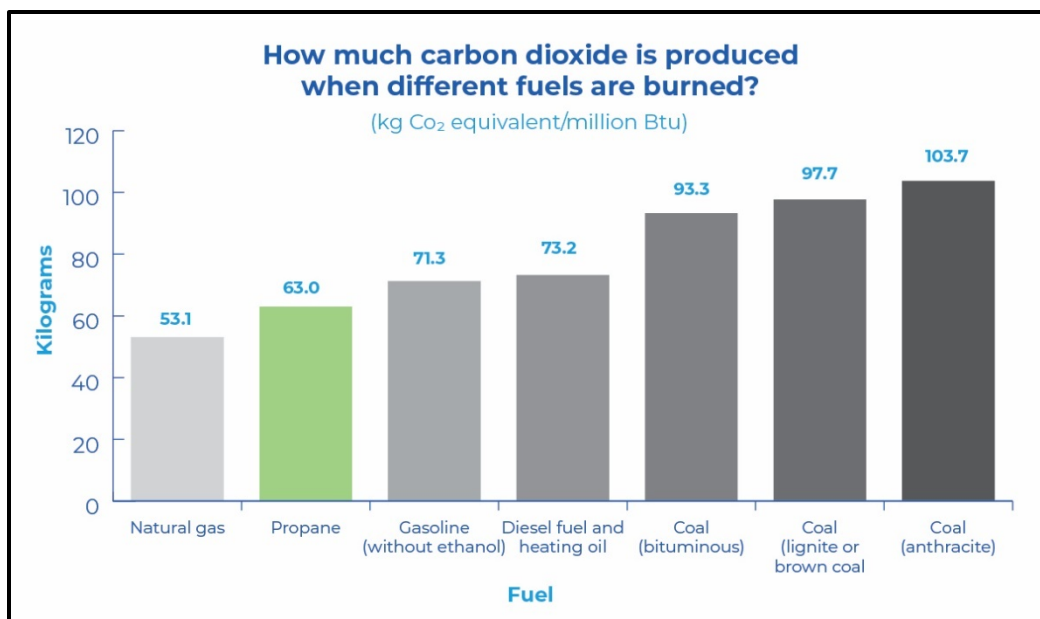
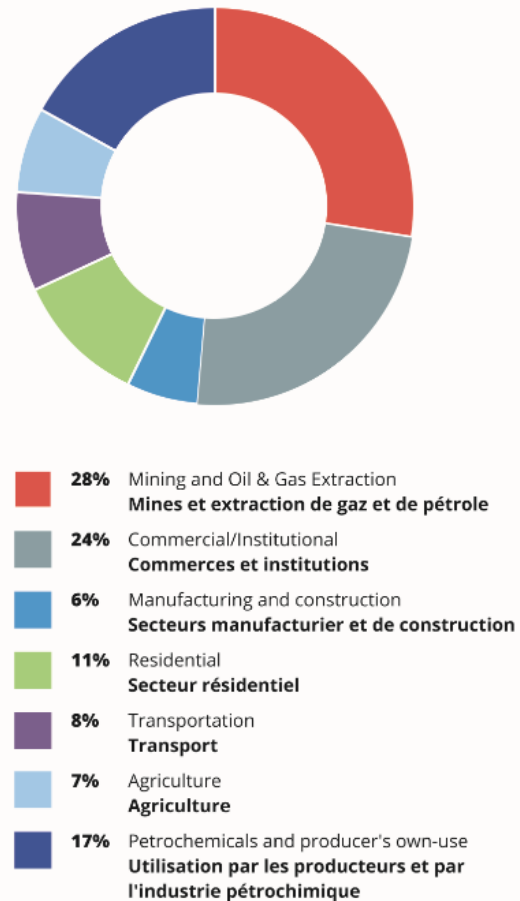
While other energy options require largescale infrastructure spending or further technological development, **propane is ready to go today.**

Most of us know that propane is a popular way to heat up the backyard barbecue or to fuel appliances in an RV.

PROPANE DOES SO MUCH MORE



Propane Demand by Sector
Demande par secteur



National Economic Overview

Employment – 21,000 direct jobs

The Canadian propane industry supports around 21,000 direct jobs. Canadians are employed in the propane industry in many roles, including in extraction, production and refining, transportation and distribution, equipment manufacturing, sales and marketing.

These jobs are spread across the country, with about 50% situated in Alberta, the heartland of Canada's propane industry. There are also large propane industry workforces in British Columbia, Ontario and Quebec.

Economic Value, Taxes and Royalties – \$4.4 billion economic value

Each year, the Canadian propane industry generates on average more than \$4.4 billion for the Canadian economy.

Canada's national, provincial and territorial governments are beneficiaries of a strong propane industry, with propane operations across the country generating about \$1 billion

in taxes and royalties annually. These funds help to pay for important services in Canadian communities.

Affordable Infrastructure Investment

Propane infrastructure in Canada is well-developed, with tremendous capacity to produce and deliver an abundant supply that is highly portable via truck, rail and pipeline across Canada, and into the U.S. There are two major propane trading hubs in Canada – Edmonton, Alberta and Sarnia, Ontario.

Propane's versatility and portability provide large infrastructure savings over the cost of natural gas and renewable energy applications. Today, propane is transported to, and used in, every corner of the country.

The propane industry continues to invest in the infrastructure and technology required for the ongoing growth of propane applications.

Multiple Usage – Non-Energy Feedstock

With Canada's growing petrochemical industry, propane is an important basic raw material for value-added chemical production. Propane can be used to produce synthetic plastics, fibres and rubber, as well as pharmaceuticals and dyes.

Two major projects are currently being built in Alberta. Inter Pipeline's \$3.5-billion petrochemical project that will turn propane into plastic is currently under construction, with expected completion in late 2021.

Pembina Pipeline and Petrochemical Industries Company K.S.C. of Kuwait are also proceeding with their \$4.5-billion integrated petrochemical project. It is expected to be in service mid-2023.

Exports

Close to 50% of Canadian propane is exported. New projects are being completed to allow propane to be exported and reduce GHG emissions around the world. For example, the **AltaGas Ridley Island Propane Export Terminal** made its first shipment of propane on May 23 to Asia, allowing for new market access for Canadian propane.

Infrastructure

95,879

Estimated number of propane vehicles
Nombre estimé de véhicules au propane

807 Propane fuelling stations (Public access)
Stations de ravitaillement (accès public)

134,168

Number of households using propane as a main fuel / Ménages utilisant le propane comme principal carburant

29,052

Built commercial/institutional floor space using propane as main fuel ('000s of m²)
Surface commerciale et industrielle bâtie où le propane est le principal carburant utilisé (milliers de m²)

The PROPANE Advantage...

FOR HEATING

Switching to propane from heating oil reduces GHG emissions and switching from electricity saves money in some provinces. It makes environmental and economic sense, and many Canadians, particularly those in rural and remote areas, choose propane for their energy needs.

Homeowners and Businesses

- Combined with high-efficiency appliances, propane allows homeowners to enjoy lower energy bills while reducing emissions and supporting local distribution businesses.
- Switching to propane from heating oil **reduces greenhouse gases by up to 38%**. Switching from electricity to propane can save money and GHGs in some provinces.
- When you take reliability, cost, performance, and efficiency into account, propane heating outperforms nearly every other type of heating system available. This is particularly true where natural gas is not available.

DID YOU KNOW?

PROPANE CAN DO MORE.

High-efficiency furnaces, attractive fireplaces and instant hot water systems are the ideal solutions, alongside dryers, firepits and BBQs for homeowners. Getting off the grid is easy with propane refrigerators, dryers and standby generators. And with outdoor propane fire pits, lighting, patio heaters, lawn mowers and pool heaters, a backyard can be transformed into an oasis.

FOR AGRICULTURE

The value of propane influences all aspects of farming operations. Whether it's used for heating, in irrigation engines, grain dryers, standby generators, pickup trucks, or a variety of other applications, propane can efficiently fuel a wide variety of farm equipment. And no natural gas infrastructure is required!

Building and Water Heaters

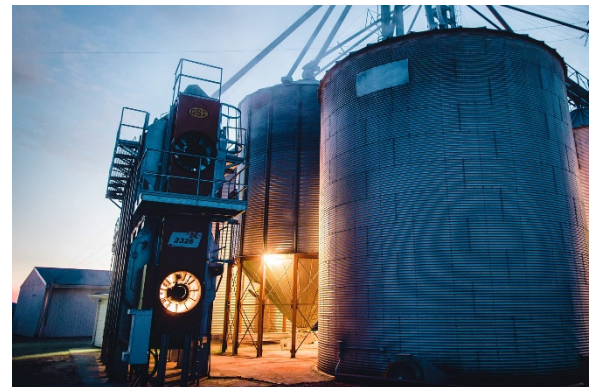
- A growing number of farmers are using propane-powered building heaters, including in greenhouses, barns and brooding sheds, as well as water heaters in their operations.

Irrigation Engines

- Propane-powered irrigation engines are modern and efficient, providing farmers with immediate savings in fuel costs compared with diesel or gasoline.

Grain Dryers

- New propane-powered units are extremely efficient and distribute a very precise heat, ensuring the grain dries evenly and results in a high-quality yield.



Flame Weed Control

- Propane-powered flame weed control is growing in popularity because it's an environmentally friendly alternative to herbicides and is equally effective.

FOR INDUSTRIES

Propane can go just about anywhere and perform numerous roles, making it an integral energy source across industry. From warehouses to mines, from manufacturing facilities to hospitals, propane energizes Canada.

Building Construction

Propane is widely used in construction for a variety of everyday tasks, including flame cutting, powering generators, space heating and drying, heating or melting materials such as roofing. Propane emits less carbon dioxide and other pollutants than gasoline or diesel, improving air quality for crews.



Construction Sector

"Propane is versatile, portable and cost-effective, especially when compared to traditional fuels powering construction equipment like gasoline and diesel."

Construction Business Owner Magazine

Mine Operations

Propane is the fuel of choice for mining operations across Canada. Many operations utilize propane for heating mine shafts, powering camps, and in the smelting and refining of minerals. In areas that are often environmentally sensitive, propane's 'no-spill' characteristics provide a huge advantage over liquid fuels.



RECOMMENDATION No 1:

Work with the propane industry to incentivize Canadian homeowners, businesses, institutions, manufacturers, farmers, fishers and industries to reduce both their energy costs and GHGs by using propane or by switching from furnace oil to low-emission propane.



FOR INDIGENOUS AND REMOTE COMMUNITIES

Cost of Soil Contamination

According to the Treasury Board Secretariat, since 2017, the cost for remediation in Indigenous communities across Canada due to contamination from diesel and oil spills was \$203 million. For some individual communities the cost was upwards of \$3 million.

Many Indigenous and remote communities in Canada continue to rely on diesel for heating and power generation. This presents a variety of environmental, economic, technical, and social challenges including air and noise pollution, the risks of fuel spills/ leaks, high cost of energy, supply issues and capacity constraints.

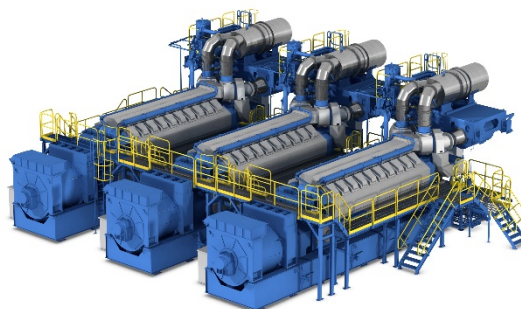
There is an immediate opportunity to reduce GHG emissions in Indigenous and remote communities by replacing dirty fuels with low-emission propane.

An example of this is a renewable energy demonstration project in the remote Indigenous community of **Xeni Gwet'in**, located in the Nemiah Valley of British Columbia. Upon completion of the project, it is expected that 67 homes and eight community buildings will be powered by a **Solar PV-Propane System** for the critical initial component (Phase 1). The target is for diesel consumption in the community to be reduced by about 143,000 litres a year, representing a savings of more than \$150,000 annually to the community.

The CPA is mindful of the **Calls to Action by the Truth and Reconciliation Commission of Canada** and is reaching out directly to Indigenous communities to have, as outlined in Section 92.1 of the Commission's Report, "meaningful consultation, building respectful relationships, and obtaining the free, prior, and informed consent of Indigenous peoples before proceeding with economic development projects."

Section 92.2 of the Calls to Action calls on the corporate world to, "ensure that Aboriginal peoples have equitable access to jobs, training, and education opportunities in the corporate sector, and that Aboriginal communities gain long-term sustainable benefits from economic development projects".

Through **CPA's Propane Training Institute (PTI)**, the propane industry can provide the training and economic development benefits such as those outlined in Section 92.2 of the Commission report.



RECOMMENDATION No 2:

Commit now to provide a cleaner fuel option for Indigenous communities by investing in converting public and commercial buildings from oil and diesel to low-emission propane.

FOR TRANSPORTATION

Save on costs

"We pump nearly a million litres of propane here a year. That's half the price. We're saving half a million dollars a year."

Mike Weaver, Fleet Supervisor, London Police Service, London, ON

Provide more comfort to children

"Propane school buses are much easier to start in cold weather, and they also have a quieter engine and lower fuel cost than diesel."

Southland Transportation Ltd, Calgary, AB

Greener and less noisy

"The switch to propane (for school buses) has also saved in noise pollution, and has reduced our carbon footprint. We love our "green" yellow school buses!"

Elena Chase, Transportation Officer for the Regina Catholic School Division, Regina, SK

Auto propane is a cost-effective, globally-trusted and low-emission automotive energy option. It has many economic and environmental advantages over traditional and alternative vehicle fuels.

Auto propane is ideally suited for school and transit buses, courier vans, police cars, taxis, limos and any other high-mileage vehicles, particularly those in the light-duty category. Auto propane has the largest refuelling infrastructure of any alternative fuel in Canada; close to **100,000 vehicles** are on the road today.

Reduced Cost to Operate and Maintain

- Lower fuel costs than gasoline and diesel – **40% less on average**
- Affordable vehicle conversion costs, are quickly absorbed – **from \$4,000**
- Low maintenance costs due to clean-burning attributes

Lower Environmental Footprint

- Up to **26% less** lifecycle GHG emissions than gasoline
- **15% less** GHG emissions than diesel-fuelled vehicles
- 60% less carbon monoxide than gasoline
- 98% less particulate matter than diesel and contains virtually no sulphur – a contributor to acid rain. It emits practically no soot and low hydrogen and oxides of nitrogen, which are the basic precursors of ground-level ozone or smog.

Reliable and High Performance

- Comparable power, range and performance to gasoline and diesel vehicles
- Excellent cold start properties
- Dual-fuel technology (with gasoline or diesel), for added convenience

Who has chosen auto propane fuels for their operations in Canada?

- UPS, Canada Post, FedEx, Canpar
- London and New Westminster Police
- City of Prince George, Region of Peel, Town of Dieppe, Town of Bathurst, Ville de Saguenay
- School bus operators (Calgary, Medicine Hat, Regina, Hamilton, Brandon, Parry Sound and the Province of New Brunswick)
- Taxis, limousine and mini-bus operators

RECOMMENDATION No 3:

Policymakers should provide incentives towards the conversion of commercial vehicles and school buses from traditional fossil fuels to low-emission propane.

About the Canadian Propane Association

The **Canadian Propane Association (CPA)** is the national association for Canada's propane industry, representing over 400 member companies in every region of the country.

CPA membership includes producers, wholesalers, transporters, retailers, manufacturers of Appliances, Equipment and Cylinders (MACE) and associated members.

Vision: To be the authoritative voice that promotes propane as a safe, clean, versatile and innovative Canadian energy product, working collaboratively on behalf of its members.

Mission: To champion propane and the propane industry in Canada, and to facilitate best practices, safety and a favourable business environment, through advocacy, training and emergency response.

As a condition of the membership, **CPA members** adhere to the **Reliable Propane Fiable®** Commitment, which is aimed at improving risk management performance by all members and elevating public perception of the safety and responsibility of the propane industry.

The **Canadian Propane Association** provides industry training through its **Propane Training Institute (PTI)**. PTI courses are recognized across Canada and have been designed to provide instruction on the safe handling of propane and propane-powered equipment.

PTI works continuously with authorities, regulators, and specialists to ensure federal and local requirements are met, and certifies over 30,000 students annually.

The **Canadian Propane Association** provides emergency response capability for propane and flammable liquids through its subsidiary **Emergency Response Assistance Canada (ERAC)**. ERAC is a not-for-profit emergency

preparedness and response organization that develops, implements and responds to emergency response plans, including Emergency Response Assistance Plans, Environmental Emergency Plans and spill contingency plans for more than 360 Plan Participants.

Safety

Canada's propane industry is committed to safety. Across the spectrum of propane businesses and users, the industry collectively strives to meet and exceed regulatory and training requirements, ensuring that Canadians can work with propane in a safe and effective manner.

The characteristics of propane, along with the regulations applied to its equipment, training, and handling, make it one of the safest energy sources available.

DID YOU KNOW?

- An odorant called **ethyl mercaptan** is added to propane so that leaks are easily detected.
- Automotive propane tanks are **20 times more puncture resistant** than gasoline tanks, which makes them less likely to rupture in an accident.
- Propane has the lowest flammability range of all alternative fuels (2.4% - 9.5%) — so there must be a very specific combination of propane and oxygen for it to burn.
- Propane cylinders and tanks must be equipped with a pressure relief valve that opens and closes to prevent excessive internal pressure due to abnormal conditions — and there are **NO GHG emissions**.

Thank you for providing the **Canadian Propane Association** with an opportunity to provide you with information about the **PROPANE Advantage**.

A reliable, affordable and cleaner energy portfolio for Canada must include a truly Canadian product like propane to lead to a cleaner, more prosperous and competitive Canada.



An energy
choice for all

PROPANE:

Powering economic and
environmental solutions
for Canadians

We need to balance our economic prosperity
with safeguarding our environment.

Propane is doing just that.

Produced here, propane is an asset for
Canada's low-carbon economic future.

When using propane, you:

- Accelerate decarbonization and use cleaner energy today – not just in the future
- Make greener, more affordable choices for your homes and businesses
- Support investments in local businesses and communities

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