



Propane at Home

Millions of people across North America use propane every day for home heating, hot water, and cooking. But that's not all!

Outside, it's perfect for barbecues, corn pot burners, fire pits, hot tubs, mosquito control, patio heaters, pool heaters, generators, and weed removal.

Indoors, it's a great alternative for clothes dryers, fireplaces, freezers, furnaces, lighting, radiant floor heating, refrigerators, space heaters, stoves and even toilets!

Versatile propane is also the cleaner, greener choice:

- Furnaces powered by propane are among the lowest emitters of greenhouse gases (GHG's), especially when compared with electric heat (heat pumps, furnaces, and baseboard heaters) or fuel oil furnaces.
- Propane-fuelled tankless water heaters—instant water heaters that do not use a hot-water storage tank—produce only one-third of the GHG created by comparable electric models.
- Grilling with propane cuts carbon dioxide emissions in half compared to grilling with charcoal.

PROPANE – A CLEANER, GREENER FUEL

Fewer air pollutants. Lower emissions of the greenhouse gasses that are often blamed for climate change. Less carbon content.

Those are just some of the environmental advantages that propane has over conventional energy supplies in virtually every application, from heating and transportation to cooking, power generation, and 1,000 more uses. Propane is not only clean-burning and safe; unlike most alternative energy sources, it is also widely available and highly efficient.

Canadians don't have to wait for new technology to fight climate change and reduce the environmental impact of energy use. Propane produced right here in Canada can make major and immediate contributions using today's technology.

Please visit the environmental section of our website at www.propanegas.ca for more detailed information on the environmental benefits of propane gas.

PROPANE FIGHTS CLIMATE CHANGE

A majority of scientists agree that greenhouse gasses (GHG's) are at least partially responsible for climate change. That's why Canada and many other nations have committed to reducing GHG emissions by 20% from 2006 levels by the year 2020.

Propane, with its tiny carbon footprint and high efficiency, is playing a major role in reducing GHG emissions without sacrificing economic prosperity or quality of life. See the sidebar stories titled 'Propane at Home' and 'Propane on the Go' for some examples.

Three recent international studies (*available on the World LP Gas Association website at www.worldlpgas.com*) further demonstrate the many ways propane is already helping cut the amount of GHG's going into our atmosphere:

- Consumers who replace electricity with propane for home heating in North America lower the resulting GHG emissions by 54%.
- Propane is the most efficient fuel for domestic water heating. When North Americans use propane technology to replace traditional electrical water tanks, they reduce the GHG emissions by 35%.
- Not only does propane emit less than half the GHG emissions, kilowatt for kilowatt, than coal-fired power plants -- the new studies also found propane out-performs diesel- and natural gas-fuelled generators as well.
- In many parts of the world, propane is the lowest carbon-emitting fuel available for cooking. In India, for example, cooking with propane emits 60% less GHG's than using electricity, and up to 50% less than using biomass (e.g. wood, crop waste) stoves. Switching to propane reduces the emissions of soot, or black carbon, which is the second most important contributor to global warming after carbon dioxide.



Propane On The Go

Natural Resources Canada says that fuel use in transportation is the largest source of greenhouse gasses and air pollution. Switching to clean-burning propane is an easy, effective way of reducing this environmental damage.

- Dedicated propane vehicles emit up to 27% fewer greenhouse gasses than gasoline-powered vehicles.
- Tests by the U. S. Environmental Protection Agency show that properly tuned propane engines produce 30% to 90% less carbon monoxide than properly tuned gasoline engines.
- Propane is also low in emissions of particulate matter (invisible solid particles and liquid droplets) - probably the most dangerous of all fuel-related pollutants, causing lung problems and cancers.
- Overall, propane emits about 50% fewer toxins and other smog-producing emissions than gasoline, with extremely low levels of sulphur, a big contributor to acid rain.

No wonder the World LP Gas Association reports there are more than thirteen million propane-fuelled vehicles in use world-wide – a number that is growing by 10-15% every year!

A study conducted by Washington-based analysts Energetic Inc. (*Propane Reduces Greenhouse Gas Emissions: A Comparative Analysis*) compared the GHG profiles of propane and other major fuels. It found that propane emits fewer emissions in almost every application analyzed.

Unlike natural gas, its closest competitor for low GHG emissions, propane is NOT a direct greenhouse gas and does not contribute to climate change if released.

PROPANE REDUCES AIR POLLUTION

While climate change grabs the headlines these days, the dangers of air pollution should not be ignored. Our health and that of our planet is worsened by inefficient and dirty fuel sources that contribute to asthma, cancer, heart disease, acid rain and other serious problems.

Those dangers are more pronounced than ever in the Third World. The World Health Organization reports that more than half of the world's population still burns wood or other biomass for cooking fires, creating dangerous pollutants that contribute to an estimated 1.6 million premature deaths a year. In areas where people have been given the means to switch to propane, those pollutants have been virtually eliminated.

Propane produces virtually no soot and only low emissions of the chemicals that create smog. According to studies by the U.S. Southwest Research Institute, propane exhaust produces 60-70% fewer smog-producing hydrocarbons than gasoline.

Not only is propane non-toxic and lead-free, it dissipates quickly if released into the atmosphere, causing far fewer concerns than other fuels.

PROPANE – SAFE FOR SOIL & WATER

Propane is one of the safest fuels imaginable when it comes to potential impact on our soil and water. Propane is non-toxic, contains no lead, and is insoluble (does not dissolve) in water. Propane tanks are 20 times more puncture-proof than conventional gasoline tanks, making leaks even less likely.

Moreover, in the unlikely event of a leak, propane's unique properties make it nearly impossible for it to affect water sources or soil. Unlike other liquid fuels, which can spill and seep into the ground, propane is only liquid while under pressure in its storage tank. If it is released, propane becomes a vapour and dissipates quickly into the atmosphere.

Since it doesn't spill, or leave a residue, propane will not contaminate soil or water.

Because of this unmatched safety characteristic of propane, most jurisdictions allow homeowners to bury their propane storage tank underground with no risk to the surrounding environment.