

What fuel cuts greenhouse gas emissions on roads, at home, and on farms?



Propane. It works. It's here. It's now.

Choosing propane can help save energy, reduce emissions and protect the environment. Across a wide range of uses — from fleet vehicles to home heating — propane produces fewer greenhouse gas emissions than conventional energy sources such as gasoline or electricity. And propane gets the job done: it's reliable, readily available, and best of all, it comes with an existing and affordable refueling infrastructure. In the quest for clean alternative energy, America can look to propane. Now.



Find out more at www.usepropane.com/climate.

* The greenhouse gas (GHG) calculations mentioned here were developed in a study commissioned by the Propane Education & Research Council (PERC) and conducted by Energetics Incorporated. Using the Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation (GREET) model recognized by the U.S. Department of Energy, the study reviewed the full lifecycle accounting (on-site and upstream) of GHG emissions resulting from the use of propane and other fuels in various market sectors.

** Comparisons of nitrous oxide and carbon monoxide emissions are taken from studies conducted by the World LP Gas Association and the California Energy Commission in January 2003. Data on particulate emissions comes from studies by the Southwest Research Institute.



Propane. It works. It's here. It's now.

From fleet vehicles, to farm equipment, to homes across the country, propane provides a cleaner energy choice to help fuel America's way of life. And, unlike other alternative energy sources, propane has a proven track record of success. It's reliable, readily available, and best of all, it comes with an existing and affordable refueling infrastructure.

On our roads

The most widely used alternative fuel on the road today, propane powers 10 million buses, taxis, delivery trucks, trolleys, and maintenance vehicles around the world.

- On average, propane fleet vehicles reduce greenhouse gas emissions by 18 percent*; create 20 percent less nitrous oxide; up to 60 percent less carbon monoxide; and fewer particulate emissions, compared to conventional gasoline.**
- Increasing the use of this affordable fuel in select fleets by 10 percent could displace nearly 1 billion gallons of gasoline by the year 2017.
- Fleet operators do not have to sacrifice performance for environmental friendliness. The power, acceleration, payload, and drivability of propane-fueled vehicles are comparable to gasoline engines.

On our farms

Nearly 80 percent of farms in the United States use propane, and with good reason: Propane is a clean-burning, reliable, and efficient energy source on which farmers can depend.

- On the farm, propane is most commonly used for heating barns and other buildings, and to dry and process crops.

- Propane is also used to power agricultural machinery and irrigation systems, resulting in fewer greenhouse gas and particulate emissions. In fact, propane-powered irrigation pumps produce 23 percent fewer CO₂ emissions than their gasoline counterparts.
- New technologies are also expanding organic agriculture by helping farmers reduce the need for chemicals by using propane-fueled heat and steam for defoliation, insect control, and sterilization.

In our homes

Efficiency-conscious homeowners and builders turn to clean-burning, reliable propane to keep rooms warm, showers hot, and emissions low.

- More than 9 million U.S. households rely on propane everyday: more than 6 million for home heating and 4 million for residential water heating.
- A traditional propane water heater emits 60 percent fewer CO₂ emissions than its electric counterpart.
- In addition to saving energy, new propane tankless water heaters produce 62 percent fewer greenhouse gas emissions than electric tankless models.

In the workplace

The same clean, reliable energy benefits that propane provides in our homes and on the road can be found in many workplaces.

- In factories and warehouses, propane engines make a cleaner environment for indoor workers, with emissions well below Occupational Safety and Health Administration (OSHA) standards. In fact, more than half a million propane-powered forklifts make up America's largest single alternative vehicle segment.
- Propane forklifts carry their fuel in sealed, pressure-tight containers. Unlike fueling with gasoline or diesel, there is no threat of evaporation or toxic spillage from these propane cylinders.
- Commercial mowers powered by propane are also playing an important role in reducing air pollutants and greenhouse gas emissions. Because they operate cleanly, propane mowers can be used year-round, even when gasoline mowers are sidelined in many cities due to high smog levels.

Right here. Right now.

Even as we develop new technologies, propane stands ready to help meet today's energy needs more cleanly and efficiently than many other sources currently available.

- Propane is an approved alternative fuel recognized by the Clean Air Act and the Energy Policy Act of 2005.
- Pipelines, processing facilities, refueling stations, distribution centers, and storage facilities already exist across the country, making large capital investments unnecessary to deliver this low-emission fuel.
- The majority of the propane we use is produced domestically. And with the largest storage capacity in the world, the United States supply is abundant.

Propane's carbon footprint

Propane itself is not a direct greenhouse gas (GHG) when released into the air, according to measurements reported by the Intergovernmental Panel on Climate Change.

Unlike fuels such as natural gas, propane vapor is removed from the atmosphere faster than it takes for it to become well-mixed and impact the global climate.

When propane is used as a fuel, it does generate small amounts of GHG emissions. However, as PERC's study demonstrates, propane's carbon footprint is lower than many other fuels.

Carbon dioxide released per Btu	
FUEL TYPE	KG CO2/MILLION BTU
Natural Gas	52.8
Propane	62.7
Ethanol (E85)	66.6
Motor Gasoline	70.5
Kerosene	70.7
Distillate Fuel (Diesel)	72.5
Residual Fuel (Heavy Fuel Oil)	78.6
Bituminous Coal	92.7

On-site emissions estimates based on chemical composition of the fuel with 99 percent combustion.

Source: U.S. Department of Energy (DOE). 1994. DOE/PO-00280 Vol. 2 (October).

Find out more at
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