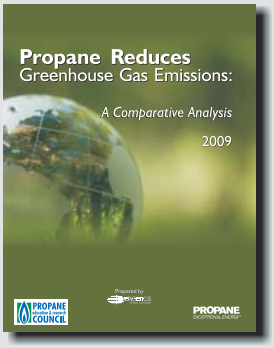
Propane Reduces Greenhouse Gas Emissions

Research Fact Sheet

Residential
Agriculture
Industrial/ Commercial
Engine Fuel
R&D

Growing concern about the potential effects of greenhouse gas (GHG) emissions has increased the focus on low-emission technologies and energy sources. Propane, approved by the Environmental Protection Agency as a clean alternative fuel, can help address these concerns because it performs better than many other fuels with respect to GHG emissions.

The study *Propane Reduces Greenhouse Gas Emissions: A Comparative Analysis 2009* quantifies the GHG emissions of propane and identifies propane as one of the most attractive options for avoiding GHG emissions.



Propane compares favorably with other fuels in all of the applications analyzed, demonstrating propane's environmental advantage as **one of the most attractive options for avoiding GHG emissions.**

– Propane Reduces Greenhouse Gas Emissions: A Comparative Analysis 2009

Research Status: Results Available

- Propane generates fewer GHG emissions than other fuels in almost every one of the 13 applications analyzed.
- The study *Propane Reduces Greenhouse Gas Emissions: A Comparative Analysis 2009* is available at www.propaneresearch.com.

Supporting Facts

- Propane's carbon footprint is lower than that of many other fuels.
- Propane's relatively low GHG emissions make its share of GHG emissions smaller than its share of the energy supply.
- At the point of use, propane has a lower carbon content than gasoline, diesel, heavy fuel oil, or ethanol.
- Propane is not a direct greenhouse gas when released into the atmosphere.

Result Highlights: Propane Reduces GHG Emissions

Residential & Commercial

10-ton gas engine-driven heat pump:
13% lower GHG emissions than electric

Desiccant dehumidifiers:
66% lower GHG emissions than electric

Residential space heating:
64% lower GHG emissions than electric

Residential water heaters:
52% lower GHG emissions than electric

Distributed generation:
21% lower GHG emissions than diesel-fueled

On-Road Engines & Vehicles

GM 6.0L engine:
25% lower GHG emissions than gasoline-fueled

Ford F-150:
18% lower GHG emissions than gasoline-fueled

Ford F-250:
19% lower GHG emissions than gasoline-fueled

School buses:
17% lower GHG emissions than gasoline-fueled

Off-Road Engines & Vehicles

Forklifts:
19% lower GHG emissions than gasoline-fueled

Ground service equipment:
33% lower GHG emissions than gasoline-fueled

Commercial mowers:
48% lower GHG emissions than gasoline-fueled

Agriculture

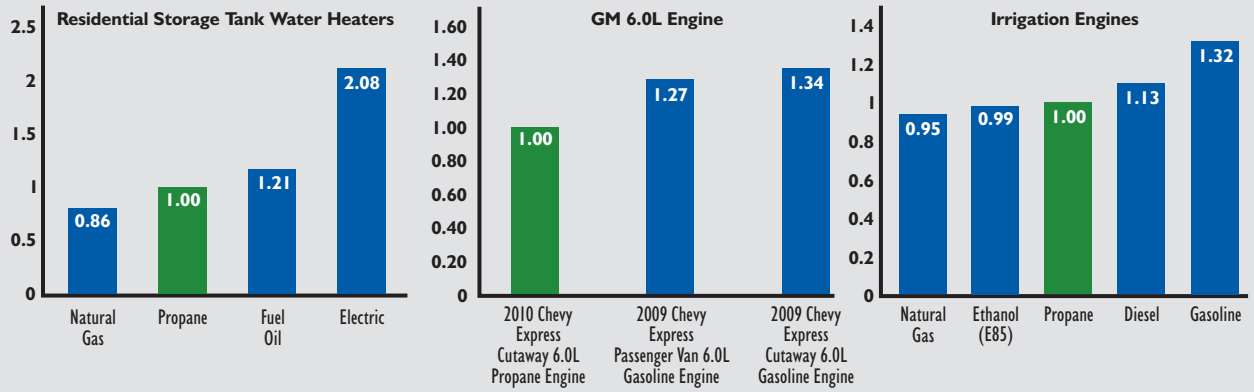
Irrigation engines:
24% lower GHG emissions than gasoline-fueled

For more information on this and other research projects, go to www.propaneresearch.com.

PROPANE EXCEPTIONAL ENERGY®

A Closer Look

The Greenhouse Gas Profile of Propane



** Please visit www.propaneresearch.com for the full report containing complete emissions analyses and all bar graphs.*

Projects:	Study of Propane's Climate-Change Advantages **(Docket 12294)** Greenhouse Gas Emissions for Propane Equipment Analysis II **(Docket 15964)**
Partner:	Energetics Incorporated

Research Process

- Investigated the full life-cycle emissions (upstream and end-use) resulting from the use of propane and other fuels.
- Included a range of commercial and residential, on-road, off-road, and agricultural applications.
- Used Argonne National Laboratory's GREET model version 1.8c, U.S. Department of Energy data, and U.S. Environmental Protection Agency data to calculate the life-cycle emissions of carbon dioxide, nitrous oxide, and methane.

Results

- **Residential and Commercial:** The propane applications analyzed in the study had lower GHG emissions than electricity or fuel oil.
- **On-Road Engines and Vehicles:** Propane offers lower GHG emissions than gasoline and natural gas in the analyzed applications while delivering equivalent performance.
- **Off-Road Engines and Vehicles:** Propane, which offers lower GHG emissions than diesel and gasoline in the analyzed applications, can help users contain costs and meet stringent environmental regulations.
- **Agriculture:** In the analyzed applications, propane offers lower GHG emissions than diesel fuel and gasoline, high energy density, storability, and portability.

What's Next?

Visit www.propaneresearch.com to view the complete *Propane Reduces Greenhouse Gas Emissions: A Comparative Analysis 2009* study report.

FOR MORE INFORMATION:

Propane Education & Research Council
Gregory Kerr, Director of Research and Development
1140 Connecticut Ave. NW, Suite 1075
Washington, DC 20036
202-452-8975

www.propaneresearch.com
www.usepropane.com

PROJECT PARTNER:

Energetics Incorporated
Ross Brindle, Vice President
7067 Columbia Gateway Drive
Suite 200
Columbia, MD 21046
410-953-6239

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