

**AmeriGas**<sup>®</sup>  
America's Propane Company



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**[www.amerigas.com](http://www.amerigas.com)**

# Propane Autogas

## **AmeriGas** Overview

Why Propane Autogas is a viable Alternative Fuel

Economics of Autogas

Autogas Vehicle Availability

Environmental Impact

Fueling Infrastructure

Conclusions

# AmeriGas Overview

**Nation's Largest Propane Provider**

**Since 1959 (parent company-UGI-125 yrs)**

**Service all 50 states 1,200 supply points**

**Over 1.3 million customers**

Residential, Commercial / Industrial , Motor Fuel (Forklifts), Agriculture,  
Transport, AmeriGas Cylinder Exchange – Grill Cylinders, Autogas

**Assured Supply**

Staff of 60 in Houston, TX

PTI Fleet: 150 tractors, 470 trailers, 180 railcars and 300 transports

Largest common carrier fleet operator for propane in the United States

**Safe, Reliable, Responsive - Stability**



# AmeriGas Autogas Focus

Converting Internal Vehicles

Supporting Clean Cities Initiatives

Educating/Mentoring Fleet Customers

Financial Assistance Available

Grant Writing Capabilities

Supplier Alliances

# Why Propane Autogas?

The most widely available alternative fuel in the United States.

The 3rd most widely used engine fuel in the world.

More than 15,000,000 on-road vehicles worldwide use propane as an engine fuel.

Expanded EPA & CARB certified vehicle choices.

Reduced fuel and maintenance costs vs. traditional fuels.

Reduced dependence on foreign oil.

# Why Propane Autogas?

Has a low fueling infrastructure and vehicle conversion cost.

Significant environmental advantages over traditional refined fuels.

Domestically produced fuel with large US storage and availability for future generations.

High performing fuel (110 octane rating)

Stable and safe fuel with over 90 years of use in the USA

# Propane Supply

Greater than 90% of US propane supply is produced in the U.S.

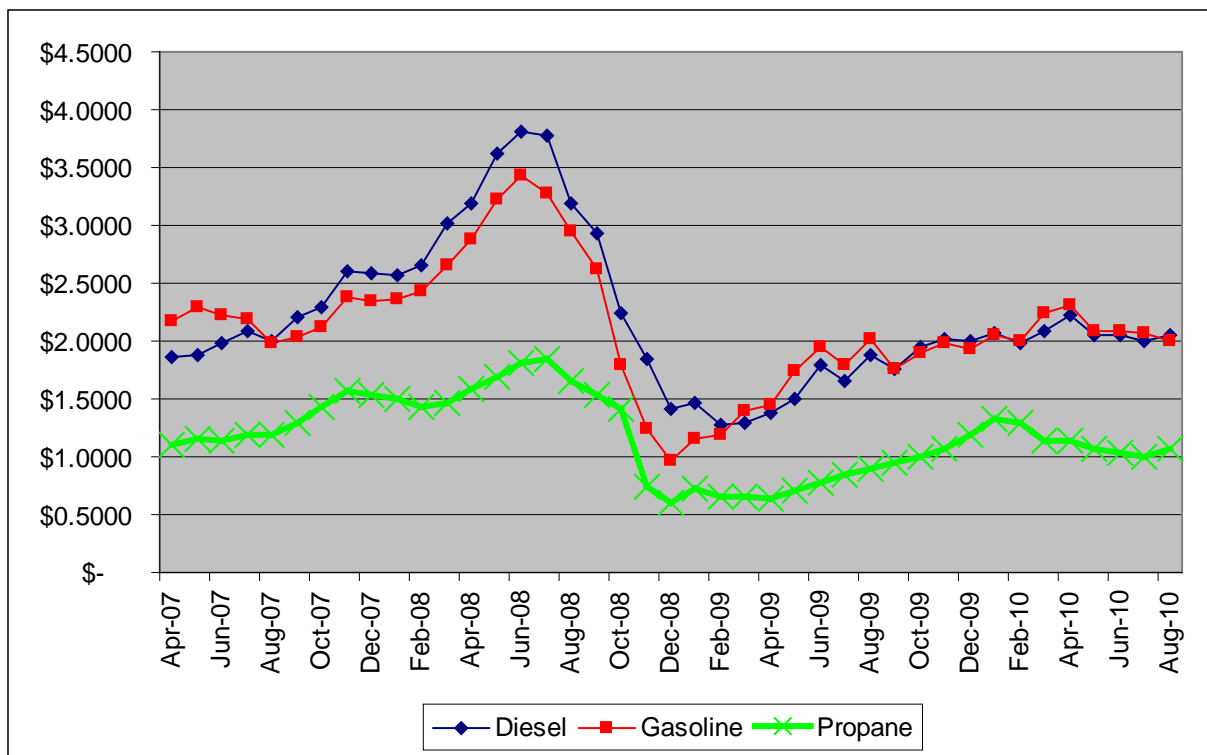


About 60% of U.S. propane comes from processing natural gas.

7 **Federal clean fuel: 1990 Clean Air Act**  
**Designated as an Approved Alternative Fuel**

# Economics

## (wholesale price comparison 2007 -2010)



# Federal Incentives

## **Alternative Fuel Tax Credit**

\$0.50 per gallon alternative fuel tax credit (through December 2011)

## **Refueling Infrastructure Tax Credit**

30% tax credit, up to \$30,000, for alternative fuel refueling property (through December 2011)

## **Alternative Fuel Tax Exemption**

Exemption applies to the purchase of propane when it is being used for engine fuel in a vehicle used:

- on a farm
- in certain intercity and local buses
- in a school bus
- by a nonprofit educational organization
- by a state or political subdivision of a state

# Economics

- **Fleet Operating Savings**
  - ✓ **\$10 to \$15K /vehicle over life**
    - Fuel Cost
    - Maintenance (30% less)
    - Incentives

# Environmental Benefits

*Propane autogas reduces emissions, NOx and particulate matter and is low in carbon compared to gasoline and diesel.*

**60% Less Carbon Monoxide**

**24% Fewer Greenhouse Gas Emissions**

**20% Less Nitrogen Oxide**

# Vehicle Technology

## **EPA & CARB certified liquid injection systems**

### **Offers outstanding drivability**

Excellent cold start, no loss in horsepower or torque

### **Simple design, direct replacement of OEM gasoline system**

No vaporizer to maintain/clean

No need to splice into OEM wiring harness

### **Utilizes OEM computer**

Able to optimize fuel economy, performance and emissions

OEM diagnostics remain intact

OEM warranty intact

# OEM Vehicle Availability

## Ford –

5.4 L E-150/250/350 - F-250/350

5.4 L E-450 Cutaway

6.8L F-450/550

Additional models coming in 2012



# OEM Vehicle Availability

**GM** – 6.0L Engine platforms

MY 2012 G-4500-3500

MY 2012 HD-2500-3500



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THE **ART** OF PERFORMANCE ENGINEERING<sup>™</sup>



 **CLEANFUEL**  
USA



# Schwan's Foods Home Service

## Application

**Schwan's Home Service runs the largest propane autogas fleet in the U.S.**

**Over 90% percent of their 6,000 trucks run on propane**

## Reliability

**Schwan's has been using propane in their trucks since the early 1970s**



# HOME BASED FLEET FUEL DISPENSERS



# HOME BASED FLEET FUEL DISPENSERS

**Heavy Duty Industrial  
Design**

**Low Maintenance,  
Heavy Duty  
Aluminum**

**Self Contained**

**Fueling Experience  
Similar to Gasoline**



# HOME BASED FLEET FUEL DISPENSERS

**Will Not Release Product If Not  
Attached to Tank**

**Easy, Threaded Connection –  
Gas Tight Seal**

**Squeeze Handle Latch**

**Low Emission Release**

**Longer Nozzle for Recessed  
Openings**

**Positive Environmental Impact  
No Ground Contamination**



# Infrastructure

Propane Dispensers cost as little as \$15,000

Propane Dispensers can be installed within weeks

Propane flow rates similar to gasoline at 10-15  
gallons per minute

Tank storage sizes range from 1000 – 30,000  
gallons

Standard Fuel Mgmt programs and card reader  
systems available

Propane stations have no EPA regulatory oversight

# Infrastructure

Federal tax credits available for infrastructure

AmeriGas may provide infrastructure with fuel supply agreement

Propane stations have small footprint (many can fit within a standard parking space)

Storage systems can be underground and above ground

Custom Fleet Fueling Programs ensure lowest possible fuel costs



# CLEAN FUELING TECHNOLOGIES DISPENSER OPTIONS

PRO 6100 Series



PRO 7200 Series



Gilbarco Self Serve  
Style



**Syn-Tech Systems**  
Incorporated



**Home of**

**FUELMASTER**

**Who's keeping watch over your fuel?**

Field #	OBD Data Field	Example Data
1	Maximum Engine Coolant Temp	800 °F
2	Maximum Engine Speed	4000 rpm
3	Maximum Vehicle Speed	120 mph
4	Minimum Engine Oil Pressure	0 psi
5	Max Engine Oil Temp	47 °F
6	Min Transmission Oil Pressure	482 psi
7	Minimum Voltage	28 V
8	Maximum Voltage	9 V
9	Pre-fueling Fuel Level	0.5 %
10	Engine Oil Level	100 %
11	Washer Fluid Level	50 %
12	Coolant Level	99 %
13	Transmission Oil Level	9 %
14	Ignition Start Count	15 counts
15	Analog Counter	256 counts
16	Fuel Quantity Used	4.6.02 gal
17	PTO Fuel Quantity Used	0.00 gal
18	Average Fuel Economy	22 mi/gal

# Data

# Autogas Fueling Conclusion

Infrastructure relatively inexpensive and easy to install

Can be operational in weeks

Custom Fleet Fueling Programs ensure lowest possible fuel costs

Federal tax credits and grants available to enhance economics

**Fuel Your Bottom Line with**  
**Autogas!!!**

# Thank You



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