



**BLUE STAR GAS** SALT LAKE CITY CO.  
PROPANE SALES & SERVICE

P.O. Box 1520  
Ogden, UT 84402  
Phone: (801) 791-0709

**CHASE HANCHETT**  
Autogas Fleet Specialist

Email: [chanchett@bluestargas.com](mailto:chanchett@bluestargas.com)  
[www.bluestargas.com](http://www.bluestargas.com)



**Alliance AutoGas**  
**POWERED BY PROPANE**

---

**LESS EXPENSIVE THAN GASOLINE • ECO-FRIENDLY • MADE IN THE USA**

---

[WWW.ALLIANCEAUTOGAS.COM](http://WWW.ALLIANCEAUTOGAS.COM)



# THE BASICS

**Alliance AutoGas is the only complete program to help fleets shift to the world's most popular alternative fuel. Working with Alliance AutoGas to launch a successful autogas program is the easiest, most affordable way to reduce your gasoline consumption.**

## WE PROVIDE:

1. Consulting to help fleet managers and owners figure out if autogas makes sense for their fleet
2. Everything fleets need to make shifting to autogas easy and affordable, through a single point of contact
3. The ongoing support necessary to make sure their autogas program is successful

## THE BASICS OF PROPANE AUTOGAS VEHICLE FUEL

- + Autogas is propane used as a vehicle fuel. It's the world's most popular alternative fuel - over 15 million vehicles worldwide run on it. It's cheaper and cleaner than gasoline, and it's made in America.
- + Propane autogas is the only alternative energy that is here now, cost-effective and readily available across the United States

## WHY CONVERT FLEET VEHICLES TO PROPANE AUTOGAS?

### ECONOMICAL

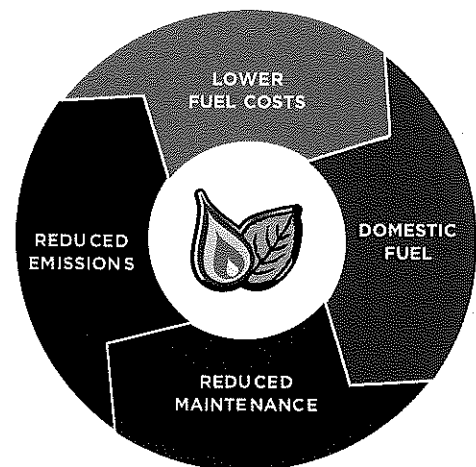
- + Less expensive than gasoline
- + 50-cent per gallon federal tax credit
- + Cleaner burning = fewer oil changes

### CLEAN\*

- + 12 percent less carbon dioxide
- + 30 percent less carbon monoxide
- + 35.6 percent less hydrocarbons
- + 60 percent less NOx

### DOMESTIC

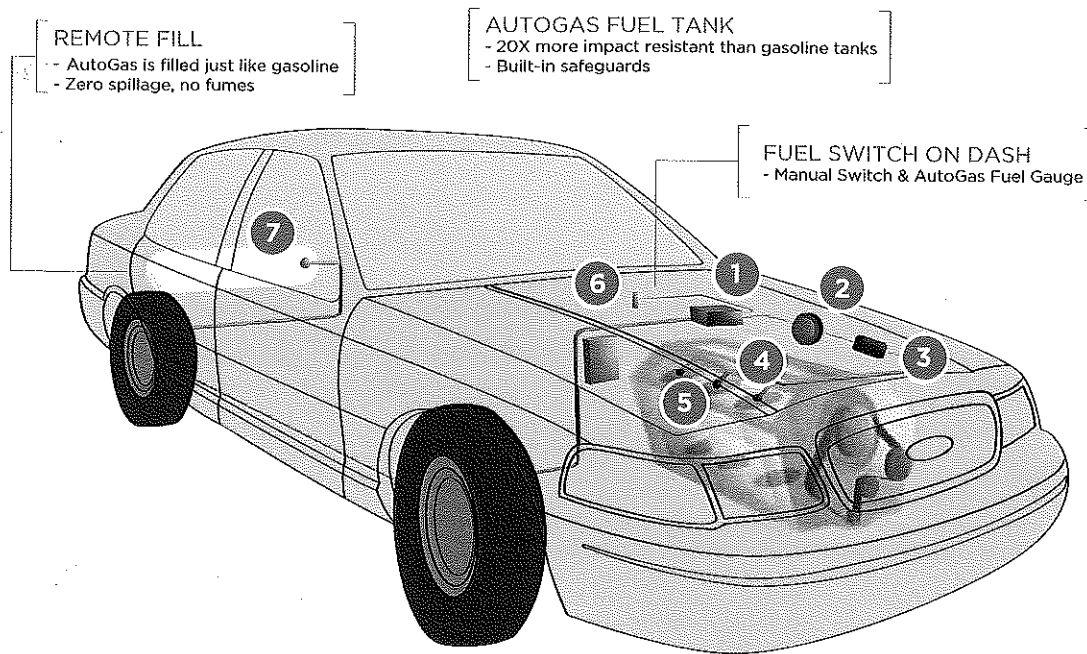
- + 90 percent of Alliance AutoGas' propane vehicle fuel is produced in the U.S.



\* Based on emissions testing of a 2008 Honda Accord with the Prins system.



# THE PRINS VSI SYSTEM



## VSI = VAPOR SEQUENTIAL INJECTION

### 1. VSI ECM:

- + ECM injector driver capability up to 10 cylinders
- + Injector diagnostics — constant monitoring of no load, overload and driver temperature
- + Diagnostics, service and parameter load software operates from Windows PC applications
- + Complete wiring harness: color coded, text and numbering ensure simple & efficient installation

### 2. REDUCER:

- + Large capacity (14 gr/s)
- + Adjustable pressure range with anti-tamper seal
- + Integrated OEM coolant sensor
- + Electronic lock off valve, liquid filter & magnet
- + Compact design for ease of installation

### 3. FILTER UNIT:

- + Compact design w/single or dual delivery outlets
- + Dry gas filter to protect the fine tolerance of the injectors from gaseous pollutants
- + Combined gaseous temperature & pressure sensor

### 4. INJECTOR RAIL:

- + Uncomplicated fitting
- + Assembled and leak tested at factory
- + 2/3/4/5/6 cylinder assemblies

### 5. OEM INJECTOR:

- + Developed by Prins in cooperation with Keihin Corp. Japan, ensuring quality and reliability
- + Linear flow rate from minimum to maximum flow
- + Model range available for small & large engines
- + OEM-quality injectors; performance guaranteed

### 6. FUEL SELECTOR SWITCH:

- + Select fuel via smart touch control Informs operator of LPG tank contents
- + Audible buzzer to alert low level switching or fault codes, illuminated fault code warning with LED

### 7. TANK:

- + Tanks of all necessary sizes and configurations
- + DOT-approved autogas fuel tank



[WWW.ALLIANCEAUTOGAS.COM](http://WWW.ALLIANCEAUTOGAS.COM)



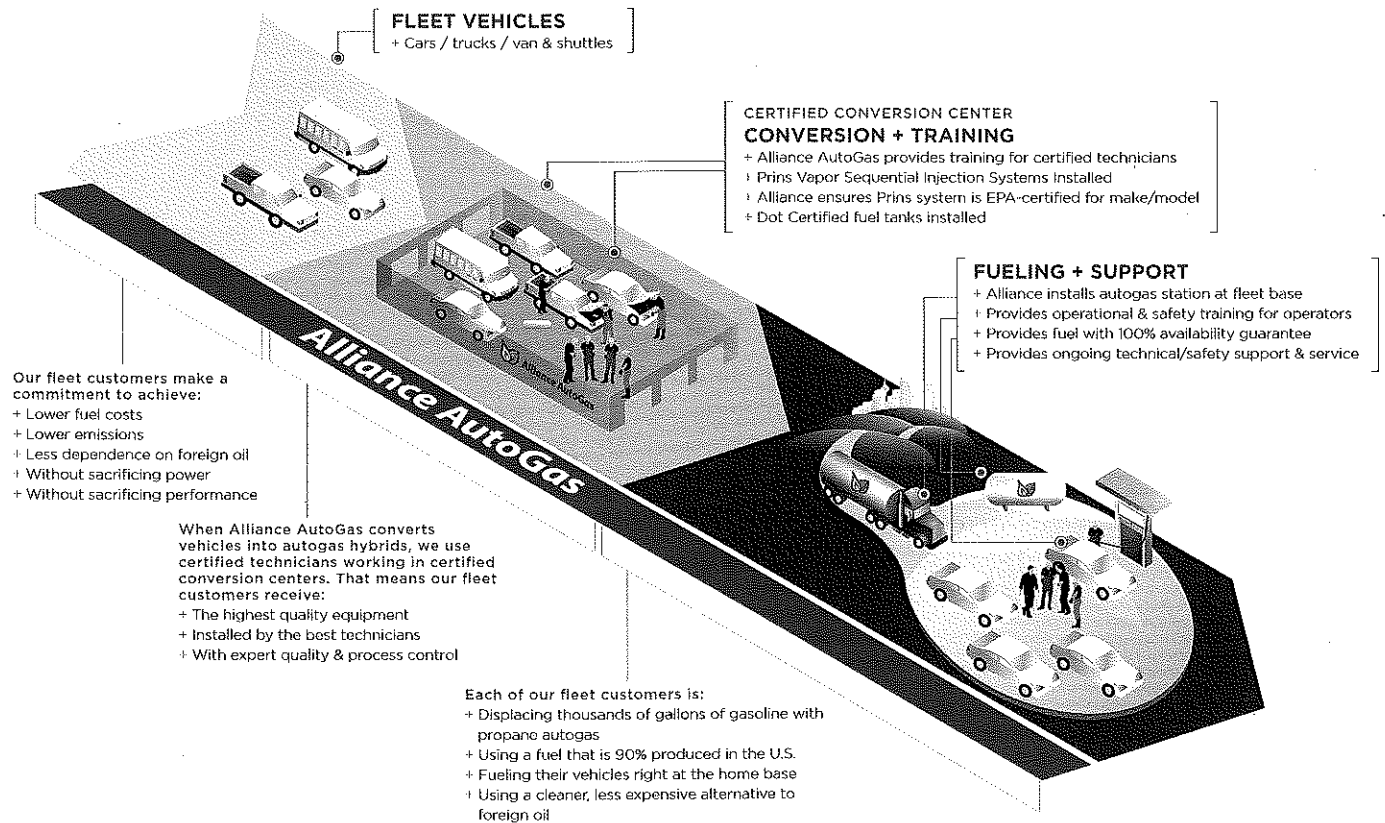
# WHO WE ARE

## WHAT MAKES ALLIANCE AUTOGAS DIFFERENT?

Other suppliers sell vehicle conversion equipment, fuel or maintenance. Only Alliance AutoGas offers everything fleets need to make shifting to autogas easy and affordable through a vertically integrated chain of:



Our relationship with fleets is only beginning on the day we convert gasoline vehicles into clean, economical bi-fuel autogas vehicles.



## ALLIANCE AUTOGAS IS A PARTNERSHIP BETWEEN:

- + American Alternative Fuel - provides EPA-certified conversion systems and support
- + Blossman Gas - the largest independent propane dealer in the U.S., Blossman provides decades of alternative fuel experience and an extensive fueling infrastructure
- + A strong, nationwide network of partners - Certified Conversion Centers, equipment suppliers and propane retailers



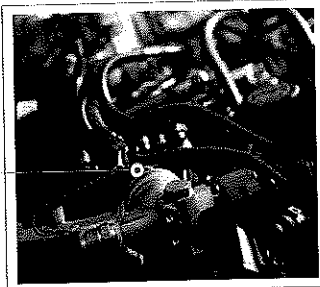
# VEHICLE CONVERSION

## VEHICLE CONVERSION

The Alliance AutoGas nationwide network of partners includes certified conversion centers that will convert and maintain your autogas bi-fuel vehicles.



Fuel gauge and selector switch mounts flush inside every vehicle



Computer-controlled system integrates seamlessly with factory engine



AutoGas fuel tank mounts in back of trunk, leaving ample trunk space

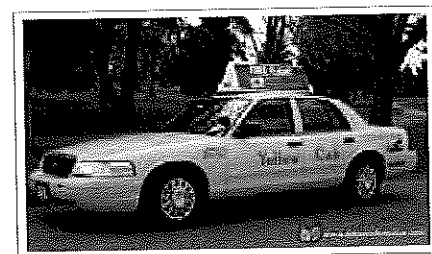
## ALLIANCE AUTOGAS VEHICLES USE THE PRINS VSI CONVERSION SYSTEM.

- + The Prins system is EPA-certified for many standard fleet vehicle models
- + Engine starts on gasoline and immediately switches to autogas
- + Can switch back to gasoline if driver cannot reach home base
- + Aftermarket AA+ Rated Warranty for 3-years/36,000 miles with option for extension (does not void factory warranties)
- + Conversion kit can be removed from retired vehicles and installed on new replacement vehicles – your investment in the system carries over to new vehicles

## WHO ALLIANCE WORKS WITH

Public and private fleets are ideal for conversion to propane autogas because they are characterized by high mileage within a fixed radius of travel.

- + Higher mileage = greater fuel cost savings
- + Centralized fleet footprint = on-site fueling



We work with many types of fleets: law enforcement, taxi, limousine, and paratransit; municipal and state governments; food and beverage distribution companies; utility companies; energy companies; and many more.



# ON-SITE FUELING

**ALLIANCE AUTOGAS PROVIDES A FUELING STATION AT YOUR FLEET BASE, TYPICALLY AT NO ADDITIONAL COST.**

## OUR FLEET FUELING SOLUTION IS:

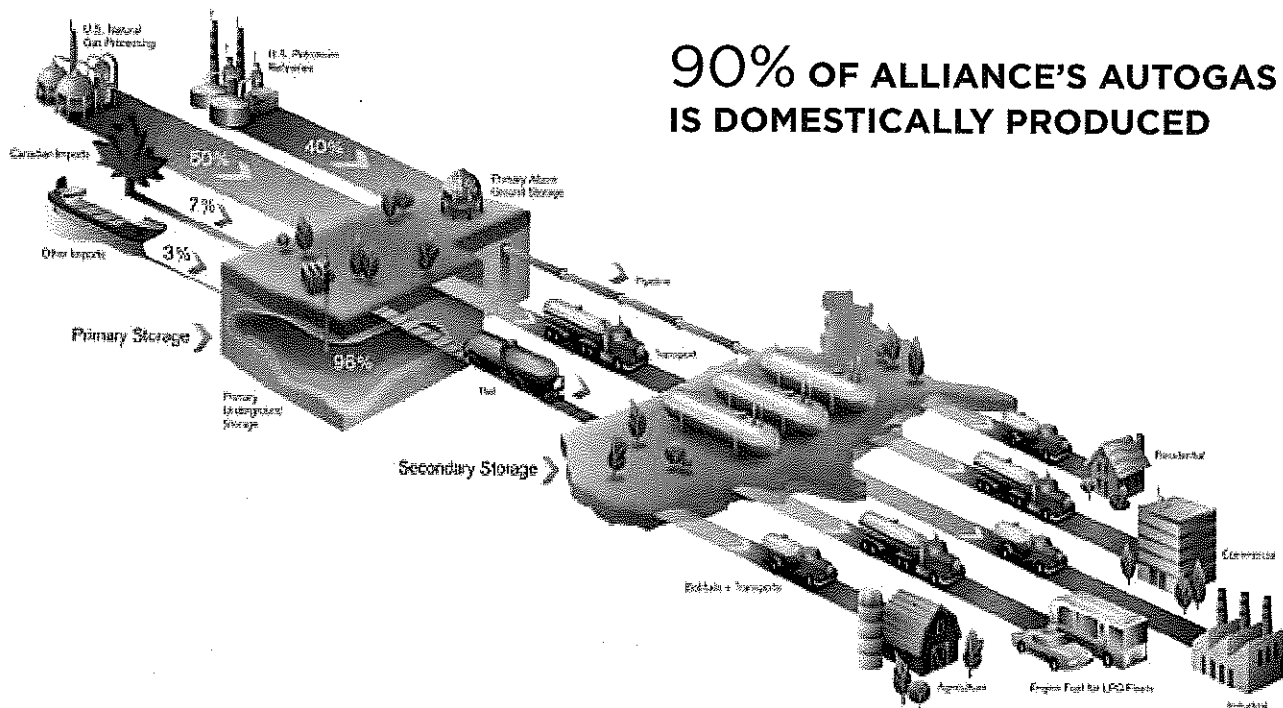
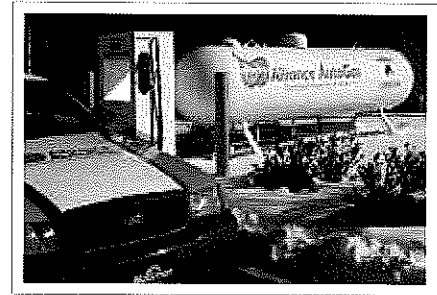
- + Spill-free, zero-emission fueling station at base
- + No implementation cost for fleets
- + Initial training for fleet drivers/operators
- + Ongoing technical support

## AUTOGAS PROVIDED BY ALLIANCE AUTOGAS IS:

- + Delivered to your fleet base
- + Dispensed from your fleet base
- + Eligible for a 50-cent-per-gallon federal tax credit

## WHERE AUTOGAS COMES FROM

Buy American - 90 percent of our nation's autogas supply is domestically produced, so using autogas means contributing to American energy security and American jobs, reducing our dependence on foreign oil.



# FUEL COST SAVINGS

## HISTORICALLY, PROPANE AUTOGAS COSTS LESS THAN GASOLINE OR DIESEL

Historical data shows that the price of autogas is much less volatile than the price of gasoline or diesel.

### FUEL COST SAVINGS

Take a sample fleet of 50 Ford Crown Victorias that average 60,000 miles per year and achieve an average of 15 MPG. At an estimated \$2.75 per gallon of gasoline, these vehicles would aggregate about \$550,000.00 per year in fuel costs. On average, autogas vehicles achieve 87 percent the miles per gallon of gasoline vehicles, so those same vehicles would get 13 miles per gallon of propane. In a region where gasoline costs \$2.75 at a given time, a reasonable price estimate for propane autogas is about \$1.50 per gallon including the 50-cent tax credit. At \$1.50 per gallon, these autogas bi-fuel vehicles would aggregate about \$346,154.00 per year in fuel costs.

The total annual fuel cost savings are \$203,846.00. At an average cost of \$5,800.00, the capital outlay to convert 50 vehicles would total \$290,000.00. In less than 18 months, the total cost for conversion would be offset in fuel cost savings.

### AUTOGAS COSTS AN AVERAGE OF \$1.15 LESS THAN REGULAR UNLEADED GASOLINE

GASOLINE	\$1.98	\$2.00	\$2.11	\$2.31	\$2.68	\$2.59	\$2.68	\$2.63	\$2.61	\$2.71	\$2.67	\$2.78	\$2.71	\$2.83
PROPANE AUTOGAS	\$1.80	\$1.70	\$1.62	\$1.64	\$1.73	\$1.65	\$1.73	\$1.81	\$1.88	\$1.98	\$2.08	\$2.22	\$2.19	\$2.06
AUTOGAS LESS 50¢ TAX CREDIT	\$1.30	\$1.20	\$1.12	\$1.14	\$1.23	\$1.15	\$1.23	\$1.31	\$1.38	\$1.48	\$1.58	\$1.72	\$1.69	\$1.56
TOTAL DIFFERENCE	\$0.68	\$0.80	\$0.99	\$1.17	\$1.45	\$1.44	\$1.45	\$1.32	\$1.23	\$1.23	\$1.09	\$1.06	\$1.02	\$1.27

FEB '09    MAR '09    APR '09    MAY '09    JUNE '09    JULY '09    AUG '09    SEPT '09    OCT '09    NOV '09    DEC '09    JAN '10    FEB '10    MAR '10

GASOLINE	\$2.91	\$2.92	\$2.78	\$2.78	\$2.80	\$2.75	\$2.84	\$2.90	\$3.03	\$3.14	\$3.22	\$3.59	\$2.73
PROPANE AUTOGAS	\$2.03	\$2.00	\$1.94	\$1.90	\$1.97	\$2.04	\$2.14	\$2.16	\$2.21	\$2.31	\$2.35	\$2.30	\$1.98
AUTOGAS LESS 50¢ TAX CREDIT	\$1.53	\$1.50	\$1.44	\$1.40	\$1.47	\$1.54	\$1.64	\$1.66	\$1.71	\$1.81	\$1.85	\$1.80	\$1.48
TOTAL DIFFERENCE	\$1.38	\$1.42	\$1.34	\$1.38	\$1.33	\$1.21	\$1.20	\$1.24	\$1.32	\$1.33	\$1.37	\$1.79	\$1.25

APR '10    MAY '10    JUNE '10    JULY '10    AUG '10    SEPT '10    OCT '10    NOV '10    DEC '10    JAN '11    FEB '11    MAR '11    AVERAGE

### HARD COST OF CONVERSION

The cost of conversion is dependent upon the type of vehicle (car, van, or truck) being converted and the number of vehicles in the fleet. Gasoline to autogas conversion costs around \$5,800.00 per vehicle—with potential for state, municipal, and federal grants and tax incentives.

### SOFT COST SAVINGS

Because autogas has higher octane and burns cleaner than gasoline, autogas vehicles experience increased engine life and less frequent oil changes. These benefits translate into peace-of-mind for fleet managers and significant long-term cost savings.

#### LEASING OPTIONS FOR GOVERNMENT & PUBLIC FLEETS

- + 36-month lease program with fixed monthly payment
- + Fleet takes ownership of systems after 3-year lease term
- + No liability if program is terminated before 36 months; no additional cost to remove systems
- + In most cases, the fuel cost savings more than offset the monthly payment





# Propane Autogas vs. Natural Gas

A brief comparison of implementation costs and environmental impact

Both autogas and compressed natural gas (CNG) are American-made, abundant and less expensive than gasoline. But every dollar invested in autogas goes further for our environment and our energy security.

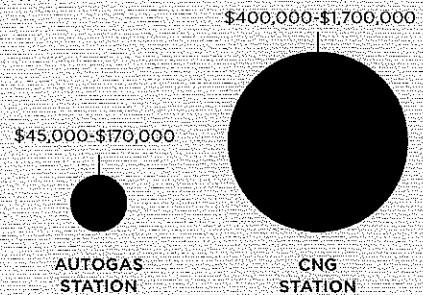
## AUTOGAS FUELING STATIONS ARE LESS EXPENSIVE

YOU CAN BUILD

**15** AUTOGAS FUELING STATIONS FOR THE PRICE OF **1** CNG FUELING STATION

One CNG fueling station costs between \$400,000 and \$1,700,000.  
A comparable autogas station costs between \$45,000 and \$175,000.

COMPARE FUELING STATION COSTS



## AUTOGAS VEHICLES ARE LESS EXPENSIVE

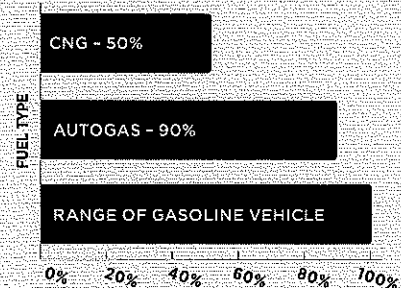
YOU CAN CONVERT

**2** LIGHT-DUTY AUTOGAS VEHICLES FOR THE PRICE OF CONVERTING **1** LIGHT-DUTY VEHICLE TO CNG

An average CNG vehicle conversion costs \$15,000. An average autogas conversion costs \$8,000.

## AND GET BETTER RANGE

COMPARE VEHICLE RANGE BY FUEL



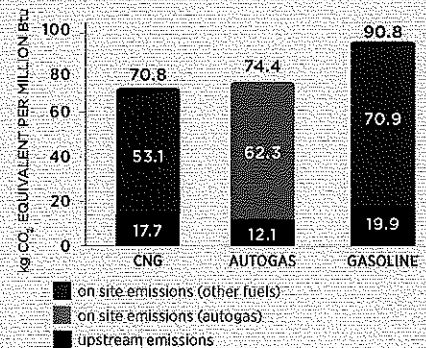
## AUTOGAS REDUCES MORE HARMFUL EMISSIONS PER DOLLAR INVESTED

PER DOLLAR INVESTED

AUTOGAS VEHICLES OFFSET **1.5X** THE HARMFUL EMISSIONS THAT CNG VEHICLES OFFSET

Compared to gasoline, both autogas and CNG vehicles reduce harmful emissions by more than 20%. But per dollar spent, more autogas vehicles can be deployed, thereby offsetting more harmful emissions.

COMPARE CARBON EMISSIONS



www.autogasforamerica.org

Sources include US Department of Energy, US Energy Information Administration and various third-party studies. For more information, data, charts and detailed source information, visit [http://autogasforamerica.org/Fact\\_Brief.pdf](http://autogasforamerica.org/Fact_Brief.pdf)

## ALTERNATIVE VEHICLE FUELS SIDE-BY-SIDE COMPARISON FOR LIGHT-DUTY FLEETS

COST COMPARISON	AUTOGAS	CNG	ETHANOL (E85)	ELECTRIC
<b>Additional cost per vehicle</b>	\$5,300	\$11-16,000	\$0	\$10-15,000
<b>Fueling station</b> (For two dispensers)	\$35,000	\$400,000-1.7M	\$120,000 (blender pump)	\$100,000+ (fast charge)
<b>Fuel price per gallon (GGE*)</b>	\$1.73	\$1.60	\$4.45	\$3.08 (fast charge)
<b>Fuel savings per gallon (GGE*)</b> (Based on \$3.55/gal gasoline)	\$1.82	\$1.95	(\$0.55)	\$0.82
VEHICLE SPECIFICATIONS				
<b>GHG emissions reduction</b> (lifecycle emissions vs. gasoline vehicles)	18%	22%	None	25% (varies regionally)
<b>Rated storage pressure</b>	250 psi	3600 psi	N/A	N/A
<b>Driving range vs. gasoline vehicle</b>	90%	60%	75%	Under 80 miles
<b>Payload capacity</b>	-6%	-16% or more	No Change	Not Available
<b>Tank fill time</b>	8-10 gals/min (equal to gasoline)	6-8 gals/min (fast-fill)	8-10 gals/min	30 Minutes

Note that state tax credits for vehicles and fueling stations may also be available. Information updated July 2012.

\* GGE stands for "gasoline gallon equivalent" - setting the energy content of all fuels equal to gasoline allows for an apples-to-apples comparison

