



BEST PRACTICES and REGULATIONS



**Governing the Alternative Fuel Conversion Industry
In Oklahoma
2013**

BEST PRACTICES & REGULATIONS **2013**

Governing the Alternative Fuel Conversion Industry in Oklahoma

This material is based upon work supported by the Department of Energy under:

Award Number DE-EE0006006

All Web links in this report are correct at the time of publication. Over time, some may become modified or otherwise inactive. If you experience a deactivated or inoperative link, please notify the Alternative Fuels Program Administrator @ alt_fuels@omes.ok.gov.

For more information:

Alternative Fuels Program
Attention: Program Administrator
317 N.E. 31st Street, Suite A
Oklahoma City, Oklahoma 73105-4003
Telephone Numbers:
Licensing: (405)521-2206
Administration: (405)521-2052
Fax: (405)525-2682

Web address: <http://www.altfuels.ok.gov>

Disclaimer: This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

PRINTED IN THE UNITED STATES OF AMERICA

BEST PRACTICES & REGULATIONS Governing the Alternative Fuel Conversion Industry in Oklahoma

2013

Table of Contents

Introduction	4
What is an Alternative Fuel Conversion?	5
Considerations before Conversion	6
Best Practices for Alternative Fuel Conversions:	8
Advantages of Alternative Fuels	9
Regulations, Statutes, Rules & Standards	10
Inspections	11
Compressed Natural Gas	13
Liquid Propane Gas	15
Electric	18
Liquid Natural Gas	19
Alternative Fuel Vehicle Repair or Maintenance	20
Alternative Fuels Equipment Technician	21
Alternative Fuels Equipment Technician Recertification Process	22
State of Oklahoma Fuel System Inspector	23
Compressed Natural Gas Filling Stations - October 2013	25
Liquid Propane Filling Stations as of 10-2013	27
Incentives and Rebates	28
Information Links	33
Summary	34
Flash Drive Contents	35
Contact Phone Numbers	37
References	38

BEST PRACTICES & REGULATIONS 2013

Governing the Alternative Fuel Conversion Industry in Oklahoma

Introduction

“Oklahoma is committed to greater use of alternative fuels, which is a big part of our Oklahoma First Energy Plan. By combining collective purchasing power and making the commitment to purchase alternative fuel vehicles when available, transportation costs can be reduced across the board, from private citizens to large government fleets. Oklahoma is already a leader in alternative fuels through our frequent usage of compressed natural gas, including a joint effort by Oklahoma and Colorado to help states expand the use CNG vehicles in their vehicle fleets. We would like to expand on those efforts by emphasizing all alternative fuels as appropriate in the public and private sectors alike.”

Governor Mary Fallin –October, 2013

In 2011, the United States imported about 45% of the petroleum it consumed, and transportation was responsible for two-thirds of total U.S. petroleum consumption. With much of the world's petroleum reserves located in unfriendly countries, the United States is vulnerable.ⁱ

Alternative fuels are an abundant resource in Oklahoma both for the alternative fuel conversion industry as well as fill station developers and compressor maintenance/repair technicians.

Alternative fuels include:

- 🌱 **Gaseous fuels: Hydrogen, Natural gas, and Propane**
- 🌱 **Alcohols: Ethanol, Methanol, and Butane**
- 🌱 **Vegetable and waste-derived oils; and electricity.**




Fluctuation of fuel prices can greatly affect the profitability for transportation industries, especially for fleet owners. But this is also true for cities, counties and school districts that provide services and transportation to the public.

Examples of the types of equipment capable of utilizing alternative fuel:

- | | |
|------------------------------|---------------------------------------|
| 🌱 Private passenger vehicles | 🌱 Forklifts |
| 🌱 Mass transportation buses | 🌱 Municipal service delivery vehicles |
| 🌱 Garbage trucks | 🌱 Ambulances and many others. |
| 🌱 Fill station compressors | |
| 🌱 Firefighting equipment | |

What is an Alternative Fuel Conversion?

An alternative fuel conversion means a reconfiguration of a gasoline or diesel engine to operate on an alternative fuel. These reconfigurations allow the engine to:

-  Dedicated (run solely on alternative fuel)
-  Dual Fuel (run on a blend mixing alternative fuels with original fuel),
-  Bi-Fuel (run alternately using alternative fuels or original fuel).

It is recommended kits used to convert a vehicle to run on an alternative fuel be Environmental Protection Agency (EPA) certified. If a system

Certified Clean Alternative Fuel Conversion Systems

The conversion systems located through the internet link below have been certified by EPA as meeting applicable emission standards. They are deemed exempt from the Clean Air Act tampering prohibition.

New, intermediate age, or outside useful life vehicles and/or engines are covered by the conversion certificate (if a certification for make and model is available) Please note that this is not a comprehensive list of all certified systems. There may be other certified conversions not on this list that may also be exempt from the tampering prohibition. Please check the EPA website or follow the link below periodically for updates.

- Certified Clean Alternative Fuel Conversion Systems (Excel) (Updated last-September 2013) (If this link becomes broken, please go to web address:

<http://www.epa.gov/otaq/consumer/fuels/altfuels/altfuels.htm>

Considerations before Conversion

(Courtesy of the U.S. Environmental Protection Agency)

Environmental Impact and Benefits:

Some fuels have a reputation of being inherently “clean” but in today’s vehicles and engines, it is not the fuel alone but rather the sophisticated integration of engine, fueling, exhaust and evaporative emission control system designs that determine how clean a vehicle will be.

Fuel conversion systems must retain a sophisticated and integrated design logic and functionality in order for emissions to remain low. Conversion to alternative fuels can be environmentally beneficial, but conversion does not necessarily reduce pollution.

Manufacturers of EPA-compliant fuel conversion systems must demonstrate that the converted vehicle or engine meets the same standards as the original vehicle or engine, or, for older vehicles and engines, that emissions do not increase as a result of conversion.

Cost and Range:

The cost of running a vehicle on an alternative fuel will depend on fuel price and on how far you can travel on each unit of fuel. The amount of fuel you need will depend on the fuel’s energy density, and on whether the converted vehicle is optimized to take advantage of the alternative fuel characteristics. Operating costs may be either higher or lower for a conversion than for the original configuration. Alternative fuel prices tend to fluctuate considerably more from region to region than gasoline and diesel fuel prices.

The U.S. Department of Energy maintains an up-to-date report on alternative fuel prices around the country at http://www.afdc.energy.gov/afdc/price_report.html.

Fuel Availability:

Alternative fuel availability varies greatly from region to region.

The U.S. Department of Energy maintains an alternative fueling station locator at <http://www.afdc.energy.gov/afdc/fuels/stations.html>.

Considerations before Conversion (continued)

Vehicle Warranty:

Consumers considering conversion should investigate warranty implications in advance. Warranty liability for certain failed components in a converted vehicle or engine may transfer from the original equipment manufacturer to the conversion manufacturer.

Generally, the conversion manufacturer maintains liability for problems that occur as a result of conversion, while the original manufacturer retains responsibility for the performance of any covered parts or systems that retain their original function following conversion and are unaffected by the conversion.

Consumers should be aware that liability in a given conversion situation may not be clear, creating potential for confusion and even for dispute over which manufacturer is responsible for repair.

Best Practices for Alternative Fuel Conversions:

- 🌱 Find an experienced, trained Qualified System Retrofitter (QSR) for your make & model vehicle
 - Ask to see certifications, (ASE, Ford, Nissan, Toyota, etc)
 - Ensure the technician is certified/trained by the kit manufacturer
 - Don't be afraid to ask for references (other satisfied customers)
 - Alt Fuels website @ www.altfuels.ok.gov

- 🌱 Conduct research regarding the conversion kit best suited for your vehicle make & model
 - Ask your technician what he recommends
 - Research dependable websites such as www.afdc.energy.gov (Alternative Fuel Data Center)
 - Check with your vehicle manufacturer to determine what they recommend
 - Determine the specific manufacturer warranty requirements

- 🌱 Get a written guarantee from your installer
 - What service or repairs will be guaranteed if your vehicle manufacturer will not cover
 - Get a written estimate of the total cost of the conversion, Include the following:
 - ✓ Kit manufacturer –verify it is EPA certified
 - ✓ Tank type (never accept a used or “re-certified” tank
 - ✓ Components (stainless steel tubing, etc)
 - Ensure your vehicle is gaseous prep ready (non-gaseous prepped vehicles may have accelerated valve component wear if converted to operate primarily on a fuel alternative.

- 🌱 Price
 - Ensure your price is all inclusive. Don't assume everything is included and ask for a written estimate listing out all components to be installed and services to be performed.

The key to a successful and safe conversion of your motor vehicle to run on an alternative fuel is simple and easy. Don't take shortcuts trying to save time and money. It can be costly and dangerous.

BEST PRACTICES & REGULATIONS Governing the Alternative Fuel Conversion Industry in Oklahoma

2013

Advantages of Alternative Fuels

Affordable and Variety *(Prices are from the U.S. Dept of Energy)*

Visit <http://www.afdc.energy.gov/fuels/prices.html> for current fuel prices.

National Average Price Between July 12 and July 26, 2013	
Fuel	Price
Biodiesel (B20)	\$3.89/gallon
Biodiesel (B99-B100)	\$4.19/gallon
Electricity	\$0.12/kWh
Ethanol (E85)	\$3.23/gallon
Natural Gas (CNG)	\$2.14/GGE
Propane	\$2.73/gallon
Gasoline	\$3.65/gallon
Diesel	\$3.91/gallon

Converting conventional vehicles to run on natural gas is a good option for incorporating alternative fuels into light- and heavy-duty operations. EPA's emissions requirements and regulations apply to vehicles converted to run on CNG or LNG.

Abundant

2012 Natural Gas production in ranking order

1. Texas	6. Colorado
2. Louisiana	7. New Mexico
3. Wyoming	8. Arkansas
4. Oklahoma	9. Utah
5. Pennsylvania	10. West Virginia

U.S. production of dry natural gas reached the highest levels ever recorded to approximately 65.9 billion cubic feet per day (Bcf/d) in 2012.ⁱⁱ

Domestic

Oklahoma produced 2,021,001 cubic feet of natural gas in 2012. That is the fourth largest producer in the United States, and is up some 13% from 2007.ⁱⁱⁱ

BEST PRACTICES & REGULATIONS **2013**

Governing the Alternative Fuel Conversion Industry in Oklahoma

Regulations, Statutes, Rules & Standards

Federal Regulations**

- 🌿 40 CFR part 85 subpart F-U.S. Environmental Protection Agency(EPA)(2012)
- 🌿 40 CFR Parts 85 and 86-U.S. Environmental Protection Agency(EPA)(2011)
 - 420 F-12-058-Clean Alternative Fuel Vehicle and Engine Conversions; Final Rule
- 🌿 49CFR part 180.201 thru 180.215-U.S. Environmental Protection Agency
- 🌿 National Highway Traffic Safety Administration (NHTSA)
 - Federal Motor Vehicle Safety Standard 303
 - Federal Motor Vehicle Safety Standard 304
- 🌿 U.S. DOT National Highway Traffic Safety Administration FMVSS 304
 - Federal Motor Vehicle Safety Standard 304

Oklahoma Statutes: **

- 🌿 74-130.1-10 Oklahoma Alternative Fuels Conversion Act
- 🌿 74-130.11-24 Oklahoma Fuels Technician Certification Act
- 🌿 17-306 Oklahoma Storage Tank Regulation Act
- 🌿 68-2357.22 Oklahoma Revenue and Taxation-Tax Code-Income Tax

Oklahoma Administrative Code (Rules)**

- 🌿 OAC 580:55-1-21 – OAC 580:55-9-1

National Standards adopted by Oklahoma**

- 🌿 Compressed Natural Gas-National Fire Protection Association(NFPA)52-2013
- 🌿 Liquid Propane Gas-National Fire Protection Association(NFPA)58-2011
- 🌿 Code for Motor Fuel Dispensing Facilities &Repair Garages(NFPA)30A-2012
- 🌿 Electric –National Electric Code (NEC) 2014

Oklahoma Standards**

- 🌿 Compressed Natural Gas vehicle technician certification standards
- 🌿 Liquid Propane Gas vehicle technician certification standards
- 🌿 Compressor Technician Level One certification standards

**Complete statutes, regulations and standards are available on flash drive.

Inspections

Compressed Natural Gas (CNG) Fueling Infrastructure Inspection

The Oklahoma Corporation Commission may access and inspect any equipment, practices, or methods used in association with public CNG fueling infrastructure. (Reference 52 O.S. Section 348 modified by House Bill 1718, 2013).

Compressed Natural Gas Cylinder Inspection:

U.S. DOT National Highway Traffic Safety Administration FMVSS 304

The critical maintenance requirement for CNG fuel systems is the safety inspection of the CNG cylinders that serve as the fuel tank.


While gouges from road debris can threaten the integrity of CNG cylinders, they can also corrode and crack when exposed to certain chemicals.


Because these cylinders are pressurized to 3,600 pounds per square inch, even damage that appears minimal to the untrained eye could pose a danger.

Cylinders should be inspected in a qualified service facility every three years (36 months) or every 36,000 miles, whichever comes first (**U.S. DOT National Highway Traffic Safety Administration FMVSS 304**).

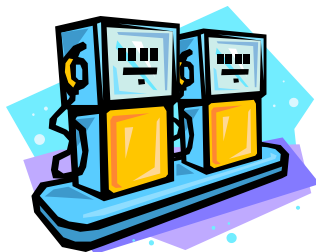
Liquid Propane Gas Cylinder

49CFR part 180.201 thru 180.215

 49 CFR § 173.301 (a)(1) requires, “Compressed gases [includes LP-gases] must be in metal cylinders and containers built in accordance with DOT and ICC specifications in effect at the time of manufacture, and re-qualified and marked as required by the specification and the regulation for requalification.”

 (a)(2) states, “.... Before each filling of a cylinder, the person filling the cylinder must visually inspect the outside of the cylinder. A cylinder that has a crack or leak, is bulged, has a defective valve or a leaking or defective pressure relief device, or bears evidence of physical abuse, fire or heat damage, or detrimental rusting or corrosion, may not be filled and offered for transportation. A cylinder may be repaired and re-qualified only as prescribed in subpart C of part 180 of this subchapter.”

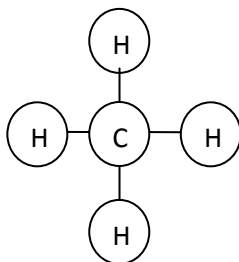
Types of Alternative Fuels



Compressed Natural Gas

Natural gas is a clean and environmentally friendly fuel. It can be safely used as long as its properties and characteristics are understood.

Natural gas is primarily composed of many hydrocarbons. Hydrocarbons in natural gas are methane, ethane, propane, and butane. Methane represents 80%-97% of natural gas components. Its chemical formula is CH₄. This means there is one carbon atom to every four hydrogen atoms. This is the reason why natural gas is such a clean burning fuel.



Compressed natural gas is simply natural gas under pressure. Why compress natural gas?

- 🌱 allow reduction in volume
- 🌱 increase density

When CNG is compressed, it remains in a gaseous state and can be stored in a cylinder mounted on a vehicle minimizing fuel tank space.

Pressure on natural gas refers to the force being exerted against the walls of the container. Pressure is affected by:

- 🌱 the number of molecules of gas inside
- 🌱 the temperature of the gas inside

There are various ways of expressing the measurement of pressure. Standard and metric units of measure are widely used in alternative fuel conversions including:

- 🌱 pounds per square inch (psi)

Natural gas is primarily measured by a pressure gauge that generally measures pressure over and above local atmospheric pressure. The pressure gauge is designed to ignore local pressure (whatever that may be) and register at 0 psi until connected to a high pressure outlet.

Compressed Natural Gas (cont)

Characteristics

Natural gas is odorless, colorless, tasteless, lighter than air (in a vapor state), and is nontoxic. However, it can displace oxygen and cause suffocation under certain circumstances. Odorants are added to allow leaks to be detected. These components contain sulfur, a very distinctive odor. The odor is not harmful to breath and it does not change the composition of the fuel. It is there simply to make vapors in potential harmful quantities noticeable.

Safety Advantages

Compressed Natural Gas has a safe flammability range. Under 5% oxygen mix and it is too lean. Over 15% and the mixture is too rich to burn while gasoline can ignite with as little as 1% gasoline/oxygen vapor mix.

Flash Point

The flashpoint for natural gas is the lowest temperature at which a fuel produces enough vapors to form an ignitable mixture with air at its surface. Methane (leading component in natural gas) and propane flash point is far below ambient temperature. Since the fuel is already fully vaporized, flash point has little relevance in compressed gases.

Fuel Type	Flash Point (Fahrenheit)	Flash Point (Celsius)
Methane	-306°F	-188°C
Gasoline	Approx. -45°F	-43°C
Hydrogen	<-423°F	<253°C

Each alternative fuel has a unique auto-ignition temperature which means the absolute lowest temperature a fuel will spontaneously ignite without an external source of ignition. Leaks can be dangerous because they pose a potential for fires. It is easy to see the benefit of using alternative fuels instead of liquid fossil fuels.

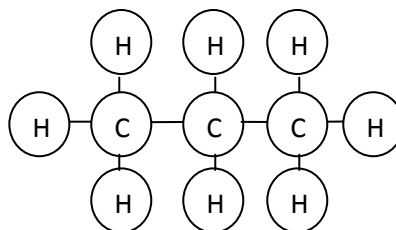
Fuel Type	Ignition Temperature (Fahrenheit)	Ignition Temperature (Celsius)
Methane	1202°F	650°C
Gasoline	540°- 800°F	230°C - 480°C
Diesel	482°F	250°C

Liquid Propane Gas

Propane, also known as liquefied petroleum gas (LPG) has been used worldwide as a vehicle fuel for decades. Propane is a liquefied petroleum gas that comes out of both oil and gas wells. Propane does not occur naturally and must be refined from raw crude oil or raw natural gas. Following refinement, propane is stored as a liquid under pressure until utilized, at which point it becomes a gas.

- 🌱 90% of propane used in U.S. comes from domestic sources
- 🌱 Less expensive than gasoline
- 🌱 Potentially lower toxic, carbon dioxide (CO₂), carbon monoxide (CO), and non-methane hydrocarbon (NMHC) emissions

The molecular makeup of propane consists of 3 Carbon molecules and 8 Hydrogen molecules.



Characteristics

Propane is a liquefied petroleum gas that comes out of both oil and gas wells. Propane does not occur naturally though. Raw crude oil or raw natural gas is refined to make different types of petroleum products, one of which is propane.

Following its refinement, propane is stored as a liquid under pressure until utilized, at which point it becomes a gas and is stored as a liquid. Considering propane has been used as a commercial motor fuel for more than 80 years and millions of miles, it is certainly time proven. Propane powered engines offer cleaner emissions along with 10 to 15 percent less carbon dioxide, 20 percent less carbon monoxide and 50 to 60 percent less hydrocarbons and nitric oxide. Emissions regulations will continue to evolve as new technology is developed.

Liquid Propane Gas (cont)

Propane Combustion Characteristics

Lower Limit of Flammability	2.15
Upper Limit of Flammability	9.60
Flash Point	-156°F
Ignition Temperature in Air	920-1020°F
Maximum Flame Temperature	3595°F
Octane Number	Over 100

Flash Point

The flash point is the minimum temperature at which propane will burn on its own after having been ignited. This number states that below -156°F, propane will stop burning on its own. In other words, if the outside air temperature is -155°F, propane will burn on its own. If the outside air temperature falls to -157°F, propane will no longer burn on its own. However, if a source of continuous ignition is present; propane will burn below - 156°F.

Propane Limits of Flammability

The lower and upper limits of flammability are the percentages of propane that must be present in a propane/air mixture. This means that between 2.15 and 9.6% of the total propane/air mixture must be propane in order for it to be combustible. If the mixture is 2% propane and 98% air, there will not be combustion. If the mixture 10% propane and 90% air, combustion will not occur. Any percentage of propane in a propane/air mixture between 2.15% and 9.6% will be sufficient for propane to burn. However, an improper air/gas mixture can produce Carbon Monoxide (CO) that is a deadly product of incomplete combustion.

Liquid Propane Gas (cont)

If you're not ready to purchase a new vehicle, propane motor vehicle conversions could be the answer for you. Propane vehicle conversion systems are available for various engine platforms for most light- and medium-duty fleet vehicle platforms. These systems include EPA-certified technology for regular to super-crew cabs, vans, police cruisers, taxis, shuttles and municipal fleets. Improved technology continues to develop additional conversion systems are compatible with many makes and models.

Many bi-fuel conversion systems do not void the vehicle factory warranty because the propane systems are placed over the existing gasoline systems and do not change the factory vehicle parts or assembly. There are also warranties available to cover the propane converted systems. Ask your warranty provider what will be covered.

The average cost of converting a light-duty vehicle from gasoline to propane can range from \$5,000 to \$7,000. Typically, lower operating and maintenance costs over the lifespan of the vehicles offset the upfront costs to convert fleet vehicles to propane. And Oklahoma has initiated incentives to offset the upfront cost of conversion.

To convert your existing vehicle(s) to run on propane, whether personal or an entire fleet, you'll need both EPA-certified conversion kits and qualified technicians to perform the conversions. Fortunately, there are several options available for vehicle conversions. Oklahoma technicians and companies certified to perform propane conversions can be found at www.altfuels.ok.gov.

Learn about propane vehicles, and find information about vehicle availability, conversions, emissions, maintenance, and safety at the following links:

<http://www.propane101.com>

<http://www.oklpgas.org/>

<http://www.okpropane.org/>

BEST PRACTICES & REGULATIONS Governing the Alternative Fuel Conversion Industry in Oklahoma




2013

Electric




The Energy Policy Act of 1992 declared electricity an alternative fuel. Electricity can be produced from water, natural gas, wind, coal, nuclear energy, or solar power.

The average price people in the U.S. pay for electricity is about 12 cents per kilowatt-hour. (Context: A typical U.S. household uses about 908 kWh a month of electricity.)iv




There are two types of electric motor vehicles

-  **All electric vehicles**-- EVs use a battery to store the electric energy that powers the motor. EV batteries are charged by plugging the vehicle into an electric power source. EVs are sometimes referred to as battery electric vehicles (BEVs).
-  **Plug-in hybrid electric vehicles** -- PHEVs are powered by an internal combustion engine that can run on conventional or alternative fuel and an electric motor that uses energy stored in a battery. The vehicle can be plugged into an electric power source to charge the battery. Some types of PHEVs are also called extended range electric vehicles (EREVs).
-  **Hybrid Electric Vehicles**--HEVs are powered by an internal combustion engine or other propulsion source that runs on conventional or alternative fuel and an electric motor that uses energy stored in a battery. The battery is charged through regenerative braking and by the internal combustion engine and is not plugged in to charge.

2013-2014 Models Available

- | | |
|--|--|
|  All Electric vehicles: | 11 models available from 11 manufacturers* |
|  Hybrid Electric vehicles | 40 models available from 17 manufacturers* |
|  Plug In Hybrid Electric vehicles | 4 models available from 3 manufacturers* |

Benefits of using electricity as a vehicle fuel

-  Reduce our nation's dependence on foreign oil
-  Reduce our vulnerability to price hikes due to volatile countries politics
-  Reduce the environmental impact of fossil fuel emissions.

Currently, there are ten (10) electric charging stations in Oklahoma City Metro area and Tulsa with more on the grid for installation.

*See flash drive for complete electric vehicle listing.

Liquid Natural Gas

Characteristics

- 🌿 Liquefied natural gas (LNG) a liquid form of natural gas. It is clear, colorless, odorless, non-corrosive, and non-toxic.
- 🌿 LNG is produced when natural gas is filtered through a filtering system and impurities are extracted. Byproducts of this process, propane and butane are isolated and sold separately. Water is also extracted. Otherwise, water would freeze during the liquefaction process and create blockages.

Methane is produced methane produced from the filtration and is cooled to minus 259 degrees Fahrenheit (through a process known as liquefaction).

During this process, the natural gas, which is primarily methane, is cooled below its boiling point, whereby certain concentrations of hydrocarbons, water, carbon dioxide, oxygen, and some sulfur compounds are either reduced or removed. LNG is also less than half the weight of water, so it will float if spilled on water.

- 🌿 LNG is produced both worldwide and domestically at a relatively low cost and is cleaner burning than diesel fuel. Since LNG has a higher storage density, it is a more viable alternative to diesel fuel than compressed natural gas for heavy-duty vehicle applications.
- 🌿 Is it flammable? When cold LNG comes in contact with warmer air, it creates a visible vapor cloud from condensed moisture in the air. As it continues to get warmer, the vapor cloud becomes lighter than air and rises. When the vapor mixes with air, it is only flammable when the mixture is between 5-15 percent natural gas. When the mixture is less than 5 percent natural gas it doesn't burn. When the mixture is more than 15 percent natural gas in air, there is not enough oxygen for it to burn.
- 🌿 Is it explosive? As a liquid, LNG is not explosive. LNG vapor will only explode in an enclosed space within the flammable range of 5-15 percent oxygen saturation.

LNG is liquefied natural gas, a clear, colorless, non-toxic liquid that forms when natural gas is cooled to -162°C (-260°F). This shrinks the volume of the gas 600 times, making it easier to store and ship to energy-hungry towns and cities overseas.

Alternative Fuel Vehicle Repair or Maintenance

1. **Do it yourself- Become certified as an Alternative Fuel Vehicle Technician**
2. **Hire it done-Look for an Oklahoma Certified Alternative Fuel Technician**

In the State of Oklahoma, it is unlawful to perform work, or offer to perform work (other than routine maintenance) on an alternative fuel vehicle (O.S. 74-130.20).

Wear Appropriate Work Clothing

- 🌿 Wear clothing suitable for the job
- 🌿 Wear proper eye protection at all times
- 🌿 Secure any loose articles (neck ties; scarf; exposed shirt tails, etc.)
- 🌿 Wear hat, cap or secure long hair to prevent entanglements
- 🌿 Remove all rings and other jewelry-prevents electric shock

Use Appropriate Tools and Equipment

- 🌿 Use the correct tool for the job, don't improvise
- 🌿 Follow manufacturers' recommendations for installation and removal of all co conversion kit components
- 🌿 Always have your NFPA 52 (CNG) NFPA 58(LPG) NEC (EV) available for referral
- 🌿 Never make pressure fittings adaptations from metric to US measurements
- 🌿 Use appropriate conversion kits for the correct vehicle make and model
- 🌿 Ensure all components used in the conversion of a motor vehicle meet NFPA 52(CNG), NFPA 58(LPG), NEC (EV) standards.

Shop Safety

- 🌿 Develop shop procedures to ensure everyone knows the correct procedures to ensure safety for everyone-mechanic & customers
- 🌿 Ensure garage shop is well-ventilated following NFPA 30A
- 🌿 Store flammable fluids/cleaners away from fire hazards
- 🌿 Always use proper de-fueling techniques when working on vehicles
- 🌿 Maintain correct classes of fire extinguishers
- 🌿 Check with local fire marshal for up-to-date city/county regulations










Alternative Fuels Equipment Technician

O.S. 74 130.13-Alternative fuels equipment technician means any person who installs modifies, repairs or renovates equipment used in the conversion of any engines to engines fueled by alternative fuels. This includes originally equipped manufactured engines dedicated to operate on an alternative fuel.

O.S. 74-130.20-After September 1, 1991, it shall be unlawful for any person to perform the work or offer, by advertisement or otherwise, to perform the work of an alternative fuels equipment technician until such person has qualified and is certified as an alternative fuels equipment technician.

O.S. 74-130.23-Any person convicted of violating any provision of the Alternative Fuels Program Technician Certification Act shall be guilty of a misdemeanor....Upon conviction thereof the person shall be punished by imprisonment in the county jail not to exceed one (1) year, or by a fine of not more than One Thousand Dollars (\$1,000), or by both such fine and imprisonment for each offense.

Certification Process:

-  Meet education/experience requirements. Visit www.altfuels.ok.gov.
-  Attend an approved state certification course. Visit www.altfuels.ok.gov.
-  Complete the state's application
-  Provide required experience/education documentation
-  Pay the test/application fee of \$50.00
-  Complete the state's written test and pass with a minimum score of 80%
-  Complete the state's skill assessment and pass with 100% accuracy
-  Provide a general liability insurance certificate of \$50,000 or greater
-  Pay the certification fee of \$50.00 to complete the certification process

Alternative Fuels Equipment Technician Recertification Process

All certificates expire each year on September 1st.

- 🌱 Complete the online renewal application
- 🌱 Pay the annual renewal fee of \$50.00 online –Visa or MasterCard
- 🌱 Upload the updated general liability insurance certificate of \$50,000 or greater
- 🌱 Late fees begin on non-renewals October 1st.

Technician Reporting Requirements:

- 🌱 Promptly notify the Alternative Fuel Program Administration of any change in such holder's address (O.S. 74-130.21)
- 🌱 Each vehicle converted shall be reported to the Administrator by the alternative fuels technician. (OAC 580:55-7-4d(1))
- 🌱 An alternative fuel technician shall notify the Administrator within three (3) business days of any instance where the driver and, or owner of a vehicle that was found unsafe refused to correct safety issues with the vehicle. (OAC 580:55-4(b))

State of Oklahoma Fuel System Inspector

The State of Oklahoma is serious about alternative fuels. However, public safety is priority. In an attempt to protect the alternative fuel industry from setbacks due to catastrophic accidents caused by negligence or unsafe practices, Oklahoma's Alternative Fuel Program works in tandem with business owners and industry professionals to develop a comprehensive technician certification process. Only skilled, experienced, and qualified technicians are certified to convert, repair, or maintain motor vehicle alternative fuel delivery systems or fill station compressors.

Certification as an Oklahoma Alternative Fuel technician qualifies an individual to also inspect the alternative fuel delivery system. This is due to the stringent certification requirements of Oklahoma's alternative fuel technician certification program that includes:

- Education
- Experience
- Knowledge assessment (written test)
- Practical assessment (skill test)

Oklahoma certifications require both a minimum standard of education and experience before the technician will be approved to sit for the written test. These standards were developed by the Alternative Fuels Technician Certification Committee comprised of industry leaders and educators to ensure only competent, experienced automotive mechanics are certified.

The written certification test consists of seventy-five multiple choice questions focusing on the fuel delivery system, tank characteristics, pressure relief devices (PRD), labeling, and safe defueling procedures.

Technicians seeking certification must also demonstrate competency of the basic skills determined to be encountered during vehicle inspection, maintenance, repair, and/or conversion process.

How can I become a certified CNG cylinder inspector outside of Oklahoma?

These organizations provide training for the CSA certification test*

- National Alternative Fuels Training Consortium
Contact: (304-293-7822)
- AFV International
Contact: (740-438-6876)
- Natural Gas Vehicle Institute
Contact: (800-510-6484)
- Advanced Transportation Technology
Contact: (562-938-3067)
- Energy Transfer Technology
Contact: (360-576-6300)
- • Phoenix Energy
Contact: (205-453-0241)
- www.collegeofthedesert.edu
Contact: (760.776.7390 office)
- CNG-NGV Solutions, Inc.
Contact: (205)-249-2811 / Fax: 713-699-8719

*This information was current as of the date of this publication. Please contact the educational facilities of your choice to determine if there is a course offered near you.

BEST PRACTICES & REGULATIONS 2013

Governing the Alternative Fuel Conversion Industry in Oklahoma

Compressed Natural Gas Filling Stations - October 2013

FUEL_TYPE	STATION_NAME	STREET_ADDRESS	CITY
CNG	7-Eleven	1919 S Eastern Ave	Moore
CNG	Ada Travel Stop West	201 Latta Rd	Ada
CNG	American Energy Independence	3302 Highway 99	Seminole
CNG	America's Fuel 4 U	7301 N Highway 81	Duncan
CNG	Apache Tulsa	5011 S Vandalia Ave	Tulsa
CNG	Blue Energy Fuels - City of Owasso	101 S Main St	Owasso
CNG	Blue Energy Fuels - Tulsa Gas Technologies	4809 S 101 East Ave	Tulsa
CNG	Chickasaw Indian Nation - Thackerville	22983 Brownsprings Rd	Thackerville
CNG	City of Norman	2351 Goddard Ave	Norman
CNG	City of Tulsa West Maintenance Yard - Public Access	420 W 23rd St	Tulsa
CNG	Clean Energy - Oklahoma State University	1323 W Lakeview Dr	Stillwater
CNG	Clean Energy - Will Rogers World Airport	4424 Amelia Earhart Dr	Oklahoma City
CNG	Conoco Outpost Convenience Store	17699 S Muskogee Ave	Tahlequah
CNG	Domino Express #1	1709 S Highway 183	Clinton
CNG	Domino Express #17	4415 W. Doolin	Blackwell
CNG	Domino Express #2	401 S. Main Street	Seiling
CNG	Domino Express #20	416 E. Veterans Memorial Hwy.	Blanchard
CNG	Fast Lane Travel Plaza	1501 N Airport Rd	Weatherford
CNG	High Plains BioEnergy	US 54 & CR 26	Optima
CNG	Hutchinson Oil Co	515 S Main St	Elk City
CNG	Hutch's #113	3710 Oklahoma Ave	Woodward
CNG	Hutch's C-Store #119	20207 E 1110 County Rd	Elk City
CNG	L&S Fuels LLC	120 Cedar Springs Rd	Fairview
CNG	Love's Country Store #19	102 SE 2nd St	Guymon
CNG	Love's Country Store #205	12225 N I-35 Service Rd	Oklahoma City
CNG	Love's Country Store #218	2530 E Noble Ave	Guthrie
CNG	Love's Country Store #245	3233 SW 89th St	Oklahoma City
CNG	Love's Country Store #260	5317 SE 44th St	Norman
CNG	Love's Country Store #263	24169 Highway 49	Lawton
CNG	Love's Country Store #274	102 W Coplin St	Okemah
CNG	Love's Country Store #452	1601 W Airline Rd	Pauls Valley
CNG	Love's Country Store #5	203 S Main	Kingfisher
CNG	Love's Country Store #8	619 N Main St	Altus
CNG	Love's Country Store #86	1326 S 4th St	Chickasha
CNG	Love's Travel Stop #203	800 S Morgan Rd	Oklahoma City
CNG	Love's Travel Stop #255	214 S. Hwy 100	Webber's Falls
CNG	Love's Travel Stop #266	3201 NW 12th	Ardmore
CNG	Love's Travel Stop #486	I-40, Choctaw Rd	Choctaw
CNG	NOPFA - Stilwell	Rural Route 6	Stilwell
CNG	NOPFA - Tahlequah	853 N Woodard Ave	Tahlequah
CNG	Oklahoma Natural Gas - Anadarko Service Center	1700 E Central	Anadarko
CNG	Oklahoma Natural Gas - Bartlesville Service Center	3601 NE Indiana St	Bartlesville

BEST PRACTICES & REGULATIONS

Governing the Alternative Fuel Conversion Industry in Oklahoma

2013

FUEL_TYPE	STATION_NAME	STREET_ADDRESS	CITY
CNG	Oklahoma Natural Gas - Broken Arrow Service Center	2421 S 1st Pl	Broken Arrow
CNG	Oklahoma Natural Gas - Claremore Service Center	1449 SW Country Club Rd	Claremore
CNG	Oklahoma Natural Gas - Clinton Service Center	500 W Commerce	Clinton
CNG	Oklahoma Natural Gas - CNG Maintenance Facility	1028 N Preston	Davenport
CNG	Oklahoma Natural Gas - Enid Service Center	421 S Garland Rd	Enid
CNG	Oklahoma Natural Gas - Guthrie Service Center	205 Sigma Pl	Guthrie
CNG	Oklahoma Natural Gas - Miami Service Center	11 S Treaty Rd	Miami
CNG	Oklahoma Natural Gas - Muskogee Service Center	2616 W Border St	Muskogee
CNG	Oklahoma Natural Gas - Mustang Service Center	680 E Highway 152	Mustang
CNG	Oklahoma Natural Gas - Norman Service Center	605 N Berry Rd	Norman
CNG	Oklahoma Natural Gas - Okmulgee Service Center	2018 S Wood Dr	Okmulgee
CNG	Oklahoma Natural Gas - Pauls Valley Service Center	1701 W Airline Rd	Pauls Valley
CNG	Oklahoma Natural Gas - Ponca City Service Center	2205 N Ash St	Ponca City
CNG	Oklahoma Natural Gas - Sapulpa Service Center	410 S Hawthorn	Sapulpa
CNG	Oklahoma Natural Gas - Shawnee Service Center	1444 N Kickapoo St	Shawnee
CNG	Oklahoma Natural Gas - Southern Oklahoma Development Association	1995 Veterans Blvd	Ardmore
CNG	Oklahoma Natural Gas - Southside Service Center	412 SE 59th St	Oklahoma City
CNG	Oklahoma Natural Gas - Stillwater Service Center	3424 N Perkins Rd	Stillwater
CNG	Oklahoma Natural Gas - Tulsa North Service Center	4821 E 66th St N	Tulsa
CNG	Oklahoma Natural Gas - Tulsa Service Center	5848 E 15th St	Tulsa
CNG	Oklahoma Natural Gas - Tulsa Service Center West	7002 S Union Ave	Tulsa
CNG	OnCue Express	W 33rd and Kelly Ave	Edmond
CNG	OnCue Express	NW 64rd & NW Expressway	Oklahoma City
CNG	OnCue Express #100 - C-Store	5900 W Reno	Oklahoma City
CNG	OnCue Express #101 - C-Store	1 NW 23rd St	Oklahoma City
CNG	OnCue Express #105 - C-Store	800 S Broadway	Edmond
CNG	OnCue Express #107 - C-Store	5500 SE 29th St	Del City
CNG	OnCue Express #112 - C-Store	W Memorial Rd & N Western Ave	Oklahoma City
CNG	OnCue Express #191	4920 N Western Ave	Oklahoma City
CNG	OnCue Express #314 - C-Store	1402 S Perkins Rd	Stillwater
CNG	OnCue Express #326 - C-Store	1005 E Owen K Garriot	Enid
CNG	OnCue Express #350	4419 Main St	Arkoma
CNG	OnCue Express #351	3401 S Radio Rd	El Reno
CNG	OnCue Express #352	1407 SE 4th St	Lindsay
CNG	OnCue Express #353	32744 State Highway 45	Waynoka
CNG	OnCue Express #354	2020 Eagle Rd	Weatherford
CNG	OnCue Express #355	1605 Highway 2 S	Wilburton
CNG	Phillips 66 Station	179 Turner Tpk	Stroud
CNG	Reno Partners - Conoco	3701 W Reno Ave	Oklahoma City
CNG	RS Fuel - Phillips 66	3330 W Memorial Rd	Oklahoma City
CNG	Tillman's Producers Co-op Fueling Station	507 S Main St	Frederick
CNG	Total Express	16401 N Rockwell Ave	Edmond

Track updated list of current CNG Fill Stations at : www.CNGnow.com

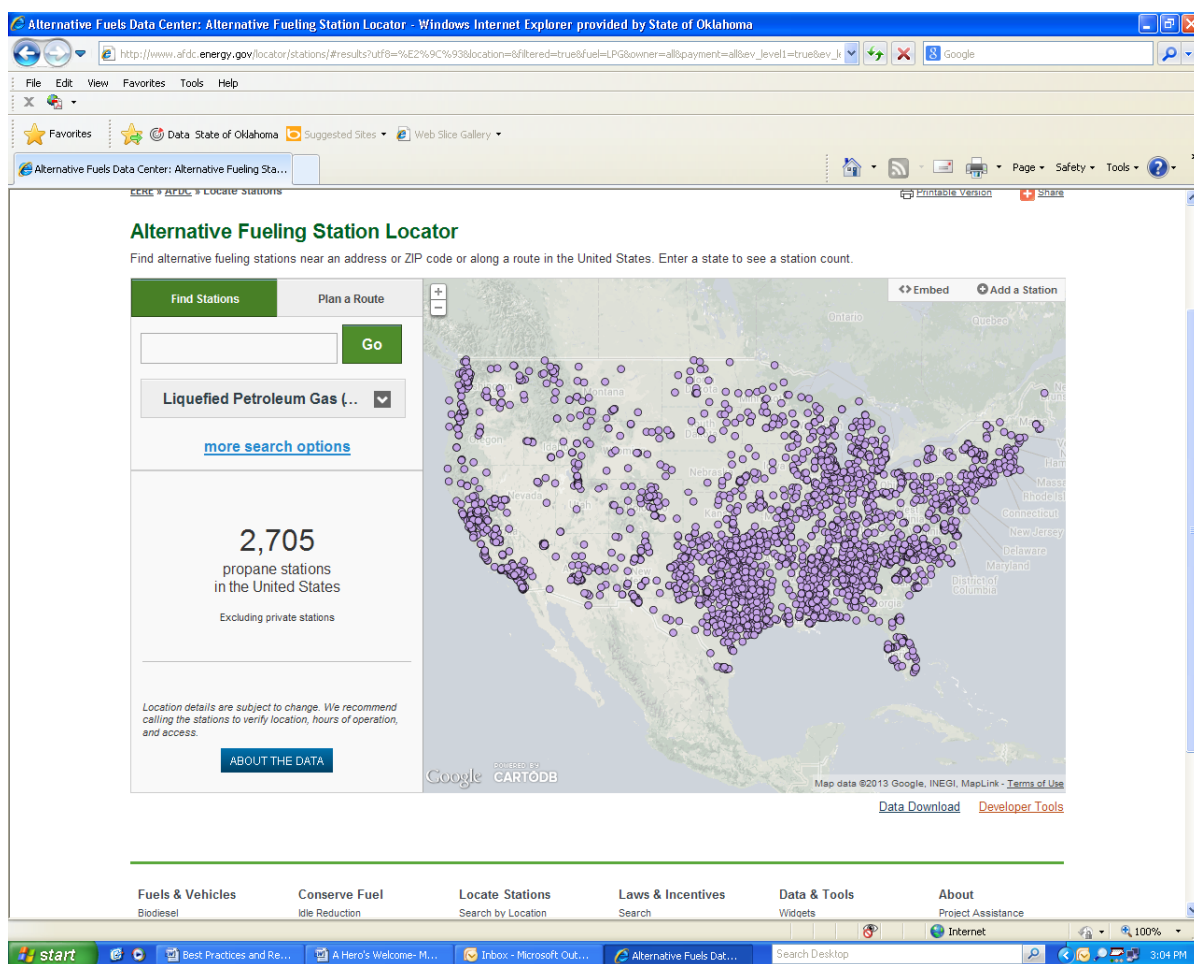
BEST PRACTICES & REGULATIONS 2013 Governing the Alternative Fuel Conversion Industry in Oklahoma

Liquid Propane Filling Stations as of 10-2013

Currently, there are 2,705 propane filling stations in the United States.

There are 148 propane fill stations in Oklahoma. That number increases substantially when you consider any place you can fill a propane bottle for your grill, you can fill your vehicle with propane.

(See your local propane dealer for additional fill locations available to the public).



Visit <http://www.afdc.energy.gov> for more information.

Incentives and Rebates



Alternative Fuel Vehicle (AFV) Tax Credit

For tax years beginning before January 1, 2020, a one-time income tax credit is available for 50% of the incremental cost of purchasing a new original equipment manufacturer AFV, excluding electric vehicles, or converting a vehicle to operate on an alternative fuel. The state also provides a tax credit for 10% of the total vehicle cost, up to \$1,500, if the incremental cost of a new AFV cannot be determined or when an AFV is resold, as long as a tax credit has not been previously taken on the vehicle.

Equipment used for conversions must be new; must not have been previously used to modify or retrofit any vehicle; must meet applicable federal and state safety standards; and must be installed by a state certified alternative fuels equipment technician.

The alternative fuels eligible for the credit are compressed natural gas, liquefied natural gas, hydrogen, and liquefied petroleum gas (propane). Tax credits may be carried forward for up to five years. (Reference [House Bill 1718, 2013](#); [House Bill 2005, 2013](#); and [Oklahoma Statutes 68-2357.22](#)) <http://www.oklegislature.gov/>



Alternative Fueling Infrastructure Tax Credit

For tax years beginning before January 1, 2020, a tax credit is available for up to 75% of the cost of installing commercial alternative fueling infrastructure. Eligible alternative fuels include compressed natural gas (CNG), liquefied natural gas, liquefied petroleum gas (propane), hydrogen, and electricity. The infrastructure must be new and must not have been previously installed or used to fuel alternative fuel vehicles. A tax credit is also available for up to 50% of the cost of installing a residential CNG fueling system, for up to \$2,500. The tax credit may be carried forward for up to five years. (Reference [House Bill 2005, 2013](#), and [Oklahoma Statutes 68-2357.22](#)) <http://www.oklegislature.gov/>

Incentives and Rebates (continued)



All-Electric Vehicle (EV) Manufacturing Tax Credit

Vehicle manufacturers are eligible for a tax credit for EVs, including low- and medium-speed EVs, manufactured on or after July 1, 2010. EVs that can legally be operated on interstate highways and turnpikes in the state are eligible for a \$2,000 credit per vehicle. Four-wheeled medium-speed EVs are eligible for a \$1,000 credit per vehicle. Four-wheeled low-speed EVs are eligible for a \$500 credit per vehicle. Tax credits may be carried forward for up to five years. This incentive is available through December 31, 2013.

(Reference [House Bill](#) 2308, 2013, and [Oklahoma Statutes](#) 68-2357.402)
<http://www.oklegislature.gov/>



Biodiesel Production Tax Credit

A biodiesel facility may receive a credit of \$0.075 per gallon of biodiesel for up to 36 consecutive months for new fuel production. To be eligible for this credit, the facility must not have received credits before January 1, 2013, must have expanded its capacity by at least two million gallons after January 1, 2013, or must have achieved annual production of more than twelve times the monthly average of the three highest production months in the previous year. The credit will be capped at ten million gallons of biodiesel per year per biodiesel facility. If the credit allowed exceeds the amount of income taxes due, the excess amount may be carried forward as a credit against subsequent income tax liability for up to five years. Additional restrictions may apply. This incentive is available through December 31, 2013. (Reference House Bill 2308, 2013, and Oklahoma Statutes 68-2357.67)

<http://www.oklegislature.gov/>



Ethanol Sales Tax Exemption

The portion of ethanol (ethyl alcohol) sold and blended with motor fuel is exempt from sales tax. (Reference Oklahoma Statutes 68-500.10-1 and 68-1359) <http://www.oklegislature.gov/>

Incentives and Rebates (continued)



Ethanol Production Tax Credit

An ethanol facility is eligible for a credit of \$0.075 per gallon of ethanol, before denaturing, for new production for up to 36 consecutive months. To be eligible for this credit, the facility must not have received credits before January 1, 2013, must have expanded its capacity by at least two million gallons after January 1, 2013, or must have achieved annual production of more than twelve times the monthly average of the three highest production months in the previous year. The credit will be capped at ten million gallons of ethanol per year per ethanol facility and 30 million gallons of ethanol per year at all ethanol facilities in the state. Additional restrictions may apply. This incentive is available through December 31, 2013. (Reference House Bill 2308, 2013, and Oklahoma Statutes 68-2357.66) <http://www.oklegislature.gov/>



Ethanol Fuel Retailer Tax Credit

Retailers that sell fuel blends of gasoline containing up to 15% ethanol by volume (E15) are eligible for a motor fuel tax credit of \$0.016 per gallon of ethanol blended into gasoline and sold in Oklahoma, as long as the retailer provides a price reduction to the purchaser of the ethanol fuel in the same amount. This incentive is effective unless the federal government mandates the use of reformulated fuel in an area within Oklahoma that is in nonattainment with the National Ambient Air Quality Standards. (Reference Oklahoma Statutes 68-500.10-1) <http://www.oklegislature.gov/>



Clean Diesel Fleet Vehicle Grants

The Oklahoma Department of Environmental Quality (DEQ) Air Quality Division provides grants to help public and private fleets retrofit or replace diesel vehicles to reduce diesel emissions and improve fuel efficiency. Eligible projects include installation of idle reduction or aerodynamic technology and diesel vehicle replacement. Funding is not available for this incentive in 2013 (verified August 2013). For more information, see the DEQ Clean Diesel Grant Program website. <http://www.deq.state.ok.us/agdnew/cleandiesel/index.html>

Incentives and Rebates (continued)



Biofuels Tax Exemption

Biodiesel or other biofuels produced by an individual from feedstock grown on the individual's property and used in the individual's own vehicle are exempt from the state motor fuel excise tax. (Reference Oklahoma Statutes 68-500.4 and 68-500.10) <http://www.oklegislature.gov/>



Idle Reduction Weight Exemption

Any vehicle equipped with idle reduction technology may exceed the state's gross vehicle weight limits by up to 400 pounds to compensate for the additional weight of the idle reduction technology. The additional weight may not exceed the actual certified weight of the idle reduction unit. (Reference Oklahoma Statutes 47-14-109) <http://www.oklegislature.gov/>



Biofuels Construction and Permitting Assistance

The Oklahoma Department of Environmental Quality (DEQ) provides technical and regulatory assistance to small businesses that need permits to construct and operate biodiesel and ethanol production facilities. For more information, see the DEQ Small Business Assistance Program website. <http://www.deq.state.ok.us/CSDnew/sbap.htm>



CNG Vehicle Conversion Loans - Allegiance Credit Union

The Allegiance Credit Union offers low-cost loans to customers for CNG vehicle conversions. For more information, see the Allegiance Credit Union CNG Conversion Loans website. <http://www.allegiancecu.org/loans/auto-loans/cng-conversion-loans.html>

Incentives and Rebates (continued)

CNG Vehicle Loans - Communication Federal Credit Union (CFCU)

CFCU offers loans to individuals and businesses that purchase new or converted compressed natural gas (CNG) vehicles. Conversion systems must be certified by the U.S. Environmental Protection Agency and installed by an insured and state-licensed facility. New vehicle loans are available at amounts up to the manufacturer's suggested retail price plus the cost of the conversion. Pre-owned or CFCU member-owned vehicles with a CNG fuel system or conversion installation are eligible for loans at up to 115% of the National Automobile Dealers Association suggested retail value. All financing is at CFCU standard auto loan rates. CFCU also offers loans for the cost of home fueling appliances. For more information, see the CFCU CNG Vehicle and Conversion Loans website.

<http://content.comfedcu.org/cng-conversion-loans>

(NGV) and Infrastructure Rebate - Oklahoma Natural Gas

Oklahoma Natural Gas (ONG) offers rebates for NGVs purchased or converted on or after June 18, 2012, in the amount of \$1,000 for a dedicated NGV and \$500 for a dual-fuel vehicle. ONG also offers \$1,000 toward the cost of a compressed natural gas home fueling station or appliance. Rebates are available on a first come, first served basis and are limited to three rebates per applicant, per calendar year. For more information, including rebate fund availability, see the ONG CNG Rebate Program website.

<http://www.oklahomanaturalgas.com/SaveEnergyAndMoney/NaturalGasVehicles/CNGRebateProgram.aspx>

Information Links

Oklahoma Tax Credits:

<http://www.afdc.energy.gov/laws/laws/OK>

Alt Fuel Conversion Regulations:

http://www.afdc.energy.gov/vehicles/conversions_regulations.html

Natural Gas Vehicles for America

<http://www.ngvamerica.org>

U.S. Environmental Protection Agency

<http://www.epa.gov/oms/consumer/fuels/altfuels/altfuels.htm>

Promoting Propane Safety

<http://www.propane101.com>

Alternative Fuels Data Center

<http://www.afdc.energy.gov/fuels>

Clean Vehicle Education Foundation

<http://www.cleanvehicle.org/technology>

U.S. Department of Energy

<http://www.afdc.energy.gov/tools>

U.S. Department of Energy

<http://www.afdc.energy.gov/calc>

NOTICE: If any of the links above become broken, please contact **alt_fuels@omes.ok.gov**.

BEST PRACTICES & REGULATIONS **2013**

Governing the Alternative Fuel Conversion Industry in Oklahoma

Summary

Alternative fuels are an abundant, reliable, and affordable source of motor vehicle fuel within the State of Oklahoma. Each alternative fuel has its own characteristics requiring a certain measure of knowledge and precautions to ensure safe use.

Fuel cost savings and reducing carbon footprints are important to Oklahomans. No less important is the safety of Oklahoma's citizens.

The alternative fuel conversion industry is made up of many components. Suppliers, companies, and technicians working together with government, whether on a state, county and city level, ensure the safety of the public. Alternative fuel proponents understand that self-policing helps to minimize regulations and promote an open market. It is important to understand each component, its purpose and how it fits together to create the alternative fuel industry as a whole. It is the collaborative effort of all these parts that creates its own success.

This document is not intended to be all inclusive. The alternative fuel industry has many reliable resources for information to assist individuals and businesses in further understanding the possibilities in utilizing safe, affordable fuels that will enable our country to become independent of foreign oil while supporting Oklahoma's economy. These resources are listed throughout this document. All the information included has been verified to the best of our ability as of the date of publication. However, if you are considering an alternative fuel conversion, it is highly recommended to verify using the most current resources available.

If you have any questions that have not been addressed in this document, please contact the State of Oklahoma's Alternative Fuel Program website at www.altfuels.ok.gov or contact the program administrator at alt_fuels@omes.ok.gov.

Best regards,






Peggy A. Beaty, CFE, COI
Program Administrator
State of Oklahoma
Alternative Fuels Program

Flash Drive Contents



CNG Fill Stations

-  CNG Refueling Stations (PDF & XLSX)











Compressed Natural Gas

-  Driving on Natural Gas
-  Guidelines for CNG Garages
-  USDOT FMVSS 303
-  USDOT FMVSS 304
-  CNG Fuel System and Cylinder Maintenance

Electric Power


-  2013-2014 Electric/Hybrid Vehicle Models Currently Available
-  US DOE Considerations of Electric Fuel

EPA Information






-  40 CFR Parts 85 & 86 2011 Final Rule
-  Alternative Fuel Conversions for Cars and Light Trucks-US EPA
-  Devices and Additives to Improve Fuel Economy
-  EPA 420-F-12-058
-  EPA Certified Conversion kits
-  EPA Intermediate Age Notification List
-  EPA Outside Useful Life Conversion Kits
-  Green Vehicle Guide (PDF & DOCX)
-  Guide to Completing Alt Fuel Notification Package
-  Webinar for Conversion Manufacturers

Flash Drive Contents Continued









Liquid Natural Gas

-  No content on flash drive









Oklahoma Statutes, Rules and Standards

-  Compressed Natural Gas Technician Skill Standards
-  Compressor Operator-Level One Skill Standards
-  LPGas Technician Skill Standards
-  O.S. 74-130-Alternative Fuel Act
-  O.A.C. 580:55 Alternative Fuel

Propane Auto Gas

-  Choose The Fuel
-  LPGas Repair and Maintenance Facility Requirements
-  Propane Fill Stations as of October 2013
-  Propane Auto Gas for Fleet Vehicles
-  Propane Auto Gas Power Point Presentation by Propane Council
-  Propane Auto Gas Tool Kits
-  Switch to a Domestic Fuel-LPGas
-  Take Your Investment Further

Rebates and Forms

-  Alternative Fuels Technician Certification Application Form and Procedures
-  Alternative Fuels Company Certification Application Form and Procedures
-  Alternative Fuels Conversion Report Form
-  Alternative Fuels Change of Address/Employment Form
-  Alternative Fuels Technician Certification Renewal Application
-  Alternative Fuels Company Certification Renewal Application
-  Misconduct Reporting Form
-  Oklahoma Tax Credit Form 511 CR-11

Contact Phone Numbers

Oklahoma Alternative Fuels Technician Certification.....	405-521-2206
Oklahoma Corporation Commission.....	405-521-4683
Oklahoma Liquefied Petroleum Gas Board.....	405-521-2458
Oklahoma State Fire Marshall.....	405-522-5005
Oklahoma Tax Commission-Tax Credits.....	405-521-3160
Clean Cities-Central Oklahoma.....	405-234-2264
Clean Cities-Tulsa Area.....	918-584-7526

References

-
- ⁱ U.S. Department of Energy- Alternative Fuels Data Center
 - ⁱⁱ Bi-Partisan Policy Center
 - ⁱⁱⁱ U.S. Energy Information Administration
 - ^{iv} U.S. Energy Information Administration