Natural Gas

A clean choice for your vehicle

Most natural gas is extracted from gas wells or produced in conjunction with crude oil. Renewable natural gas can also be produced from decaying organic materials, such as waste from plants, landfills, wastewater, and livestock. It is composed of only 1 carbon atom and 4 hydrogen atoms, the lowest carbon density of all fossil based fuel. As transportation fuel, natural gas is compressed (CNG) or liquefied (LNG). Worldwide there are nearly 15.2 million NG vehicles on the road today.

The benefits of using CNG include:

- **Emission Reductions**- CNG vehicles meet stringent 2010 federal emission standards without having diesel particulate filters which add weight and maintenance expense.
- **Reduced Fuel Costs**- CNG typically tracks less than gasoline and diesel and is currently $0.50-$0.70 less per gasoline gallon equivalent.
- **Increased Safety**- CNG is considered safer than gasoline and diesel.
- **Energy Security**– According to the U.S. Energy Information Agency over 24 trillion cubic feet (Tcf) of dry natural gas was produced in the United States in 2012. This represents over 90 percent of total domestic consumption whereas the US has less than 2% of proven global oil resources and imported 27% of the oil used in 2014.

THIS BUS IS RUNNING ON CLEAN NATURAL GAS.

Emissions

For heavy duty applications, the inherent properties of CNG made it easier for vehicle manufactures to meet the latest federal emission standards when they took effect in 2010. Overall CO_2 emissions are dependent on the source of the natural gas, but can be extremely low especially for renewable natural gas sourced from landfills.

Vehicles

Dedicated natural gas vehicles (NGV) are designed to run only on CNG, whereas bi-fuel vehicles have two separate fueling systems that enable the vehicle to switch to gasoline if CNG is not available. In general, dedicated NGVs demonstrate better performance and have lower emissions than bi-fuel vehicles because their engines are optimized on a particular fuel.

NGV offerings from original equipment manufacturers are expanding, and aftermarket conversions are also available for many light and heavy duty vehicles.

These upfits are certified by the U.S. EPA. The NC Clean Energy Technology Center also maintains a list of CNG technology providers that serve the NC market in its Buy Book.

Fueling

CNG vehicles commonly fuel at pressures of 3,600 pounds per square inch (psi) and store fuel in one or more cylinders located under the body or in the trunk of the vehicle. With LNG, natural gas is stored cryogenically in a liquid state which allows a greater amount of fuel to be stored on board the vehicle than with CNG. There is currently one LNG station in Charlotte. However, CNG filling stations also offer fast fill service similar to gasoline and diesel stations, and can be found in cities across the state. Several stations offer credit card purchases while others may require an account to be set up before refueling. CNG cost less than petroleum fuel, and there are opportunities to lock into long term fuel contracts for price stability.

Learn About:

CNG vehicles
http://www.afdc.energy.gov/vehicles/natural_gas.html
NC CNG filling stations:
http://www.afdc.energy.gov/fuels/natural_gas_locations.html

Tax Incentives

Various national and state programs are available to provide financial incentives for the use of natural gas. Visit the websites below to find out how using natural gas can provide you with financial benefits.

Tax incentive details and forms are available at:
http://www.ngvamerica.org/government-policy/f
ederal-incentives/federal-tax-incentives/
http://www.afdc.energy.gov/fuels/laws/NG
http://www.irs.gov/pub/irs-drop/n-11-10.pdf,
http://www.afdc.energy.gov/laws/319

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