

Natural Gas Vehicle FAQ

Q. What is CNG?

A. CNG stands for Compressed Natural Gas. CNG is made by compressing natural gas composed of methane, to less than 1% of the volume it occupies at standard atmospheric pressure.

Q. How safe is CNG?

- A. CNG is less likely to ignite on hot surfaces, since it has a high auto-ignition temperature of 1004°F (540 °C) and a narrow range (5%-15%) of flammability when mixed with air compared to other fossil fuels. CNG (natural gas) is much safer than other fuels in the event of a leak because natural gas is lighter than air, and disperses quickly when released into the atmosphere. A heavier-than-air gas, such as propane or gasoline fumes, would settle and accumulate near the ground. The fuel storage tanks on NGV's are much thicker than on gasoline or diesel vehicles. NGVs are as safe or safer than those powered by other fuels. A AGA survey of more than 8,000 vehicles found that with more than 278 million miles traveled, NGV injury rates per vehicle mile traveled were **34% lower** than the rate for gasoline vehicles. There were no fatalities reported--even though these vehicles were involved in over 1,800 collisions.

Q. Besides less fuel cost what are the advantages of fueling a vehicle with CNG?

A. The main reasons:

- Due to the absence of any lead or benzene content in CNG, the lead fouling of spark plugs is eliminated.
- CNG-powered vehicles have lower maintenance costs when compared with other hydrocarbon fuel-powered vehicles.
- CNG fuel systems are sealed, which prevents any spill or evaporation losses.
- Increased life of lubricating oils, as CNG does not contaminate and dilute the crankcase oil.
- Pipes and mufflers last longer in natural gas vehicles because the CNG does not react to the metals.
- Intervals between tune-ups for natural gas vehicles could be extended by up to 50,000 miles.
- Intervals between Oil changes could be extended by up to 25,000 miles.
- Natural gas gives roughly the same mileage as gasoline.
- Because CNG is already in a gaseous state, NGVs have superior starting and drivability, even under severe hot and cold weather conditions.
- Natural gas reduces our dependence on foreign-oil imports. More than 90 percent of the natural gas Americans use comes from the lower 48 states. The rest comes from Canada.
- Natural gas contributes to a cleaner environment compared to gasoline or diesel. It is the cleanest-burning fossil fuel available. It helps improve air and water quality, especially when used in place of more polluting energy sources. When natural gas burns, virtually no harmful pollutants are produced.

- The U.S. Energy Administration has stated – “At the rate of U.S. natural gas consumption in 2011 of about 24 Tcf per year, 2,203 Tcf of natural gas is enough to last about 92 years.”

Q. How do I refuel my personal NGV vehicle?

A. You can refuel your natural gas vehicle with compressed natural gas at a public fueling station. If natural gas is available at your home, you can also install a natural gas home refueling appliance in your garage or outdoors.

Q. How long does it take to refuel a personal vehicle?

A. Refueling at a public natural gas station takes about the same amount of time as filling a traditional vehicle at a regular gas station. The **Phill** home fueling appliance has a compressor and fueling equipment that usually involve a time-fill over an extended period of six to eight hours for a car. For a van or pickup truck with a larger CNG storage tank the Phill system could take 8 to 12 hours or more. The best solution to refuel a van or pickup truck would be the next size BRC FuelMaker unit **#FMQ-2**

Q. Do I need to notify my natural gas utility if I purchase a natural gas vehicle or install a home refueling appliance?

A. No. However, if you do not currently have natural gas in your home, you should call your local utility to determine if natural gas is available at your residence before purchasing an NGV or installing a home refueling appliance. Both the pressure and water content of your natural gas should be tested by the technician while visiting your home to complete a site survey for a refueling appliance.

Q. Can I buy commercial NGVs today?

A. Yes. Original equipment manufacturers (OEMs) offer a variety of passenger cars, light-duty trucks, transit buses and other vehicles that come with full manufacturer's warranty.

Q. If I choose natural gas, what are my vehicle fueling options?

A. Fueling options include purchasing natural gas from a public CNG fueling station or installing a private fueling station on-site. Start by finding out if a public fueling is available in your area.

Q. Are NGV economics favorable?

A. On average, natural gas is about 1/3 to 1/2 of the cost of traditional gasoline at the pump.