Natural Gas
as a
Transportation Fuel

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Natural gas (NG); colorless, shapeless, and odorless mixture of hydrocarbons—predominantly methane (CH₄)

NG from wells or crude oil production. 1/4 of the US energy -1% goes toward transportation. US has a vast NG distribution delivery to 48 states.

America has 2,074 Tcf (trillion cubic feet) of NG stored for 100-200 year supply.

NG an excellent alternative source for transportation fuel compared to gasoline. Lighter than air. Disperses quickly into the atmosphere upon release. Gasoline spills out and spread fumes on the ground.

NG is safer than Gasoline as its ignition temp= 1080° F vs. Gasoline = 495° F.

Term CNG=Compressed Natural Gas; NG compressed through mechanical means into containers @ 3600 PSI.

Term LNG=Liquefied Natural Gas; NG super cooled to -260° F as a liquid state into insulated containers.

Term GGEs= gas-gallon-equivalents of energy /volume NG (125 Cubic Feet)

Term DGEs= diesel-gallon-equivalents of energy /volume NG (139 Cubic Feet)

Source: NaturalGas.org / CleanNG
History, Trends & Benefits of NG as Transportation Fuel

- NG was first used as a transportation fuel for Natural Gas Vehicles (NGVs) in Italy in the 1930s after World War II.
- 14.8 million NGV vehicles on global roads today. Most are from Iran, Pakistan and Argentina.
- The U.S. has 120,000+ NGVs – with growth rate over 4% per year.
- 97% of our NG is produced here in North America.
- One US NG gallon = One less gallon of foreign oil the US spends billions $$ every week.
- Every 1% increase in natural gas production can create 35,000 jobs.
- For every new NG fueling station for NGVs creates 45 new jobs within a 5-mile radius.

Source: CleanNG
Florida has 30+ CNG fueling stations with a majority for private use.
- As public CNG stations become more readily available Florida everyone will move to NGVs.
- Fleets with CNG fueling have significantly reduction in fuel operating cost over petroleum. The more miles their fleet drives, the greater the savings.
- Maintenance savings with NGVs due to the characteristics that NG burns cleaner than diesel.
- CNG trend has OEM market production NGVs and conversions. 50+ manufacturers producing 150 models of light, medium and heavy-duty NGVs.
- Fleet central fueling facilities are more applicable to slow fill stations. NGVs parked over night making them ideal, and less costly to install, such as waste and refuse fleets.
- Servicing of NGVs can be done through fleet mechanics certifications to support both vehicles & infrastructure since NGVs use similar engines and body designs.
• CNG is much cheaper than gasoline or diesel, as much as 50-80%.

• NGV Private and Fleet owners will experience the greatest savings.

• Waste Management Refuse will over the next 5 years move to NGVs at a cost of $30,000 extra per truck. For this conversion their savings per vehicle, per year will be $27,000 in fuel costs compared to diesel.

• UPS announced putting 100,000 NGV dedicated trucks in service in the coming years nationwide

• NGVs emit 25% less CO2 than traditional gasoline or diesel engines.

• NGVs also make it much easier to meet stringent EPA standards.

• Fueling an NGV at a public station is easy and just as fast to fill-up.

• Plug, Fill and Go with NGV!
CNG in Florida

Trillium CNG & Dillon Transport – Tampa Port Public Station

Nopetro & Leon County Schools – Tallahassee Public Station
NGV Storage Cylinders
NGV Cylinders Transport
CNG Station Components
Fueling Options

Fast-Fill Dispenser

Time-Fill Posts
Time Fill CNG refueling of refuse trucks in Livermore, CA.
Questions & Answers?