

Light-Duty Natural Gas Vehicle Seminar

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About Culver City

- #1 Best Green Fleet in North America 2009
- #3 Best Fleet in North America 2012 (North American Top 12 fleet since 2005 from 38,000 municipal fleets)
- Winner, South Coast Air Quality Management District Clean Air & Blue Sky Awards 2009 & 2010
- Winner, California Clean Cities, Clean Air Award 2009
- Winner, Environmental Fleet Leadership Award 2008, 2009, 2010
- Certified as a “Green Model Shop” with the State of California (since 2007)
- Early adopter in alternative fuels since 1996
- 85% of H/D & M/D Fleet operates on natural gas
- 20% Of our Light-Duty operates on Natural Gas



We've Been Using CNG Since 1997



1. Gather all the information at your disposal
 2. Meet and speak to the experts
 3. Create & develop a Plan
 4. Develop synergies (partner with OEM's, fuel supplier, drivers, management, all stake holders)
 5. Review the available/viable technologies
 6. Select a fuel source (CNG/LNG) with the greatest advantage
 7. Cost effective for your operation – Do the math
 8. \$\$ Grant money available to help you \$\$
 9. Know and calculate your costs & emissions data beforehand to realize the greatest overall economic benefit
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Some of our Vehicles



Some of our Vehicles



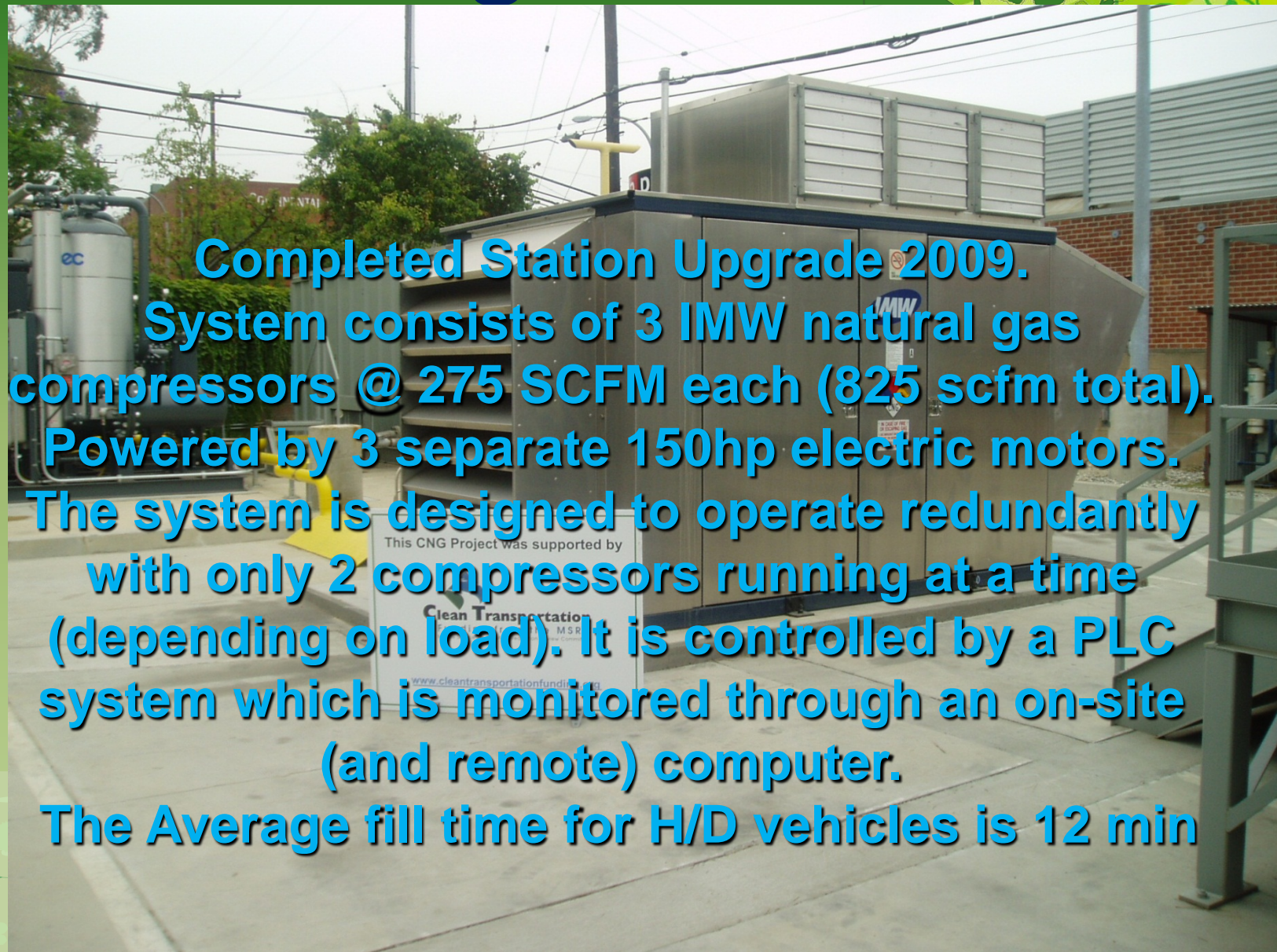
Some of Our Vehicles



More CNG Vehicles



CNG Fueling Station



Completed Station Upgrade 2009.

System consists of 3 IMW natural gas compressors @ 275 SCFM each (825 scfm total).

Powered by 3 separate 150hp electric motors.

The system is designed to operate redundantly with only 2 compressors running at a time

(depending on load). It is controlled by a PLC system which is monitored through an on-site (and remote) computer.

The Average fill time for H/D vehicles is 12 min

Steps To Consider

1. Very Important to be a Collaborative thinker
2. Listen “openly” to the advice & ideas of the experts and other users
3. Once you commit to an Alt-Fuel for your fleet, do it at 100%
4. We don't recommend taking a “cafeteria” approach to alternative fuels
 - Becomes very difficult to manage
 - Not cost effective
 - Infrastructure costs will be increased
 - Limits your resources
 - Difficult to train operators and technicians
5. Some alternative fuels can force into a “hostage situation” (for delivery and pricing)
This must be avoided
6. Speak with your utilities – added value

****IMPORTANT****

Develop Vehicle Specifications Around the Technology. Don't Fit The Technology to Existing Equipment!!



Benefits To Using Natural Gas

#1 **** FUEL COSTS ****

#2 Domestic

#3 Plentiful, Safe, Viable, Cost Effective

#4 Emissions Reductions!!

PM, NO_x, CO₂ and Green House Gas
(your Carbon Footprint) Reductions



To date, we have removed over 90,000 tons of NO_x from the air, over 35,000 tons of PM and have reduced our GHGE by 2,520 m/tons of CO₂ and over 65 tons of N₂O





Current Fuel Costs

\$0.72 Gal

\$4.00
\$3.50
\$3.00
\$2.50
\$2.00
\$1.50
\$1.00
\$0.50
\$0.00



Unique Installations



A decorative graphic in the top-left corner featuring green and yellow floral motifs, including leaves, vines, and small flowers, set against a background of radiating yellow and green lines.

THANK YOU!!

**“Innovation Doesn’t Really Matter, Unless
it Does Something That Does (Matter)”**



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