Linde Overview
Linde is a leading global industrial and medical gases, cryogenic liquids and engineering company with approximately 12 billion Euros (~$16 billion USD) in annual revenues. Linde owns, operates and maintains over 1,000 cryogenic and non-cryogenic plants around the world, and our logistics teams schedule and make several million deliveries of cryogenic gases annually.

Linde Capabilities in Natural Gas Fueling
Linde has activities across the natural gas supply chain relevant to the production and use of natural gas fuels, as well as supportive to the monetization of natural gas in general. These are schematically outlined and further described below.

- **LNG Production**: Linde operates natural gas liquefiers in Australia, Norway, Finland and the UK ranging from 10,000 up to 100,000 gallons/day. The company’s first plant start up in the U.S. is scheduled in 2009.

- **LNG Plant Supply**: Linde’s engineering division has designed many LNG plants including one of the largest in the world in Hammerfest, Norway, in the Arctic Circle, which produces 4.3 million tpy of LNG.

- **Floating LNG Plants**: Linde announced a joint venture with Single Buoy Mooring in 2007 to develop floating LNG plants to liquefy natural gas in offshore fields with reserves in excess of 1 TCF.

- **CNG**: Linde has designed and built 60 compressed natural gas fueling stations in Europe. In Sweden, Linde owns 11 fueling stations that supply compressed gas for vehicles.
Benefits of working with Linde

Customers benefit from the same industrial gas company capabilities valued by customers of other cryogenic gases, perhaps more so considering the safety concerns and rapid advancements in natural gas fueling technology. Linde has more than one hundred years of experience in project development, plant operations, distribution and logistics management assets and tools. Our focus on safety is unsurpassed as are our technological capabilities regarding compression, cryogenic engineering, gas cleanup, process modeling and evaluation, and materials characterization and development. The major areas of benefit for our partners include:

Safety
Natural gas poses hazards that require specialized design and engineering expertise, and HAZOP and emergency response planning skills. At Linde, safety is a top priority. For example, we provide major hazard reviews, process safety management and loss prevention programs, emergency response, and personnel safety protection systems. The results have led to world class performance and numerous safety awards. Linde is a Responsible Care® company.

Plant Reliability and Customer Service
Linde can apply years of plant operating experience to specific customer situations. Natural gas infrastructure requires significant operator know-how as a rule for reliable plant operation, consistent product output and quality, and peak performance. Linde can also provide remote plant operations capabilities, service support and coordination of deliveries and tank-related services, and predictive and preventive maintenance. Linde has had ISO9002 certification since 1994.

System Reliability for Product Availability
Linde can apply world-class distribution management skills, programs and capabilities to manage natural gas vehicle fuel supply networks. We provide optimized programs for product supply, including forecasting, scheduling and dispatch. We have a top rating in the industry for on-time delivery, enabled by our own proprietary software to efficiently deliver product when and where it is needed 24 hours a day, 365 days per year. Linde has the expertise to manage multiple plants that can form a natural gas fuel supply network, which provides back-up supply security during plant downtime.

Cost Savings
Linde can reduce capital costs by careful equipment selection and design and engineering for optimum integration of sub-systems. Evaluation of site-specific needs and local product requirements will enable optimized systems at the lowest cost. Linde can also provide ongoing performance monitoring and maintenance to manage process drift for optimum plant operating costs. Using Linde personnel allows customers to avoid costly staffing and redundant training and a Linde-managed supply network can address demand variations at low cost.

Linde provides experience and know-how that enables customized approaches to natural gas fueling, consistent global standards, on-site process optimization, and ongoing R&D for fast deployment of new facilities that would benefit from additional technical optimization. In 2005, Linde licensed the small-scale liquefaction technology developed by the Gas Technology Institute (GTI), which provides the opportunity to produce LNG on-site at scales suitable for some fleets, and is also suitable for associated and stranded gas, coal beds/coal mines, biogas and other methane sources.
Some examples of Linde’s Natural Gas Vehicle Fueling Supply capabilities

13,000 gallon per day LNG plant in Altamont, California (start up in 2009)

Schematic of 100,000 GPD liquefier supplied to Australia (2007)

Linde LNG plant supplied to China

New CNG Fueling Technology (introduced in Europe)

LNG cold box enroute to Hammerfest, Norway

LNG and LCNG Fueling Stations