The Role of Natural Gas Vehicles in Securing U.S. Energy Security

February 28, 2011
Natural Gas as a Transportation Fuel

- Clean
- Safe
- Affordable
- Domestic
- Abundant
- Reliable
- Economic Development
• Americans spend about $1 billion each day on foreign oil.

• Many of the countries that supply foreign oil to the U.S. are converting their vehicle fleets to NGVs so that they can sell us their oil.

• Right now there are about 110,000 NGVs in the U.S. There are currently about 12 million NGVs worldwide and that number is expected to increase to 28.7 million by 2015.
In February 2010, the U.S. spent $24.6 billion on imported oil. If not burdened by this addiction what could our country have done.

- We could have hired over 364,000 new teachers
- We could have funded highway repairs for nearly seven years.
- We could have built 32,407 new elementary schools

Information courtesy of Pickens Plan
Replacing one diesel garbage truck with a natural gas garbage truck can reduce emissions equivalent to removing 325 cars from the road.

Source: Environmental Protection Agency, Naturalgas.org
**Current**

Counties in **Red** (Chart 2) already exceed new 75 ppb ozone standard

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**Source:** ADEM
The Reason Many National Fleets Are Switching to Natural Gas?

• U.S. retail CNG prices range from under $1 to more than $2 per gasoline gallon equivalent as compared to $3 per gallon gasoline and $3.40 diesel.

• This is why AT&T, UPS, Verizon, Waste Management, etc. are switching to natural gas – they can save millions on fuel costs.
Domestic

- 98% of the natural gas consumed in the U.S. is produced in North America
- 85% from U.S.
- 13% from Canada
Crude Oil Imports into the U.S.
Opportunities for Displacement

- Crude oil imports have historically led total U.S. imports of goods and services
  - Crude oil imports comprised nearly 15% of total imported goods in January 2010
  - Net crude imports accounted for half (49.6%) of the foreign trade deficit of $37.1 billion for the month

- Imports from OPEC member countries were more than twice that of the next closest country

- The transportation sector presents the biggest opportunity for imported petroleum displacement

Source: EIA, U.S. Census Bureau-Foreign Trade
• U.S. natural gas deposits are far more widespread and larger than U.S. coal deposits.
• U.S. has more natural gas reserves than Saudi Arabia has oil reserves.
Reliable

- Nationwide natural gas distribution system is already in place
- Proven technology for vehicles and infrastructure
Natural Gas Vehicles

Source: Natural Gas Vehicles for America (NGVA)
Natural Gas Use Per Vehicle

- Transit bus: 12-15,000 gal/yr (1.7-2.1 MMcf)
- OTR freight truck: 12,000 gal/yr (1.65 MMcf)
- Garbage truck: 9,000 gal/year (1.12 MMcf)
- Airport shuttle: 5,800-7,200 gal/yr (0.8-1.0 MMcf)
- Delivery truck: 4500-5,500 gal/yr (0.6-.75 MMcf)
- Taxi cab (@75K /year): 5,000 gal/yr (0.65 MMcf)
- School bus: 2,200-2,800 gal/yr (0.03-.035 MMcf)
- Commercial van: 1600-1800 gal/yr (.02 MMcf)
Expanding Selection of Light-Duty Vehicles From Growing Number of Suppliers

Altech-Eco
American Honda
BAF Technologies
Baytech
FuelTek
IMPCO
Natural Drive
Cummins
ESI
Westport Innovations
The Domestic NGV Market Is Growing

- Light duty natural gas vehicle options are increasing
  - GM providing OEM CNG vans; pickup trucks coming soon
  - Chrysler/Dodge to come out with 2012 Model Year CNG Bi-Fuel Dodge Ram
  - Chrysler working on bringing Fiat CNG sedans to the US market
  - Honda produces dedicated CNG Civics (GX)

- Legislation Being Passed and Proposed at the State Level for NGV Incentives
  - Legislation being filed in TX, PA, NM, WY, etc.
  - Legislation exists in UT, LA, NY, CO, GA, OK (e.g. 75% station credit, 50% of additional vehicle cost)
ANGA + AGA = CATA

- ANGA = America’s Natural Gas Alliance (gas producers)
- AGA = American Gas Association (trade association)
- CATA = Clean American Transportation Association
- NGV America also actively promotes NGVs
CATA Committees

- Legislative – Federal and State
- Vehicle Production
- Marketing and Education
- Infrastructure – Corridors
Federal incentives

- Federal Tax Credits for NGVs expired at the end of 2010 at a time when the market was starting to expand.

- What our country needs is stability and predictability in federal policies promoting alternative fuel vehicles and infrastructure so that long-term planning and investment can be efficiently done by the private sector. Extending incentives for one year, making incentives retroactive, or making incentives effective only for a short period of time does not give fleet and station owners the consistency needed to accurately formulate plans or to make fully informed purchasing decisions.
Federal Support for NGVs?

- Unlike for other alt fuels, federal incentives are *not* essential for NGVs:
  - But the market will grow much faster with federal government support

- If foreign oil is a federal priority, the most effective policy is for Congress to provide incentives for the purchase and use of NGVs:
  - Bonus: Reduced GHGs and urban pollution
Importance of NAT GAS Act

- Bipartisan NAT GAS Act introduced in 111th Congress:
  - 155 House co-sponsors
- NAT GAS Act 2.0 to be introduced in both Houses this spring
- Would accelerate market penetration of NGVs by providing five years of financial incentives for:
  - Buying NGVs; Using NGVs; Producing NGVs (OEMs); Installing NGV stations
  - Focus on businesses and fleets
Corridors
Expanding CNG Infrastructure

919 total stations as of September 18, 2010

- **CNG Stations – 880**
  - 361 Public access stations (~41%)
  - 519 Private access stations (~59%)
- **LNG Stations – 39**
  - 12 Public access stations (~32%)
  - 26 Private access stations (~68%)
5 Critical Regional Corridors Underway

- 1) Texas Triangle, 2) Rockies Corridor, 3) Southeastern Corridor, 4) Eastern Corridor, and 5) I–75 Corridor
- Alliances, legislation, and regional networks are being set up to support these regional efforts
Texas Triangle – Dallas, Houston and San Antonio

10% of the US Transportation Market Drives The Triangle

- 20 million vehicles
- 250,000 Class 8 trucks
- 26 Congressional Districts
Southeast Corridor
CNG Stations - Southeastern Region, USA

Alabama
Florida
Georgia
Kentucky
Louisiana
Mississippi
North Carolina
South Carolina
Tennessee
Virginia
Alabama’s Plan for CNG Stations

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For additional information

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