

This year has been an extraordinary one for the NGV industry. While other industries experienced negative growth because of the worldwide recession, the U.S. NGV industry continued to expand -- maybe not as much as it would have expanded if the economy was growing at the 2007 or 2008 level, but the NGV market has continued to grow. The following is a brief review of the more important NGV events in 2009 in the following categories:

- Gas Supply
- 111th Congress:
- New Administration:
- NGVs in the Marketplace:
- Gas Industry Support for NGV Market:
- Notable Quotes

Gas Supply:

Among the factors previously impeding NGV growth in the U.S. was concern by policymakers and potential customers that the U.S. natural gas supply would not be adequate to serve the transportation market. This year, those concerns were laid to rest. Recent reports by the Colorado School of Mines' Potential Gas Committee (PGC) and the Department of Energy's Energy Information Administration point to significant increases in domestic resources. Based on the figures published by the PGC, the U.S. now has a 90-plus year resource base of natural gas instead of the 65 year resource base believed to exist in 2006. And some analysts believe that the potential natural gas supply may be much larger. MIT's *Technology Review* devoted its November/December cover story to discussing the remarkable turn of events in the U.S. The article describes how some analysts believe the assessments of the production capabilities of the northeast's Marcellus Shale are much larger than estimated by PGC. The article describes how the Marcellus could be the second largest natural gas field in the world -- second only to a massive offshore field shared by Iran and Qatar. Daniel Yergin and Robert Ineson of the respected Cambridge Energy Research Associates recently authored an article for the Wall Street Journal, entitled, "*America's Natural Gas Revolution – A 'shale gale of unconventional and abundant U.S. gas is transforming the energy market.'*" The article claims that the biggest energy innovation of the decade is the development of unconventional natural gas. The article also indicates that "shale gas plays around the world could be equivalent to -- or even greater than -- current proven natural gas reserves." The conclusion of that

article is that natural gas is likely to play a much larger role in the world's energy mix in future years.

111th Congress:

With 2009 came the 111th Congress. This Congress has appeared to be more pragmatic with respect to transportation policy. Namely, there has been far more focus on solutions that can make a real impact today. Because of the contributions natural gas can make to a number of public policy priorities simultaneously, there has been a great amount of Congressional activity around promoting NGVs. Among the most important have been the following:

Formation of House and Senate Natural Gas Caucuses

At the end of September, it was announced that a Congressional Natural Gas Caucus had been created in the House of Representatives, and, at the end of October, it was announced that a Senate Natural Gas Caucus was formed. It is intended that the two bipartisan Caucuses will bring together House and Senate Members who have an interest in the production and use of natural gas and natural gas issues in general. The Caucuses can be (and we expect they will be) crucial mechanisms in promoting the use of natural gas – including helping to pass the NAT GAS Act and other pro-NGV bills (see below). The natural gas industry has never had dedicated Caucuses, and the creation of House and Senate ones now underscores the growing recognition in Congress of the importance of natural gas to America.

Extending and Expanding NGV Tax Incentives

In April, the New Alternative Transportation to Give Americans Solutions Act (The NAT GAS Act) was introduced in House (H.R. 1835). In July, a companion bill (S.1408) was introduced in the Senate. The NAT GAS Act would extend and expand the critical fuel, vehicle and infrastructure tax credits for NGVs. H.R. 1835 was sponsored by: Reps. Dan Boren (D-OK); John Larson (D-CT); and John Sullivan (R-OK), and has 126 additional co-sponsors. S. 1408 was introduced by Sens. Robert Menendez (D-NJ), Orrin Hatch (R-UT) and Senate Majority Leader Harry Reid (D-NV). It currently has three cosponsors. On December 9th, because of the limited time left in the Congressional session, the House passed the Tax Extenders Act of 2009 (H.R. 4213) by a vote of 241-181. The natural gas fuel credit was set to expire on December 31, 2009. Therefore, this legislation includes a one-year extension of the natural gas fuel tax credit. We expect that the Senate will soon act on an extenders bill, and will include an extension of the natural gas fuel credit.

NGV RD&D

In October, 2009, Congress approved the Energy and Water Appropriations bill for FY 2010. The President signed the bill on October 28th (PL 111-085). Included for the first time since 2006 was Department of Energy funding for NGV research, development and demonstration. The \$5 million included for NGV RD&D sends a signal to NGV stakeholders and potential customers that the federal government again supports advancements in NGV technology.

In March, the Natural Gas Vehicle Research, Development, Demonstration, and Deployment Act of 2009 (H.R. 1622) was introduced by Rep. John Sullivan (R-OK). This legislation would authorize the Department of Energy to spend \$30 million annually for a five-year period on research and development for NGVs. H.R. 1622 passed the House on July, 21, 2009 by a vote of 393-35. The legislation has since moved to the Senate for consideration by the Senate Energy and Natural Resources committee. Section 102 of S. 1350 (the Fueling America Act), a bill introduced by Sens. Mark Pryor (D-AR) and Jim Inhofe (R-OK), is an identical provision to H.R. 1622.

In addition, H.R.3246 was introduced in July by Rep. Gary Peters (D-MI) with seven cosponsors. This legislation would provide for a program of research, development, demonstration and commercial application for vehicle technologies at the Department of Energy. Natural gas vehicles are included in this program. The Senate Energy and Natural Resources Committee is working on similar legislation.

Streamlining NGV Conversion Certification

The certification of NGV aftermarket conversion systems currently is a very cumbersome and expensive process, and thus hinders the development and use of NGVs. In July, the Streamline Alternative Fuel Vehicle Conversions Act (H.R. 3431) was introduced by Reprs. Heath Shuler (D-NC) and Dan Boren (D-OK). Identical legislation (S. 1809) was introduced in the Senate by Sens. Roger Wicker (R-MS) and Jim Inhofe (R-OK). The legislation would streamline, and thereby reduce the cost of certification.

Incentives for Biomethane Production

Currently, the production of electricity from biogas produced on site is eligible for a substantial federal tax credit. The use of biogas for any other purpose, however, receives no federal support. The Biogas Production Incentive Act would provide tax credits for the production of pipeline-quality biomethane from renewable sources, including animal waste, landfills and renewable biomass. The bill, which was introduced in January in the Senate (S. 306) by Sen. Ben Nelson (D-NE), has 12

cosponsors: It was introduced in the House (H.R. 1158) in February by Rep. Brian Higgins (D-NY), and has 25 cosponsors.

Clean Cities Funding

The Clean Cities program was established by DOE as a result of provisions contained in the Energy Policy Act of 1992, but funding for the program has never been specifically “authorized.” The program is the most effective federal program for the deployment of alternative fuel vehicles. The almost-90 local Clean Cities’ coalitions have been critical to the growth of the NGV market, and securing authorization for the program has been one of NGV America’s legislative priorities for the 111th Congress. In July, the Clean Cities Program Authorization Act (H.R. 3488) was introduced by Rep. Steve Israel (D-NY) and Mark Kirk (R-IL). The legislation currently has 40 co-sponsors, and it is expected that companion legislation will be introduced in the Senate early in the next session.

NGV America also has been among the most vocal supporters in Washington for more appropriations for Clean Cities. When Congress approved the Energy and Water Appropriations bill for FY 2010, it also approved \$25.2 million for the Clean Cities program. This was a significant accomplishment for Clean Cities’ supporters since that funding level was as low as \$4.4 in FY2007.

New Administration

As with the new Congress, the Obama Administration appears to be far more focused on near-term transportation solutions. DOE, EPA and other agencies have undertaken a number of initiatives in 2009 that are supportive of the NGV industry, including the following:

Clean Cities Stimulus Funding

When the President signed the American Recovery and Reinvestment Act (ARRA; P.L. No. 111-5) in February, he approved \$300 million in funding to be allocated toward pilot projects that advance the use of alternative fuels and advanced technologies through the Clean Cities program. In September, DOE announced that 23 projects would receive funding ranging from \$5 to \$15 million. Of those 23 projects, NGVs were included in 19. Several of the funded projects include funds to establish clean NGV vehicle “corridors”. Thus the projects would facilitate the movement of goods along established clean CNG/LNG truck corridors.

FTA Stimulus Funding

ARRA also included a significant increase in funding for programs overseen by the Federal Transit Administration. Several hundred million dollars of this new funding has been awarded to local government authorities to support acquisitions of new natural gas transit buses and natural gas fueling infrastructure upgrades. This funding will help transit agencies replace older, petroleum-fueled buses with cleaner, natural gas powered buses, providing reduced emissions and offsetting petroleum consumption.

BP Fines Used for NGV Purchases

In February, BP Products North America Inc. agreed to spend \$6 million on NGVs in Texas City, TX to resolve Clean Air Act violations at its Texas City refinery. BP agreed to convert approximately 100 diesel municipal vehicles (including several dozen school buses) to operate on CNG or LNG, and to construct four refueling stations for the converted vehicles.

State/Regional Programs:

Not all of the government activities in support of NGVs occurred at the federal level. The following are some key actions taken at the state, regional and local levels:

Louisiana

In July, Louisiana Governor Bobby Jindal signed HB 110 into law, effectively increasing and improving upon the state's incentives for alternative fuel vehicles, including NGVs. The measure includes an increase in the allowable tax credits to purchasers of natural gas-powered vehicles and fueling infrastructure. The tax credit for NGVs is now 50 percent of the cost of the alternative fuel equipment associated with a new or converted vehicle. The 50 percent provision also applies to the cost of installing fueling equipment. The credit was previously capped at 20 percent of the cost of such equipment. The law also includes several other unique provisions that enhance the value of the tax credits. For example, there is a provision that allows a subsequent purchaser of a qualified alternative motor vehicle to claim a tax credit if the original owner of the vehicle did not already claim a credit. In such instances, the credit would continue to be worth 50 percent of the cost associated with alternative fuel equipment, or, if the person is unable to determine such costs, the taxpayer may claim a credit worth 10 percent of the cost of the vehicle or \$3,000 whichever is less. Another provision in the bill provides that the tax credits are refundable to the extent their value exceeds a person's tax liability.

Oklahoma

In June, Oklahoma Governor Brad Henry signed two laws that increase prospects for NGVs in that state. The first measure, House Bill (HB 1949), modifies and extends existing tax incentives for the purchase of alternative fuel vehicles and fueling equipment. Previously the incentives expired in 2010 but are now good through 2014. The tax credits for NGVs and other alternative fuel vehicles are worth 50 percent of the cost of converting a motor vehicle or 50 percent of the incremental cost of a new NGV. The law also includes a provision allowing a future purchaser of a used NGV to claim a credit of \$1,500 or 10 percent of the purchase cost (whichever is less) if the originally purchaser of the vehicle did not claim a credit. The infrastructure credits are worth 75 percent of the cost of installing new fueling equipment for alternative fuels, and there is a separate credit worth \$2,500 for the installation of home refueling equipment.

A second measure (HB 1952) authorizes the state's Fleet Management Division to lease alternative fuel vehicles and fueling stations to local governments, and to provide public access to alternative fuel refueling stations. The idea is for the state to finance the cost of acquiring vehicles and fueling stations and to offer public access fueling where none currently exists. The law establishes a revolving fund that is financed by the lease payments made by local governments to the state. The legislation also authorizes the state's Fleet Management Division to enter into arrangement with political subdivisions and private entities for the purpose of participating in and administering federal grants.

Texas

In August, Texas Governor Rick Perry signed two legislative measures that will advance the use of NGVs in Texas. The first measure (SB 1759) amends the Texas Emission Reduction Program (TERP) to ensure that a portion of its funds go to the Clean Fleets Program. The change means that five percent of the funding under this program will go to large commercial fleets that purchase alternative fuel vehicles. "Large fleets" are defined as fleets that operate more than 100 vehicles. Currently most of the funding under the TERP initiative is limited to reducing pollution in non-attainment areas in Texas. It appears that the Clean Fuel Fleet provision would now provide funding to fleets that operate state-wide.

On the same day, Governor Perry also signed into law HB 432, a measure directing state government fleets to purchase alternative fuel vehicles. Also, state fleets (with some exceptions) must now purchase only alternative fuel vehicles, and must ensure that 50 percent of their fleet vehicles use alternative fuels by September 2010.

Los Angeles/ Long Beach Ports Project

Currently, almost 500 natural gas trucks are successfully operating in the San Pedro Bay port complex. With the release of California's Proposition 1B funds aimed at cleaning up California's goods movement industry, an additional 500 natural gas trucks will arrive at the ports within the first quarter of 2010. The opportunity to build on this significant alternative fuel drayage fleet should continue for several years, particularly since California ports are becoming more aware of the importance of greenhouse gas emissions on their coastal sea levels. The application of natural gas heavy-duty trucks in the port sector is now proven within the goods movement industry, and therefore, the alternative fuel program of the ports of Los Angeles and Long Beach will serve as an important model for the rest of the country.

Low Carbon Fuel Standard

In April, the California Air Resources Board (CARB) adopted the nation's first low-carbon fuel standard (LCFS). The standard requires a 10 percent reduction in the carbon content of transportation fuels with phase-in beginning in 2011 and completion by 2020. Under this program, alternative fuels sold for transportation receive credit if their carbon content and associated emissions are lower than gasoline or diesel. Natural gas providers, therefore, now have the potential to earn credits for gas' lower carbon content by selling credits to petroleum providers. This rule also is important because it likely will serve as the model for other states and, possibly, for federal legislation. Another benefit of this rule is that the supporting data and regulatory analysis completed by CARB documents the carbon reduction benefits of natural gas. CARB estimates that conventional natural gas produces 20–30 percent less overall greenhouse gas emissions when compared with diesel fuel and gasoline. CARB's review of *renewable* natural gas – CNG from landfill gas and dairy waste – projects a nearly *89 percent reduction* compared with petroleum motor fuels. These figures indicate that natural gas is likely one of the least carbon intensive of all available transportation fuels.

NGVs in the Marketplace:

This year saw a sharp increase in fleet demand for NGVs throughout the country. The fleet announcement that received the most attention was AT&T's decision to invest up to \$565 million as part of a long-term strategy to deploy more than 15,000 alternative-fuel vehicles over the next 10 years. Of this amount, AT&T will spend an estimated \$350 million to purchase about 8,000 medium-duty CNG vehicles and approximately \$215 million to begin replacing its passenger cars with alternative-fuel models. AT&T's investment represents the largest U.S. corporate commitment to CNG vehicles to date. Spurred by AT&T's announcement and encouraged by favorable economic and environmental advantages, a number of other national

accounts have also undertaken NGV field-test and deployment programs. Appendix I contains a listing of NGV purchase announcements that appeared in the nation's newspapers and websites this year.

To serve this growing demand for NGVs, the number of available NGV models also grew significantly in 2009 – especially in the medium and heavy-duty market categories. Appendix II contains a listing of all the new natural gas engines, vehicles and certified conversion systems that became available this year.

Gas Industry Support for NGV Market:

This year saw a sharp upward shift in interest in growing the NGV market by various segments of the natural gas industry. In March, it was announced that the America Natural Gas Alliance (ANGA) was formed. ANGA, which is an education and advocacy organization representing 28 of North America's leading independent natural gas exploration and production companies, is dedicated to increasing appreciation of the environmental, economic and national security benefits of American natural gas. Among ANGA's objectives is growing the use of natural gas as a transportation fuel. In July, the American Gas Association (AGA) announced the formation of an NGV Task Force within AGA. AGA is the 200-member national trade association representing energy utilities that deliver natural gas, and its new task force reflects the growing interest by natural gas utilities in NGVs. The trend was further reinforced in 2009 by a number of additional gas utilities becoming members of NGVAmerica.

Notable Quotes:

“A year or so ago, I started taking missionary lessons from the group supporting T. Boone Pickens. I've taken the missionary lessons; I've met with him; and I've been converted. I now belong to ‘The Pickens Church’ ...”

--Senate Majority Leader Harry Reid, National Clean Energy Summit,
Las Vegas, NV, August 10, 2009.

“Electrifying the auto fleet, using natural gas for the 18- wheelers and the heavy vehicles as a transition -- then we can get off of all those imported liquid fuels that come from foreign oil and foreign products and solve the security and economic problem and put people to work in the process.”

-- Al Gore
Roundtable, February 23, 2009

APPENDIX I
2009 News Reports about NGV Orders/Deliveries

Trash Trucks

- Little Rock, AR (3)
- Choice Environmental Services; Pompano Beach, FL (10)
- City of College Park, GA (2)
- Groot Industries, Chicago, IL (20)
- Central Jersey Waste and Recycling; Hamilton Township, NJ (10)
- Town of Brookhaven, NY Contracted Haulers (75)
- Norman, OK (2)
- City of Dallas, TX (30)
- City of San Antonio, TX (15)
- Ogden, UT (10)
- CleanScapes; Seattle, Washington (40)
- Waste Management; Seattle, Washington (106)

Transit Buses

- San Gabriel/Pomona, CA (42)
- Moorpark, CA (3)
- San Bernardino, CA (27)
- Santa Clarita, CA (8)
- Vacaville, CA (10)
- Quad Cities, IL (8)
- Shreveport, LA (5)
- Shreveport-Bossier, LA (5)
- Long Island, NY (100)
- Tulsa, OK (13)
- Beaumont, TX (12)
- DART; Dallas, TX (594)
- VIA; San Antonio, TX (4)

School Buses

- Los Angeles, CA (260)
- Leon County, FL (8)
- Tulsa, OK (140 school bus repowers)

Other Vehicles

- Los Angeles Port, CA (483 heavy duty trucks)
- Palm Desert, CA (1 ambulance)
- Disneyland; Anaheim, CA (16 trams)
- Atlanta Airport Marriot; Atlanta, GA (2 shuttles)
- Kansas City's Water Services Department; KC, MS (\$800,000 in fleet vehicles)
- UPS; Colorado, Georgia, Oklahoma and California (300 delivery trucks)
- Burlington, VT (3 heavy duty trucks)
- Parking Spot; Austin, Dallas, Los Angeles (airport shuttles)
- Cambridge, MA (7 shuttle buses)
- OSU; Stillwater, OK (shuttle buses)
- Bossier City, LA (100 fleet vehicles)
- EnCana; Denver, CO (52 work trucks)
- Las Vegas, NV (100 limousines)
- D/FW Airport, TX (20 taxis; 46 car rental buses)
- Austin, TX (airport shuttles)
- Yellow Cab; Chicago, IL (Taxis)
- Cleveland, OH (airport shuttles)
- Cincinnati, OH (airport shuttles)

APPENDIX II

New Natural Gas Engines, Vehicles and Certified Conversion Systems for 2009

New Engine and OEM Certifications:

- Cummins Westport Inc (8.9L engine):
 - Freightliner continued successful launch of Freightliner M2 Business Class in tractor configuration (mostly for the ports)
 - Freightliner added availability of the Freightliner M2 Business Class straight truck configuration (taking orders for 2010 delivery)
 - Kenworth launched T470 work truck
 - Kenworth offered T800 with this smaller engine (T800 was already available with Westport 15l GX engine)
 - Peterbilt added 384 and 365 work trucks
 - Mack joined Autocar, Peterbilt, Condor and Crane-Carrier in offering low-cab-forward refuse model (now all 5 major refuse OEMs offer an LCF model with factory-built CWI engine installed)
 - McNeilus launched natural gas-powered cement mixer (on Kenworth T470)

- Emission Solutions Inc (7.6L engine):
 - ESI added new option to repower (in-frame) Maxx Force DT 24-valve upgraded version of previous DT466 12-valve (they already offered the DT 466 repower for older DT 466 - pre-2004)

- Westport Innovations (15L GX HPDI engine):
 - Kenworth offered the engine factory-built in their T800 Class 8 tractor
 - Peterbilt finished field test verification and began offering this engine in factory-built model

Conversion Systems

- Altech-Eco:
 - Rec'd 2009 certification for their bi-fuel and dedicated Ford 2.0L Focus (already had 2008)
 - Added 2009 bi-fuel and dedicated Ford 2.3L Fusion/Mercury Milan to their stable

- BAF Technologies:
 - Rec'd 2009 certification of their Ford dedicated sedans, vans and pick-ups including (already had 2008):
 - 4.6L Crown Vic/Mercury Grand Marquis/Lincoln Town Car sedans
 - 5.4L Ford F150, F250, F350 pick-ups; Ford Expedition/Lincoln Navigator SUVs; Ford E250, 350 vans
 - 6.8L Ford E450 cutaway chassis

- Baytech:
 - Added 4.8L Express/Savanna to their lengthy roster of GM dedicated and bi-fuel vehicles
 - Rec'd 2009 certification (already had previous model year certifications) for their 6.0L GM dedicated and bi-fuel pick-ups and vans including:
 - 6.0L Express/Savanna; Silverado/Sierra 2500, 2500 HD and 3500

- IMPCO:
 - Rec'd 2009 certification of their 3.5L and 3.9L GM bi-fuel Impala (already had 2008)
 - Rec'd 2009 certification of their 4.8L GM bi-Fuel Express/Savanna (already had 2008)
 - Rec'd 2009 certification of their 6.0L GM bi-fuel Express/Savanna; Silverado/Sierra 2500, 2500 HD and 3500
 - Added 2009 certification of variety of GM bi-fuel pick-ups and SUVs including:
 - 5.3L Silverado/Sierra; Tahoe/Yukon; Suburban/Yukon XL; Avalanche

- Natural Drive:
 - Rec'd 2009 certification of their 3.5L and 3.9L GM dedicated Impala (already had 2008)
 - Added 2008 certification of variety of GM dedicated pick-ups and SUVs including:
 - 4.8L Silverado/Sierra; Tahoe/Yukon
 - 5.3L Silverado/Sierra; Tahoe/Yukon; Suburban/YukonXL
Avalanche; Colorado/Canyon; Express/Savanna; H3

- Added 2009 certification of variety of GM dedicated pick-ups and SUVs including:
 - 4.8L Express/Savanna
 - 6.0L Express/Savanna; Silverado/Sierra 2500, 2500 HD and 3500

Other

- Ford Motor Company announced that it was facilitating the CNG vehicle purchase process by offering a CNG-retrofit-ready fuel prep order option for its E-Series fleet customers – specifically on E-series vans and wagons with the 5.4 liter engine.
- Indiana-based Dixie Chopper unveiled the world's first commercially available natural gas-powered lawn mower, officially known as the Xcaliber Eco-Eagle.