

Taking a Second Look at the Natural Gas Vehicle

by **Stephe Yborra**, Director of Marketing & Communications, NGVAmerica

Natural gas and combination utilities that previously suspended or eliminated their natural gas vehicle (NGV) marketing and fleet deployment programs may want to take another look today.

There are nearly 5 million natural gas vehicles (NGVs) in service worldwide. While the number of NGVs on North America's roads is estimated between 135,000 and 150,000 vehicles, there's a significant shift towards larger, medium- and heavy-duty vehicles, such as transit buses, school buses and trash trucks. This focus on high fuel use vehicles, coupled with the projected growth in NGVs and natural gas fuel throughput, is enough to make utilities that left the market sit up and take notice.

"Now, more than ever, the North American NGV market is primed for growth," says Rich Kolodziej, president of NGVAmerica, formerly known as the Natural Gas Vehicle Coalition. "Concern about the long-term outlook for gasoline and diesel prices, especially among fleets, is

starting to sink in. As natural gas companies become increasingly familiar with the new federal NGV incentives and the resulting economics, I think we'll see more utilities re-engage." The Environmental Protection Agency (EPA) emissions requirements are forcing diesel truck manufacturers to use complex strategies that push costs higher. On the other hand, notes Kolodziej, heavy-duty NGVs are not only cleaner, but also they're able to meet the new requirements *with improved fuel economy and performance*. Several heavy-duty natural gas engine manufacturers have already demonstrated they'll meet 2010 requirements in 2007.



Summary of New Federal Tax Incentives

Paul Kerkhoven, NGVAmerica's director of Government Affairs, refers to the new federal tax incentives signed into law last August as a "three-legged stool" comprising vehicle tax credits, motor fuel excise tax credits and station tax credits.

Federal Alternative Fuel Vehicle Tax Credits

Under a provision of the Energy Policy Act of 2005, buyers of a new dedicated alternative fueled vehicle placed in service after December 31, 2005, are eligible for a tax credit of 50 percent of the incremental cost of the vehicle, with an additional 30 percent "bonus" credit for vehicles meeting the most stringent applicable EPA or California Air Resources Board (CARB) emission standard. If the buyer of the vehi-

cle is a tax-exempt entity, such as a school district, transit agency or municipality, the tax credit may transfer to the *seller* of the vehicle. The amount of pass-through tax credit is a negotiating point between the buyer and seller to be reflected in a lower purchase price.

“This is a major step forward,” says Brian Stokes, who as manager of Emissions Reduction Programs at Pacific Gas and Electric (PG&E) heads the company’s Clean Air Transportation team and coordinates closely with the corporate fleet group. “The two keys to sustainable growth in this market are economics and value-added benefits,” says Stokes. He believes the best opportunities for NGVs appear to be in the heavy-duty market sectors where high fuel use and natural gas’s lower cost on a diesel-gallon-equivalent (dge) translates into good economics and in the light duty market where HOV lane access and home refueling offer value-added benefits.

“The vehicle tax credit will help us generate the manufacturing volumes critical to convincing original equipment manufacturers (OEMs) to produce the vehicles our customers want at a reasonable price,” says Stokes. “It’s our job to educate customers about the benefits, show the feasibility by investing in demonstration projects and help generate orders.”

PG&E recently spearheaded such a heavy-duty vehicle demonstration project, which was largely responsible for Freightliner’s decision to factory-produce a natural gas powered version of its popular M2 business class truck. A Daimler-Chrysler company, Freightliner is the largest heavy-duty truck manufacturer in North America and a leading producer of medium-duty trucks and specialized commercial vehicles. The effort, coordinated in conjunction with the Clean Vehicle Education Foundation’s (CVEF) Utility & Public Fleet Council (UPFC), involved field-retrofitting natural gas engines in a number of the company’s heavy-duty utility work trucks. PG&E then took a demo unit on tour, showing it at utility trade shows, lending it to prospective customers to “kick the tires,” and assessing potential orders through a



CVEF-coordinated survey. “Getting line-production of the M2 creates economies of scale that greatly reduce the premium associated with field retrofits,” say Brian Pepper, a PG&E senior program manager in Transportation Services and co-chairman of the UPFC. “Putting the vehicle out there in front of customers, then communicating their feedback and interest to Freightliner was critical to our success in showing them a solid business case for OEM production” he says.

The amount of the available tax credit is based on four gross vehicle weight rating (GVWR) groupings that have total incremental cost caps ranging from a \$5000 for light duty vehicles (up to 8,500 lbs.) to \$40,000 for heavy duty vehicles (more than 26,000 lbs.). For example, a dedicated natural gas-powered light-duty pick-up that meets a lesser EPA emission standard could qualify for up to \$2,500, while a Honda Civic GX, which meets CARB’s more stringent SULEV standard, could qualify for up to \$4,000 in federal tax credits. Heavy-duty natural gas powered vehicles with GVWR over 26,000 pounds, such as a transit bus or utility crew truck, could qualify for up to \$32,000 if the engine meets the strictest emission standard in place for heavy-duty engines.

NGVAmerica’s Kerkhoven says the IRS ruled in June that existing petroleum-powered vehicles repowered or retrofit with an EPA- or CARB-certified natural gas engine or “conversion system,” thereby enabling it to operate as dedicated natural gas-powered vehicle, would qualify for the credit as long as the newly modified vehicle was placed into service after December 31, 2005. IRS’ recognition of repowers and retrofits is an extremely important development because many of the light-, medium- and heavy-duty vehicles available today are those modified with EPA- or CARB-certified natural gas conversion systems manufactured by Small Volume Manufacturers (SVM). According to a document posted on CVEF’s website [www.cleanvehicle.org], SVM retrofit systems are available for dozens of light- and medium-duty GM and Ford vehicles, and several manufacturers offer natural gas engines for repowering existing

heavy-duty vehicles.

“Cutting the remaining premium for the factory-produced natural gas M2 by \$32,000 will bring its purchase price to near parity with its diesel counterpart,” says PG&E’s Pepper. “When fuel and maintenance savings are factored in, fleet operators will see a very reasonable payback and a great life-cycle cost advantage.”

Federal Motor Fuels Excise Tax Credits

Natural gas’s historical cost advantage over gasoline and diesel fuel will improve substantially due to the new federal motor fuels excise tax credit contained in the Energy Policy Act of 2005, says Kerkhoven. Beginning October 1, 2006, the federal government will pay the seller of vehicular alternative fuel 50 cents per gallon of liquefied natural gas (LNG) or gasoline-gallon-equivalent (gge) of compressed natural gas (CNG). For CNG, the motor fuels excise tax credit is not generated until the gas is compressed for vehicular use.

While one highway bill provision provides this new tax credit, another provision raises the CNG federal tax from its current 6 cents per gge to 18.3 cents per gge, making it equivalent to the federal tax paid per gallon of gasoline, and it also raises the LNG tax from 11.9 to 24.3 cents per gallon, making it equivalent to the federal tax paid per gallon of diesel fuel. For private companies like investor-owned utilities, the net difference after the “rebate” is about 38 cents per gge of CNG and nearly 64 cents per dge of LNG.

Kerkhoven says NGVAmerica is still awaiting IRS guidance on the fuel credit, including how it defines the word “seller.” The highway bill’s language is clear that a fleet operator who buys natural gas and compresses it for use in his/her own fleet is considered the “seller” of the fuel, even though no monetary transaction has taken

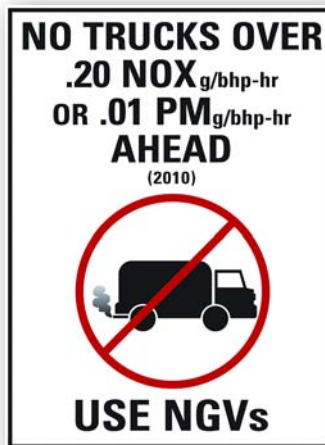
place. Less clear, however, are cases where the purchase of natural gas and the ownership, operation and maintenance of fueling equipment is shared between the end-use fleet operator and a fuel service provider, such as a utility or independent fuel supplier.

Fueling Station Equipment Tax Credit

The third leg of the stool, says Kerkhoven, is the energy bill provision that allows for an income tax credit equal to 30 percent of the cost of any qualified alternative fuel vehicle refueling property used in a trade or business and placed into service after December 31, 2005. The credit is capped at a maximum of \$30,000 “per property” per year. As with the vehicle purchase tax credit, the fueling infrastructure tax credit can be taken by the equipment seller if the purchaser is a tax-exempt entity. The same provision repeals an existing \$100,000 tax deduction for fueling stations. The new measure remains in effect until December 31, 2009.

The legislation also permits carrying forward of tax credits if the total allowable credit exceeds the taxable entity’s tax liability for that year. As of late-June when this article was written, final IRS guidance was still being developed. Of particular interest is whether the IRS will define individual pieces of equipment as “property” as it does in regulations pertaining to depreciable assets, thus allowing multiple pieces of “property” per fueling station, or if it will take a more restrictive interpretation and define “property” as the entire refueling facility.

The provision also includes a 30 percent credit for home refueling appliances with a maximum credit of \$1,000. “We’re excited about the new tax credit’s effect on market acceptance of Phill, a compact home vehicle-refueling appliance,” says Mario Pirraglia, VP of sales and marketing at Fuel-



Maker, manufacturer of this product, which was launched last year in California. Implemented in partnership with American Honda through selected dealers, the launch included special lease and financing options for buyers of the natural gas-powered Civic GX. Pirraglia says FuelMaker is coordinating with Honda and natural gas utilities to expand availability of Phill to additional market areas such as New York. "In a convenience-oriented marketplace, the option of home refueling and HOV lane access can really open up the market for NGVs," says Pirraglia. "The new tax credit is one more tool we can use to develop marketing and distribution agreements with utilities in the states," he says. The utility partnership model is one that he thinks can work, given the right resources. FuelMaker recently signed an exclusive distribution agreement with *Gaz de France* to market and install several thousand units in that country.

Partnering with Advocates, Trade Allies is Key

Gordon Larsen, supervisor of NGV operations for Questar, helped found his local Utah Clean Cities Coalition and has been active in it and other fleet organizations for years, constantly driving home the positive NGV message to customers and policy makers, and helping them pursue grants.

With over 25 years of experience, Questar's NGV program is recognized as one of the most successful programs in the country. Nearly 85 percent of Questar's fleet runs on CNG, its service territory boasts more than 100 stations—many owned and operated by the company—and the market for NGVs is so strong that used vehicles are imported into the state from across the country to meet customer demand. "We've got a fuel price differential of more than a buck-fifty per gallon," says Larsen. "Savings like that draw people out of the woodwork. The demand is so high that used NGVs go at a premium out here."

Questar's NGV customer base includes the usual mix of public and private fleets and a growing forklift market. Additionally, vehicular natural gas throughput at public stations was up 49 percent in 2005.

Larsen says that many utilities aren't

Summary of new federal NGV tax incentives

Vehicle Tax Credits

Income tax credit for purchase of new or upfit dedicated NGVs

Light-Duty (up to 8,500 lbs)	up to \$4,000
Medium-Duty (up to 14,000 lbs)	up to \$ 8,000
Medium-Heavy-Duty (up to 26,000 lbs)	up to \$20,000
Heavy-Duty (over 26,000 lbs)	up to \$32,000

- Credit covers up to 80 percent of incremental price
- If buyer is a tax-exempt entity, the seller can take the credit

Fuel Use Credit

An excise tax credit of 50 cents per gallon of liquefied natural gas (LNG) or gasoline-gallon-equivalent of compressed natural gas (CNG)

- Payable to seller
- If the customer owns the CNG station, tax credit goes to customer
- Credit paid in form of "rebate" regardless of amount of excise tax paid
- Takes effect October 1, 2006
- Credit partially offset by increase in excise tax:
 - CNG: from 5.4 cents to 18.3 cents per gasoline-gallon-equivalent
 - LNG: from 13.6 cents to 24.3 cents per LNG gallon

Fueling Station Credit

Income tax credit of up to 30% of refueling equipment up to \$30,000 per year

- Up to \$1,000 tax credit for home NGV refueling appliance.

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Advocating the increasing use of NGVs where they benefit most.
For the economy. For the environment. For health. For security. For America.

“Now, more than ever, the North American NGV market is primed for growth.”

—Rich Kolodziej, President of NGVAmerica

aware of how NGVs help the bottom line. “One forklift equates to the heating and water heating load of two homes and a single airport shuttle van can equal up to 12 homes,” says Larsen. Another way Questar’s CNG utility trucks save the company money is “hot changing” of residential meters. This entails tapping the vehicle’s CNG storage tank to bypass the house supply line during meter change-outs, thus keeping gas service live and eliminating expensive and inconvenient evening return visits to relight/check pilots. “Questar saves millions of dollars and the return in customer satisfaction is huge,” he says. He credits his public service commission with seeing the societal benefits of NGVs and allowing a favorable NGV rate and rate-basing of station investments.

“Questar was methodical and spent wisely in building its station network,” says Larsen. “We took what we knew about station design and built what we needed, adding capacity as we went, without spending a ton on consultants. We did the work ourselves and got better at it.” As the NGV market developed, Questar grew its infrastructure network by partnering with retail petroleum fuel providers such as Phillips 66, Sinclair and Tesoro to lease space on their footprints and build stations. “Retail fueling is their business. They know how to market and have the best locations,” says Larsen. “It’s a lot easier to work with them than against them.”

Bob Moore, vice president of Gas Sales & Marketing at KeySpan Energy Delivery in New York, says that partnering with trade allies to bring new and emerging technologies to customers is part of their business model. While KeySpan owns and operates stations in both the New York and New England markets, the company now relies more on third-party station developers to expand its NGV infrastructure.

“KeySpan has always believed in maximizing use of outside trade experts, leveraging their capital and expertise along with ours,” says Moore. “The marketplace is putting in its own capital. That’s a good barometer of the state of the industry.”

Ron Gulmi, NGV programs manager and KeySpan’s point man on NGVs in the New York market, echoes Moore’s comments about working with trade allies. “We see a lot of opportunity to build the heavy-duty fleet market and that starts right here with our own fleet just like we did with the light duty segment in years past,” he says, adding that KeySpan communicated its interest in the natural gas-powered Freightliner M2, not only for its own fleet but also for other area utilities such as telephone and cable companies.

Allocating Resources

Getting up to speed on the latest in NGV and fueling technology, available grants and program implementation tips doesn’t require massive resources. Some utilities have managed to effectively keep an NGV presence in their market with only part-time staff. One example is Citizens Gas & Coke Utility (CG&CU) in Indianapolis, where industrial gas sales consultant Barb Pesut-Hanley handles a number of the company’s largest accounts while also coordinating its NGV effort. “Certainly, I’d like to have more resources for NGVs,” says Pesut-Hanley, who is incoming chairperson of NGVAmerica’s Market Advisory Committee. “Our company regularly reviews the allocation of resources against the market opportunity and has committed to supporting it.”

For the resources allocated, Pesut-

Hanley accomplishes quite a bit. She sits on the board of her local Clean Cities coalition, regularly publishes an NGV newsletter that is sent to fleet prospects throughout her service territory, issues targeted direct mailings, hosts several NGV workshops each year and makes sales calls on prospects. She also works closely with CG&CU’s fleet department, which fields about 100 light-duty vehicles.

According to Pesut-Hanley, these efforts are beginning to bear fruit. “Besides our own fleet, we have about 90 NGVs at a dozen locations in our service territory,” she says. “The good news is that the customers we have are buying more vehicles and one of them—a local HVAC contractor—is putting in a station with public access.”

While the number of utilities with aggressive NGV marketing programs is down from the industry’s peak involvement in the mid-1990s, Kolodziej says, “Several dozen utilities still have their hand in the marketplace and that’s a number I think will increase in the coming year. Utilities have a tremendous opportunity to lower their own fleet operating costs while building additional profitable load with their customers.”

There’s a misperception by many utility management teams that once the independent fuel retailers entered the market, there was no longer a role for the local distribution company. “While independent fuel retailers certainly have played a pivotal role and, in some markets, taken the lead in developing new NGV customers,” says Kolodziej, “they’ve had to focus their efforts and limited resources in select regions. Now that the incentives are in place, we’ve got a story to tell just about everywhere and there are partners ready to help develop the market. That’s a message we need to communicate more effectively to utilities if we are going to make the most of the opportunity at hand.”

