

Natural Gas Vehicles

Energy Presidents Speak Out

Ultimately the Markets Will Decide on NGVs, They Say at Recent Brussels Business Summit

This report was submitted by Dr. Jeffrey Seisler, CEO of Brussels-based Clean Fuels Consulting

A high-powered group of presidents and CEOs of some of the world's largest energy companies participated in a panel, *Energy for Europe: Fueling Growth* at the European Business Summit in Brussels on July 1.

Natural gas was high on the agenda for each of the industry leaders, who spoke enthusiastically about natural gas and gas markets. Natural gas was recognized as a low-CO2 option to coal-generated electricity and as a resource that will last for another 200-to-250 years.

Alexander Medvedev, deputy chairman of Gazprom's management committee said that natural gas will play an important role, in particular, for the transportation sector.

After their brief opening remarks the moderator looked to the audience for questions. Jeff Seisler of Clean Fuels Consulting asked two, addressed to all the speakers:

What is your view on renewable biogas? and, in the context of nearly 12 million vehicles worldwide running on compressed natural gas, liquefied natural gas and bio-methane upgraded from biogas, with a growing fuel infrastructure to support the vehicles. **What is your view of the use of natural gas in the transportation sector?**

Their unscripted responses focused on markets, investment, and 'level playing fields.'

Peter Voser, CEO, Royal Dutch Shell

The base assumption is that all fuels will play a role; all fuels will have their time. Today there are 1 billion cars and in future there will be 2 billion cars. In future this market will support growth for all the fuels in the transportation sector. Biogas will play key a role. But NGV development will be limited to those countries that have a domestic supply of gas. In the US, with its shale gas, NGVs will grow. But the decisions about NGVs will be made on a country-by-country basis.

Alexander Medvedev, Deputy Chairman of the Management Committee, Gazprom

NGVs are a special case. We have a Green Corridor plan to support this from St. Petersburg to Europe. The potential is great but there is the chicken and egg problem. Car companies won't make cars until there are fuel stations and



Dr. Jeffrey Seisler is the principal of Clean Fuels Consulting in Brussels. CFC has recently hosted critical issues workshops on liquefied natural gas in road transport and on dual fuel engine technology melding diesel with both methane and with propane-LPG.

Seisler has been involved in new market development with a focus on NGVs since 1983.

Seisler established the Natural Gas Vehicle Coalition in Washington on behalf of the American Gas Association, and later founded the European Natural Gas Vehicle Association in Amsterdam.

fuel stations won't be built until there are cars to run on gas. The car producers should produce vehicles at the factory so we can limit the number of special conversion workshops.

The support of government is essential. For example, in Seoul, Korea all the buses have been switched to run on natural gas.

The proper means need to be taken by governments.

Tom Walters, President, ExxonMobil Gas & Power Marketing

The key is to keep the playing field open. The concern with renewables such as biogas is 'scale'. Peter Voser made the point earlier in his remarks that it could take 25-30 years for a particular energy source to achieve 1% of market penetration of all our energy needs. We must maintain an environment that encourages investment. Policy makers must make predictable policies so investors will invest and they will choose the options that make sense in the market. NGVs work but the scale of changing the infrastructure from petroleum to gas is humongous, with a very large cost. We must keep a level playing field and the market will work. NGVs will come if there is a level playing field.

Vagit Alexperov, President, Lukoil

NGV technology has been developed and there is nothing standing in the pathway to them having their place. Climate is an obstacle to ensuring distribution but it's clear that NGVs are possible.

Günther Ottinger, European Commissioner for Energy

Transport – trucks, buses, cars – is, alongside industry and housing, a challenging sector regarding energy consumption. We (Europe) have a clear target: 10% of energy in the transport sector (by 2020) will come from biofuels. But a big problem exists such as in Brazil, where forests are being cut down to make biofuels. Worldwide the CO2 balance is negative. Sustainability is key and we must live with production. In policy we must be technology neutral.

If we desire by 2050 replace 30 to 50% of petroleum with hydrogen, biofuels, natural gas or high quality diesel at higher efficiencies, it won't be a decision of Parliament. We need to be technology neutral and support research and development.

At another Brussels session, *Green Innovation: Cleaning up Industry* or cleaner industry, Toyota Motor Europe executive VP Michel Gardel summarized the "Toyota Approach" to sustainable mobility: the right car, the right place, the right time. Gardel identified hydrogen cars as the core technology for the 21st century to achieve sustainable development. But Toyota's list of vehicles/fuels for the future includes "gasoline, diesel, biofuels, compressed natural gas, gas to liquids, coal-to-liquids, etc."

Most of the focus, however, was on full hybrid technology, plug-in hybrids, and electric vehicles. Gardel said, in his summary remarks, "We need time to adapt our technologies to suit the needs of customers."

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