



Media Release

For Immediate Release

March 6, 2013

Saskatchewan Trucking Association and SaskEnergy Host Natural Gas Truck Transport Forum

Is natural gas Saskatchewan's Fuel of the Future? The Saskatchewan Trucking Association (STA) and SaskEnergy today hosted an information session to discuss that possibility with the province's truck transport industry.

"The Federal Standing Committee on Energy, the Environment and Natural Resources released a report in 2012 called 'Now or Never' which pointed to natural gas as being a game changing fuel," said Al Rosseker, Executive Director, Saskatchewan Trucking Association. "We're examining the future of natural gas as a viable fuel alternative to diesel, creating a basic 'well-to-wheels' understanding of natural gas and how it can best be utilized in fleets."

Safety, environmental impact, investment considerations, operational realities and the difference between Compressed Natural Gas (CNG) and Liquefied Natural Gas (LNG) were also covered in this one-day forum.

"SaskEnergy is working with the transportation industry to explore use of heavy duty natural gas engines as a more cost-effective and environmentally friendly fuel choice," said Deidre Donaldson Meyer, Director of Business Development for SaskEnergy. "Natural gas has 20 per cent fewer emissions than diesel, and also provides significant cost savings, particularly for long haul truck fleets."

SaskEnergy recently signed a three-year agreement with CanElson Drilling of Calgary to have compressed natural gas transported from a loading facility in Weyburn to be used as a diesel fuel alternative for CanElson's oil drilling rigs in southeast Saskatchewan.

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Backgrounder

Liquefied Natural Gas (LNG) is created by chilling natural gas down to -160°C where the gas becomes a liquid, reducing the volume by a factor of roughly 600 when compared to natural gas at standard conditions. This reduction in volume allows for economical transfer of LNG over long distances opening up new natural gas markets in locations where traditional pipeline infrastructure is not possible. In addition, the reduced volume makes the use of LNG in vehicles feasible because substantial amounts of LNG can be stored on-board and therefore the travel distances experienced before refueling are comparable to traditional diesel fuelled vehicles.

Compressed natural gas (CNG) is made by compressing natural gas to less than 1% of the volume it occupies at standard atmospheric pressure. It is stored and distributed in hard containers at a pressure of 2900–3600 psi, usually in cylindrical or spherical shapes. CNG requires a much larger volume and the use of very high pressures to store the same energy content of diesel. CNG's volumetric energy density is estimated to be 42% of that of liquefied natural gas (because it is not liquefied), and 25% of diesel¹.

Because the energy intensity of CNG is 25% of diesel, fleets that operate over short distances are best suited to CNG. In addition, fleets that have return to base travel patterns are well-suited to CNG because refueling can be provided on-site and the need to rely on scarce public CNG refueling facilities is minimized. In contrast, long haul trucking applications are better suited to LNG because the increased energy intensity of LNG is comparable to diesel and thus the distance travelled before refueling is necessary is also similar. Strategic placement of LNG refueling facilities is important but the number of facilities required is likely to be less intensive than the number required for CNG.

There are two main types of engine technology used to implement natural gas: dual-fuel technology and dedicated natural gas engines². Dedicated natural gas engines use only one fuel system and require spark ignition for combustion. More than 20 North American manufacturers offer factory-built natural gas trucks and buses. The natural gas engines are supplied by Canadian companies Westport Innovations and Cummins Westport. The vehicles are sold through dealers and come complete with warranties, parts, and service support.

More than 50 models of factory-built natural gas trucks and buses are available and are noted below on this website (<http://www.gowithnaturalgas.ca/operating-with-natural-gas/vehicles/factory-built-vehicles/>)

Excellent Canadian Examples of use of LNG and CNG can be found at:
<http://www.gowithnaturalgas.ca/success-stories/>

¹ http://www.envocare.co.uk/lpg_lng_cng.htm

² Hill, David. "Encana Initiative Underscores Environmental, Economic Benefits of Powering Rigs on Natural Gas." *The American Oil and Gas Reporter*. Aug. 2011. <http://www.aogr.com/index.php/magazine/editors-choice/encana-initiative-environmental-economic-benefits-powering-rigs-natural-gas> cited 15 Dec. 2011.