

January 17, 2016 10:00 am

US vehicle fleet needs to plug in to shale gas glut

Yossie Hollander



Pump up the volume: the use of E85 fuel needs to be expanded on station forecourts

The fracking revolution is still largely misunderstood by the oil and gas industry. It helped the US attain a measure of independence from imported oil but even today we import about 6.5m barrels a day, equivalent to one-third of US consumption.

However, the current low price of oil is making many shale operations unprofitable, causing massive lay-offs and threatening to bankrupt many companies in the oil patch. US oil production is declining again.

Here is where oil and gas companies get it wrong. The fracking revolution is not about oil; it is about natural gas and natural gas liquids such as ethane and propane.

Most fracking wells produce more hydrocarbons, in the form of natural gas and natural gas liquids, than oil.

That is one of the main reasons the price of these energy sources has collapsed. In many cases, the wells have been shut down, or the excess of these gas and liquids are flared, or burnt off, into the air.

The solution is to use them in the transportation sector, specifically to turn natural gas into alcohol fuels to run millions of vehicles that are already on the road. This will increase the revenue from each fracking well and the industry will become profitable at oil-price levels under \$50 a barrel.

The US is awash with natural gas. Last year, the average Henry Hub price per million British Thermal Units — the standard industry benchmark for gas contracts — was \$2.61. This was equivalent to about a third of the cost of oil calculated by the calorific measure over the same period.

However, in the most important shale-oil regions the price is even as low as \$1.

The price of natural gas liquids is much lower still and is often measured in cents. Sometimes it turns negative.

Much of this resource continues to be unexploited. In 2014, drillers flared 288.7bn cu ft of gas, compared with 91.2bn in 2000. That amounts to more than \$10bn worth of natural gas simply wasted.

Of course, cheap natural gas has become a favoured fuel for power generation as coal-fired plants are slowly phased out. But the transition is costly and time-consuming. Even if natural gas reached 100 per cent adoption (something that is not likely to happen in the next two decades) it would only replace \$28bn of coal-related costs a year.

The largest opportunity is to replace \$135bn worth of imported oil a year, or more than \$300bn of oil used overall, largely in the transportation sector.

Natural gas has been used as a vehicle fuel for years, in compressed form known as CNG. It is mostly used in larger vehicles such as refuse trucks and city buses. The fuel is an ideal replacement for the diesel market and should grow in the coming years.

But it is not a solution for the gasoline or petrol markets. Passenger vehicles that run on CNG cost thousands of dollars more than their gasoline-powered counterparts. Conversions of the current fleet are similarly expensive.

Even so, there are 250m gasoline cars, trucks and SUVs on US roads today that could potentially run on alcohol fuels like ethanol and methanol.

Most ethanol in the US is derived from corn. However, ethanol could also be produced from natural

gas at prices much lower than gasoline. Methanol, for example, is already made from natural gas.

As part of taking economic advantage of low commodity prices, the conversion of gas could be done close to the wellhead and, once converted to liquid, there would be no need to expand pipeline infrastructure to transport it.

The most convenient aspect of fuel derived from the conversion of natural gas to alcohol is that it can be used immediately in more than 19m flex-fuel vehicles already on the road.

These are factory-built to use any combination of gasoline or ethanol blends up to E85, the specification for a fuel blend containing 85 per cent of denatured ethanol fuel and 15 per cent gasoline.

Additionally, tens of millions of other gasoline-only vehicles could potentially be modified to run on alcohol fuels simply through software changes to the on-board computers.

There is no need to wait decades for a new fleet of high-tech vehicles, or massive taxpayer investment, to bring alcohol fuels based on natural gas to market.

The current US fleet is ready to consume cheaper fuels, as shown by the many E85 stations in the country that earn higher revenue and margins on their ethanol-based E85 fuel sales than gasoline.

All that is needed to make this a reality is the will, and the vision, to diversify our transportation fuels market.

The result would be an entirely new revenue source for oil and gas companies, increased employment, a reliable, cheaper price for consumers and a stronger and safer US economy that keeps more of its fuel expenditures at home.

The opportunity is right beneath our feet.

Yossie Hollander is co-founder of the Fuel Freedom Foundation and founder of Our Energy Policy Foundation, a non-partisan group that promotes fuel choice in the transport sector

Letter in response to this article:

Ethanol in petrol is causing big problems / From David J Melvin

RELATED TOPICS United States of America, Oil, Shale Oil and Gas

Printed from: <http://www.ft.com/cms/s/0/a4503ce4-b91c-11e5-bf7e-8a339b6f2164.html>

Print a single copy of this article for personal use. Contact us if you wish to print more to distribute to others.