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Gas — the forgotten fuel in the carbon reduction

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Article by Judy Maksoud – Editor, published Nov 1, 2009

In his book *The Grand Energy Transition*, Robert Hefner calls gas “the fuel that can change everything for our nation.” According to Hefner, a significant increase in the use of natural gas would dramatically lower greenhouse gas emissions and reduce US dependence on foreign oil. He argues that much of the nation’s electrical power (now generated by coal) could come from natural gas instead.

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As Dr. John Fermy, chief economist at the American Petroleum Institute, explained at the Exploration & Production Technology Summit 2009 event in The Woodlands, Texas, a few weeks ago, “The climate discussions in Washington are completely divorced from reality.” The present policy, he said, “is delusional.”

The foundation for Fermy’s argument is that renewables provide only around 1% of present US energy consumption, and although renewable energy can’t be dismissed as a reality moving forward, it cannot realistically be considered as a viable substitute for hydrocarbons in any meaningful way at present.

Intermittent production means there has to be a backup power source. “Solar and wind

don't exist without natural gas," Fermy explained.

A critical fact in examining the value of renewable energy is that renewable sources are used primarily to generate electricity, and electrical power is only a small part of the energy consumption equation. A fundamental argument against so much emphasis on renewables is that electrical power makes up only about 2% of hydrocarbon consumption in the US, while close to 70% goes toward transportation.

The fact is that none of the renewables can reliably power an automobile. Natural gas, on the other hand, can.

The Grand Energy Transition advocates switching from petroleum-powered to natural gas-powered automobiles. According to Hefner, the switch would produce dramatic results. "If we were to convert half of our existing vehicle fleet, we would eliminate a little over half our oil imports."

Given that the US imports approximately 12 MMb/d of oil, a 50% reduction could put the country much closer to energy independence. Around 2 MMb/d comes across the northern border from Canada. That leaves about a 4MMb/d deficit if consumption levels were to remain constant. If the US could reduce imports to this level, the country would be a whole lot closer to reaching its energy security objectives, and it would also be at a point where renewables could make a tangible difference.

Of course, the switch Hefner suggests would be costly. Huge numbers of cars would have to be converted to burn natural gas as fuel. And revamping the country's fueling and distribution systems would require a large investment.

Unlike the investment in renewables, however, this investment has the potential to truly pay off. The US has enormous gas reserves, and it is feasible for the country to dramatically increase natural gas production.

Fermy summed up the situation nicely. People say you can't drill your way out of the potential shortfall of hydrocarbons, he said, "but I beg to differ."
For my part, I heartily agree.