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## Feeling “real good” about LNG

By William C. Vantuono, Editor-in-Chief

Liquefied Natural Gas. It’s the next big breakthrough in locomotive technology. It’s a huge game-changer. It’s an almost unprecedented opportunity to drive fuel costs down. It’s the biggest thing since dieselization.

These are kinds of things we’ve been hearing about LNG. While such pronouncements do carry some truth, experience tells us that the railroad industry—traditionally conservative, and slow to enact sweeping changes—is going to take its time and not (pardon the pun) get all gassed up over LNG before extensive testing and development have occurred.

Industry consultant Jon T. Gabrielson has published a white paper, “An Analysis of Long-Run Economic Scenarios for LNG versus Diesel for Transportation Fuel,” that examines a broad spectrum of the available historical, current, and projected future data that can be brought to bear on the question of whether LNG is likely to be a price competitive transportation fuel for railroads as well as on-highway trucking.

“The results and conclusions of this analysis (including a data walk-through of all the available historical, current, and future data for crude oil, diesel, natural gas and LNG, and analysis of three main factors, each of which may increase or decrease the relative competitiveness of LNG vs. diesel in the future) is that ultimately it all comes down to what you believe the future prices for crude oil will be, and thus what the future prices for diesel will be,” Gabrielson notes:

“If you believe that crude oil/diesel will predominately be above \$100/bbl. (\$3.90/gallon diesel), then you will at least break even at a three-year simple payback, even if no improvements or reductions in incremental initial investment and liquefaction and logistics can be made.

“If you believe that crude oil/diesel will at times go as low as \$75/bbl. (\$3.00/gallon diesel) then you will only break even on a three-year simple payback if it is possible for very significant improvements or reductions in incremental initial investment and liquefaction and logistics costs to be made. These may or may not be possible, in which case LNG would be a net loser at those crude oil/diesel prices.

“If you believe that crude oil/diesel will return to levels prior to 3-4 years ago when it had logged 25 years in the \$25/bbl. (\$1.20/gallon diesel) range, or even just to half of today but double the past 25 years at \$50/bbl. (\$2.10/ gallon diesel), then converting to LNG could not possibly generate economic benefits.

“Even as low as \$50/bbl., crude oil would be higher than it has been at any time in history except the past nine years, and it has been in the low \$60s as recently as four years ago. This appears to be a perfect example of where one should try out the LNG technologies, continuously keep a small portion of one’s fleet LNG to develop experience and perfect/optimize the use of the technology, while closely watching the crude oil pricing environment to determine whether or not to embrace LNG in a big way.”

“To feel really good about LNG,” concludes Gabrielson, “you’ll want crude oil to remain at \$100 or above.”

For more on LNG, see p. 14.

Much has changed in six years, particularly diesel vs. natural gas fuel prices. The pendulum has moved toward the LNG side, but it would be wise to consider that it could swing in the opposite direction, perhaps when you least expect it.