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—Lucian Pugliaresi



Leading Oil Analyst Sizes Up the Heating Oil Market

ENERGY PRICES ARE WORKING AGAINST OILHEAT DEALERS AGAIN

this year. Last year, it was a price drop that wreaked havoc with fixed price programs. This year it is record-high prices that are squeezing customers' budgets and tempting them to look around for alternatives. Who knows what next year will bring?

No one knows for sure, but one group that is constantly digging for informed answers is the Energy Policy Research Foundation, Inc. (EPRINC) formerly known as the Petroleum Industry Research Foundation, Inc. (PIRINC). The Washington, D.C.-based organization studies energy economics with special emphasis on oil and distributes its findings via analytical reports and media commentary. EPRINC is supported by approximately 35 oil companies, but the views it expresses are its own and do not represent the oil companies.

Lucian (Lou) Pugliaresi has been president EPRINC since February 2007, having previously served on the Board of Trustees. He previously worked as a consultant and has held positions with the National Security Council, the Departments of State, Energy and Interior, and the Environmental Protection Agency. His writings have appeared in *Oil and Gas Journal* and other industry journals. He recently fielded questions from *Oil & Energy*.

How does the weakening of the U.S. dollar affect the oil markets?

I'm not sure anyone knows the answer to this question since there are so many moving parts. It is also quite difficult to solve what is called the "identification problem," i.e., was it rising oil prices that had some impact on the terms of trade that shifted the supply and demand for dollars, or did some other policy initiative (expanding the money supply, cheaper credit, etc.) cause the dollar to fall, thereby making imports (including oil) more expensive.

Ultimately the dollar is backed up by the productivity and goods and services produced by the U.S. economy. In this regard, we may be seeing some short-term shifts out of the dollar, but given the size and productivity of the U.S. economy I don't see a sustained move away from the dollar.

Why has the price of oil risen so sharply in 2007?

I think the forces at play in the market now are more short- and medium-term than tied to concerns over peak oil or concerns that ultimate recovery of conventional crude resources is declining rapidly.

Various factors around the world in 2003 and 2004 cost the world between 2.5 million and 3 million barrels/day of production that, prior to 2003, we were confident would be available. This kind of shift in expectations places a heavy toll on the market.

I would expect to see some downward pressure on crude prices in the next couple of years, even given rising demand in China and India. Some of the bottlenecks on the upstream side are getting worked out, and the high prices are resulting in adjustments on the demand side.

Iran and Venezuela are pushing for Euro pricing of oil. What will come of that?

Iran and Venezuela are free to post prices for their crude in any currency they wish, but the rest of the world will continue



EPRINC's Lucian Pugliaresi

to use dollars as long as it remains the world's reserve currency.

How would a switch to Euros affect markets globally and in the U.S.?

The switch away to Euros or any currency as the world's reserve currency would only occur over a very long period of time. Should this occur, which in my opinion is highly unlikely, I suspect the U.S. would suffer a one-time and somewhat dramatic shift in the terms of trade.

A substantial gap has developed between the prices for heating oil and natural gas. Why has the price of distillates increased?

The answer to this question has to start with what has been happening in the downstream market in the U.S. and Europe. Since 2002, world demand for the middle of the barrel has increased twice as fast as demand for gasoline.

This has led to what we believe is a somewhat unbalanced product market (and probably not sustainable over the very long term) where the middle of the barrel (distillates) is priced higher than gasoline.

We are not getting the historic relationship in pricing between the middle of the barrel and gasoline because the Europeans and other world refining centers are running full tilt to meet distillate demand, which is also yielding substantial volumes of gasoline components in excess of local demand. These gasoline components are then sold into the U.S. market.

We at EPRINC don't view distillate as selling at a premium to gasoline, but gasoline being discounted to distillate. Both statements are accurate, but how you look at this problem is important for understanding how the market is likely to shift. Over time we would expect the Europeans to reconfigure their refineries to reduce gasoline and increase distillate output, but this will require substantial capital outlays.

Why has the price of natural gas been more stable?

Among many analysts there is a fundamental disagreement on what factors will drive the price of natural gas in the U.S. On the supply side, we have to look to the production outlook from Canada, the pace of discoveries as well as the expansion of new fields in the U.S. (both onshore and offshore), the timing of Alaskan gas deliveries to the lower 48, and finally volume and pricing of LNG imports. Here we face considerable uncertainty on the supply side, both in terms of volume and price.

The other issue is what is the appropriate competitive fuel for gas? In the absence of a highly integrated and fungible gas market (including a high volume of spot LNG cargos), the North American market can be viewed as sufficiently disconnected at the point where all users who can shift out of oil or refined products have done so.

Are we already at the point? I am not so sure, but clearly we are close to the point where most consumers who can shift out of oil—at least in the medium term—have done so. So then we have the case where gas tends to compete either head-to-head with higher-cost gas supplies, or in some cases against coal supplies for the utility sector.

Heating oil prices increased by 35 percent between August and November of 2007, and we did not see a repeat of last year's price collapse. Why has this year played out differently from last year?

First, there is still plenty of time for adjustments in the market this heating oil season. Weather will probably be the driving variable, but recall my earlier discussion: heating oil is competing for the middle of the barrel on a worldwide basis. We may get some relief if crude prices erode further and refining operations remain at very high levels of availability (with few unscheduled maintenance problems), but there are a lot of wild cards, from Iran to Nigeria, still hanging over the market.

Low-sulfur heating oil will likely be mandated in Northeastern states within a few years. How would that development affect supply and price?

Many heating oil marketers have been looking to very low sulfur products as an opportunity to market the product as environmentally friendly, or at least an opportunity to give the industry more of a green patina. I'm not sure how valuable these efforts are as a strategy to maintain industry's market share.

There are two additional issues to sort through. First, what environmental standard makes sense for the heating oil community? There is really no need from an air quality goal to go to a sulfur standard of 15 ppm. I realize even the higher sulfur distillates have been expensive, but as the refining industry produces larger volumes of 15 ppm to meet on-road requirements, I would recommend the heating oil community move at a much slower pace because (1) it really is not necessary in terms of environmental protection, (2) it's costly to make the adjustments in a hurry, and (3) although we haven't seen many

opportunities for substantial discounting for higher sulfur supplies, there will be from time to time opportunities to obtain higher sulfur distillate supplies at substantial discounts. For the heating oil industry, this is an option they should preserve as long as possible.

What are your expectations regarding the future of ethanol and biodiesel?

We have done quite a bit of work on ethanol over the last year, but haven't given much attention to biodiesel. Biodiesel production remains small, and the product is very expensive to manufacture. Before I go through our ethanol analysis, I would like to point out that we are always concerned about making long-term business decisions based on government mandates and subsidies—what the government gives it can also take away.

I suggest your readers visit our website (www.eprinc.org) where they can download several reports on ethanol. Our research to date shows that ethanol is a highly valued commodity as a substitute for MTBE (octane booster), and it can help in some gasoline formulations to meet environmental standards in specific markets.

This is about 5 percent of the gasoline pool—between 6.5 and 8 billion gallons per year. Even in this range ethanol starts to go head-to-head with gasoline, and given that it has 30 percent fewer BTUs than gasoline and is more expensive to handle and distribute, it has to discount substantially to get blended into the gasoline pool, even with the 52 cents a gallon blender's tax credit.

So far a combination of the blender's credit and market valuations has driven ethanol demand to levels above mandates passed by Congress. But ethanol prices have declined in the last few months to well below \$2/gallon which has really cooled the enthusiasm in the investment community for new ethanol plants.

The use mandate will increase under current law and is likely to increase further given recent legislation pending in Congress. Here our concern is that the obligated parties (terminal operators, refineries, and blenders) may face very high distribution costs to get the ethanol distributed throughout the entire gasoline pool and at the same time not offering much relief to the ethanol producers.

Ethanol is not oil and we may end up with a train wreck unless Congress revisits the issue down the road. ☒

(EDITOR'S NOTE: An extended version of this interview can be found at our Web site: www.nefi.com/oilandenergy.)