The Eight Factors Influencing Energy Markets In 2016 and Beyond

Energy markets are in flux with short-term and long-term forces colliding to create more than the usual amount of uncertainty. Over the course of 2016, we see a continuation of the low-price environment for both crude oil and natural gas, albeit with considerable volatility as prices gyrate within wide trading ranges. Over the longer-term, say 2017-2020, our base case scenario involves a divergence between crude oil and natural gas price dynamics, and a much greater reliance on WTI as the global benchmark for crude oil. We see the evolution of eight key factors driving energy market dynamics, four for the short-term and four for the long-term:

**Short-term:**
- Continued growth of production in the United States.
- Increased production from the Middle East.
- Slow global growth; and

**Long-term:**
- LNG exports from the United States.
- Declining North Sea crude oil production.
- Delinking of natural gas pricing from crude oil in Europe and Asia.
- Potential for U.S. ban on crude oil exports to be lifted.

1. **Continued growth of production in the United States despite lower prices keeps oil prices low.** When crude oil prices collapsed by half in the fourth quarter of 2014 many analysts expected a relatively quick supply response based on models taught in every Economics 101 class. Unfortunately, the basic economics version knows nothing about debt, time, and cash flow, among many other things. Many wells in the United States have been shut down, but a focus on getting more oil from the most efficient wells has kept production high. One has to appreciate the difference between cash flow and accounting reports. Oil producers, just like mom and pop convenience stores, know that cash is king. It is very easy to include non-cash items, such as depreciation, as well as certain investment or capital costs, into the calculation of how much money is required to produce a barrel of oil. What really matters to the oil producer, though, is the actual cash costs of the next barrel of oil, and these cash costs can be substantially lower than the costs as measured by accounting principles and purported to represent the dollar cost per barrel. What this means is that on a going-forward cash basis, many wells that look unprofitable on an accounting basis are still net cash flow positive. So the producer keeps on pumping – oil and cash.
Debt matters, too, because many oil producers have a lot of it. If they were to shut their wells down, there would not only be no flow of oil, but also no cash flow and the cash needed to pay their debts. Pumping oil at a loss makes sense if one can stay in the game for the long-run and avoid bankruptcy.

2. Increased production from the Middle East contributes to a low price environment. For the most part, Middle East producers are extremely low marginal cost producers of oil. There is virtually no incentive for these extra-low cost producers to curtail oil production, while there are longer-term incentives to pump more oil, including the need for income as well as a desire to put more pressure on the competition.

And then there is the dynamic of Middle East politics. The five-nation deal with Iran concerning nuclear power generation and lifting of economic sanctions is going ahead as planned. This means more production from Iran entering world markets. Also, the various conflicts in the Middle East have a new dimension. The goal of the various rebellions is to get control of the oil revenues for their own purposes and not to destroy oil production capability, as Iraq did when it retreated from Kuwait back in the 1990s. The net result is that the politics of the Middle East, so long associated with supply disruptions, are now contributing greater supply. Certainly, this could change in an instant, but ignore this new reality at one’s peril.

3. Slow global growth, including a decelerating China, means less energy demand growth. The United States is one of the more robust of the mature industrial economies and it is only growing a steady 2.5% real GDP each year. Europe seems to be emerging from its economic stagnation in 2015. However, this also only means 1% to 2% real GDP growth. Japan is hardly growing, as neither Abenomics nor a sharply depreciated Japanese yen could lift this aging economy out of its doldrums.

In the emerging world, countries from Brazil to Turkey to Thailand are seeing rising political risks lead to economic disruption. But, China is the big story. After decades of averaging 10% real GDP growth, China is decelerating. Spending on infrastructure does not bring the same return as it once did. And, China’s trading partners, whether emerging market countries or mature industrial countries, are simply not growing fast enough to support China’s export machine. Without export growth, China decelerates even more rapidly. A decelerating China, slow growth in emerging market countries and mature countries, all add up to very little demand growth for energy.

4. Impact of El Nino on the U.S. 2015-2016 winter could temporarily reduce natural gas demand. The last short-run factor impacts natural gas in the United States. An El Nino weather pattern developed along the equator in the Pacific Ocean between March and July 2015. Even if this El Nino starts to weaken this fall, it has already gained enough strength to influence the U.S. storm track with the potential for more precipitation and modestly warmer winter weather. A warmer-than-normal winter could put some temporary downward pressure on U.S. natural gas prices, as natural gas serves both as a fuel for heating homes directly and as a fuel for power generation.

Short-Run Summary. The base case is all about increased supply and lower demand, even with the sharp drop in crude oil prices at the end of 2014. This supports the case for oil staying in a relatively low trading environment with little probability for a return to $100 per barrel of oil in the near future. We would put the WTI crude oil trading range in the $35-$55 territory. A breakout down to $20/barrel could be triggered by a serious global recession. Despite our pessimism about slow global growth, we see only a 10% probability for a global recession developing. And, a return to $100/barrel oil would require either a large supply disruption in the Middle East or a return to 5% to 10% real GDP growth in China and other emerging market countries. Neither of these possibilities seems likely in the short run.

5. LNG exports from the United States could raise U.S. natural gas prices and lower European and Asian prices. Before the boom in natural gas production started, the United States was an importer of liquefied natural gas (LNG). Now billions upon billions of dollars are being spent on huge capital projects to build LNG facilities and reverse ports for export. This process takes time – years and years. It is like watching paint dry. Paint does eventually dry, and LNG exports from the United States are likely to be an influence on natural gas prices in the United States (upward), and Europe and Asia (downward) in the 2017-2020 period.
6. Declining North Sea crude oil production makes Brent crude oil a less attractive benchmark. The North Sea is a challenging place to produce oil. Just ask an oil rig worker deployed in the cold waters between Scotland and Norway, and he might tell you about the nine months of winter and three months of bad weather. What this means, though, is that in a low-price environment, maintenance and investment costs argue against expanding North Sea oil production. And, the North Sea has seen declining production for over a decade. Declining production associated with the probability of increased maintenance-related production interruptions suggest that the basis between Brent and other types of oil is likely to become much more volatile, and volatile basis is not a prescription for a robust benchmark.

7. De-linking of natural gas pricing from crude oil in Europe and Asia weakens Brent further as a benchmark and suggests lower natural gas prices in the region. In the past, Brent has benefited as a benchmark from being used to price European long-term natural gas contracts. This gas-to-oil link has been breaking down and this trend is accelerating. The implication is that natural gas prices in Europe and Asia can now dance to their own drummers, and that suggest the possibility of lower natural gas prices in these regions, as well as further weakening the risk management uses of Brent as a benchmark.

8. Potential for U.S. ban on crude oil exports to be lifted could increase use of WTI as the global benchmark. Back in the 1970s, the United States was worried about OPEC having power over the U.S. economy, and legislation was enacted that allowed for the banning of U.S. oil exports. This crude oil export ban has been marginalized by the oil production boom. And the case for allowing the export of refined product but not crude oil when supply is abundant does not make much sense any more. That said, Washington politics moves very slowly, so a lifting of the crude oil export ban will probably have to wait until after the 2016 U.S. Presidential elections. Nevertheless, in the 2017-2020 period, a tighter link between WTI and other grades of crude oil produced in the Middle East and Russia suggests a steadily increasing role for WTI as the favored global benchmark.

Long-Run Summary. For the long-run, the key base case scenario involves a resurgence of U.S. WTI crude oil as the global benchmark, influences by declining production in the North Sea, the de-linking of the European convention of pricing natural gas in terms of Brent, and the potential after the U.S. Presidential elections of a lifting of the U.S. ban on crude oil exports. In the natural gas world, the big event will be the coming on-line of significant LNG capability from the United States. Natural gas is dominated by local market supply/demand consideration when pipes are the main delivery mechanism. LNG exports, though, can link U.S. natural gas to European and Asian markets, as was the case with LNG imports in the United States before the production boom commenced. This suggests a relative shift in prices, with Europe and Asia seeing downward pressure and the United States seeing upward pressure on natural gas.