Tortoise QuickTake Podcast

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Welcome to the Tortoise QuickTake podcast. Thank you for joining us. Today, a senior member of Tortoise provides a timely update on trending topics in the market.

Thanks for joining us today on the Tortoise Quick Take Podcast. I'm James Mick, Managing Director and Portfolio Manager with Tortoise Capital Advisors.

Earnings are about to kick off for the 2nd quarter and we are looking forward to hearing company expectations for the back half of 2017. A strong U.S. inventory report on the crude oil side, warm weather across the country supporting demand for natural gas and a host of reports out of agencies such as OPEC, the EIA and IEA filled the week with a variety of angles on expectations for supply and demand of energy. Ultimately it all ended with a solid week for stocks and commodities.

Let's kick things off with a recap of that market performance:

- On the commodity front, crude oil was up nicely, improving 5.2%, while
- Natural gas was also strong, up 4.1%
- Shifting to equities, the broader S&P Energy Select Sector Index® finished higher, up 2.1%
- Exploration and production companies, as measured by the Tortoise North American Oil & Gas Producers Index℠, were positive, increasing 4.6%
- And finally MLPs were also in the green, as the Tortoise MLP Index® rose 2%

What would you think if I told you the world needs to come up with somewhere in the neighborhood of 15-20 million barrels per day of crude oil by the year 2022?

Pretty big number. Especially considering the current daily supply for the entire world is about 97 million barrels. Essentially, we need to come up with two Saudi Arabia's in 5 years' time!

Let's dive into why.

The market's fixation with short-term news flow can obviously be frustrating for investors. The concept of the oil supply gap is an example of how current news can dominate future expectations and lead to suboptimal outcomes. The oil supply gap is an expectation of what happens to future oil supply based primarily on two key components:

1) Future demand growth
2) Lower future production from existing wells due to natural declines

First, let's examine future demand growth.

Demand for crude oil worldwide has been growing at a nice clip in recent years. According to the BP Statistical Review of Energy, crude oil demand has grown, on average, 1.7% per year since 2009. In the decade kicked off by the year 2000, demand was up 1.2% on average. For the 1990's: 1.5%. In fact, going all the way back to 1970 yields 47 different periods to analyze for changes in demand. Of those 47 periods, only 9 registered negative demand, including just 2 in the last 23 years. The average over that entire time period was 1.8% with a median of 1.6%.

In short, demand tends to grow about 1.0 to 1.5 million barrels per day, per year, on average. Of course you have some hiccups, but history has shown this is a pretty good range for expected growth.

Over the next five years, our expectation, based on various groups, has the supply gap at 17.5 million barrels, with demand representing about 5.5 million barrels of that number, or just a shade over 1.1 million barrels per day.

The second component of the supply gap is natural declines of existing fields. All wells experience declines over time. As I've stated previously on the podcast, the decline curve always wins. Average declines are usually 3-5% per year, but vary by basin and well type. Some OPEC countries have very shallow declines. Shale wells tend to have steeper initial declines. But the fact

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is, production declines naturally over time to the tune of 3-5% per year, making up the balance of our supply gap, to go along with increases in demand.

Based on current production, that equates to approximately 12 to 14 million barrels per day that will simply go away due to natural declines.

So to recap our numbers, we have new demand over the next five years of approximately 5.5 million barrels per day and natural declines of existing production of approximately 12 to 14 million barrels per day. In total, that's right in the range of the 15 to 20 million barrels per day I laid out earlier.

Note, this is not new. This happens all the time. As you can imagine, it's an ongoing problem and something that the world generally faces every year as they look ahead.

The Saudi oil minister has talked about this very subject and their concern about the building supply gap and how higher prices are needed now to ensure we don't have an issue later.

Why? Because the way to solve the supply gap is through investment in new production.

However, since the precipitous price drop in oil over the last three years, investment is down dramatically across the globe.

Wood Mackenzie, a global oil and gas research provider, noted last year that it anticipates spending between 2015 and 2020 to be down 1 trillion dollars from previous expectations. Yes, that's trillion with a T.

IHS, another large energy researcher, noted conventional discoveries of oil and gas in 2016 were the lowest since 1952.

One area seeing growth in 2017 is the United States. In fact, it is one of the only areas with an uptick in capital spending. T he U.S. is increasingly competitive on the global cost curve, but maybe more importantly, the short-cycle nature of U.S. shale, i.e. the ability to bring on new production quickly, has made it ideal to fill the pending supply gap.

In effect, U.S. shale is pushing out other, longer lead-time projects.

Okay, so we have stated an obvious fact that the world will need more crude oil in the next five years. But what does that have to do with the situation right now?

Well, the idea is that the world will need both OPEC and U.S. shale to fill that supply gap. In fact, we think those two are the primary sources of new supply in the years ahead.

Of course others will contribute, but 15-20 million barrels is a big number and someone has to fill that hole.

Higher prices will help. But clearly we need to alleviate the current inventory overhang to get those higher prices.

The point of all of this is to simply note, the current environment sounds dire and appears like it will never end, yet we can pretty visibly point out a plausible scenario for not only U.S. shale and OPEC to co-exist, but to need each other in the not too distant future.

And that's just one of the reasons we are bullish on energy broadly and U.S. energy specifically.

That will do it for today…have a great week and we look forward to speaking with you again soon.

Thank you for joining us. And stay tuned for our next cast. Have topics you want covered or other feedback to share? Write us at info@tortoiseinvest.com.

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