Tortoise

Tortoise Talk

Second quarter 2017

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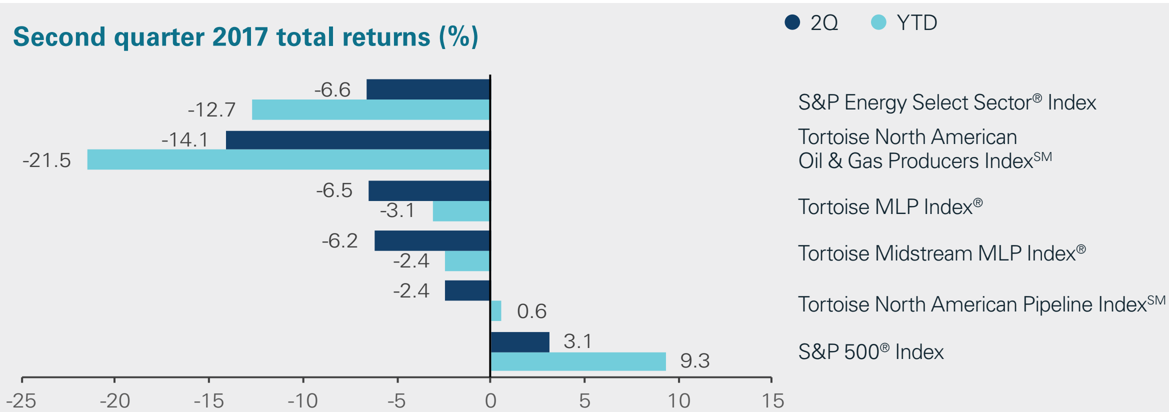
The S&P Energy Select Sector® Index returned -6.6% for the quarter, mostly driven by negative investor sentiment that accompanied lower crude oil prices. While the announcement at the May Organization of Petroleum Exporting Countries (OPEC) meeting was as expected, the market reaction was to the downside. Since then, OPEC has deliberately reduced exports and there is an opportunity for further action given Saudi Arabia's pledge to do "whatever it takes" to defend prices. Our expectation is that both U.S. and global oil inventories decline throughout the second half of 2017 likely resulting in a more constructive crude oil price environment. We believe that with a favorable commodity price outlook, along with solid company fundamentals, the energy sector has several tailwinds heading into the second half of the year.

The broader equity market, represented by the S&P 500® Index, had a solid quarter returning 3.1%. Fixed income performance was up modestly from last quarter with the Bloomberg Barclays U.S. Aggregate Bond Index returning 1.4%. MLPs underperformed other income-oriented asset classes such as REITs, as represented by the FTSE NAREIT Equity REIT Index, and utilities, represented by the S&P Utilities Select Sector Index. The average MLP yield increased slightly to 7.3%.

Second quarter 2017 total returns (%)



2Q period reflects 3/31/2017-6/30/2017. Source: Bloomberg. It is not possible to invest directly in an index. Please see index definitions on disclaimer page. **Past performance is no guarantee of future results.**

Upstream

Crude oil

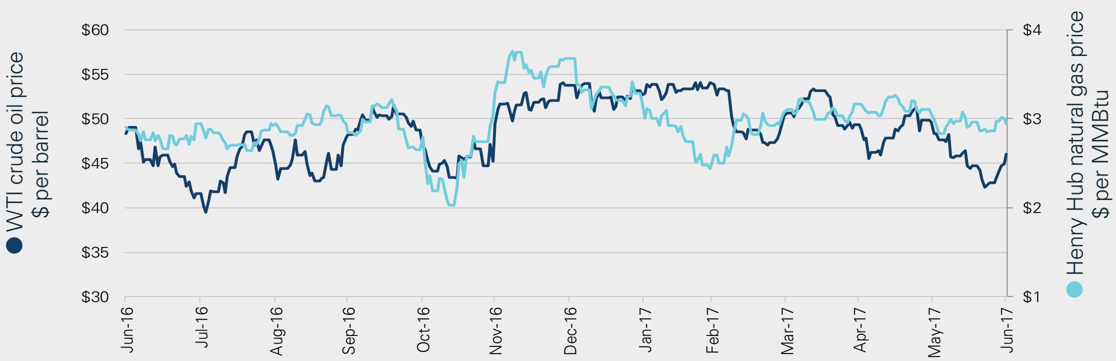
Upstream oil and gas producers, as represented by the Tortoise North American Oil and Gas Producers Index℠, returned -14.1% for the quarter. Sentiment was negative due to lower crude oil prices that started with West Texas Intermediate (WTI) at $50.60 per barrel, hit a quarterly low of $42.31 on June 21, and ended the period at $46.04. Prices were driven by both domestic and global supply concerns. Stubbornly elevated global inventory balances persist with U.S. rig counts up more than 100% since last year, along with a strong return of Libyan and Nigerian production. In addition, while compliance with OPEC's curtailed production agreement was strong, exports remained higher than anticipated and OPEC's agreement has yet to meaningfully reduce inventories.

U.S. crude oil production forecast for 2017 was revised higher over last quarter, now expected to reach 9.3 million barrels per day (MMbbl/d)[1]. The 2018 forecast is calling for 9.9 MMbbl/d, which would exceed the previous record from 1970[1].

Natural gas

Natural gas prices opened the quarter at $3.10 per million British thermal units (MMBtu) and ended the quarter slightly lower at $2.94. The EIA predicts higher natural gas prices in 2018 due to increased domestic natural gas consumption, along with new export capabilities. Natural gas production is expected to average 72.0 billion cubic feet per day in 2017 and is anticipated to rise to 77.5 in 2018[2].

Crude oil & natural gas prices



As of 6/30/2017. Source: Bloomberg. Note: MMBtu = million British thermal units

Midstream

Pipeline companies pulled back along with the broad energy sector, with the Tortoise North American Pipeline Index℠ returning -2.4%. MLPs faced additional pressure, causing them to retreat further with a return of -6.5% for the quarter, as represented by the Tortoise MLP Index®. While the midstream segment was negative for the quarter, not all pipeline companies retreated to the same extent. Refined products pipelines were the least affected by lower crude oil prices as lower prices tend to drive demand for refined products, such as gasoline. Gathering and processing pipeline companies were impacted the most, particularly those with non-fee-based contracts, due to the negative impact of lower commodity prices.

Typically, increased U.S. production bodes well for U.S. midstream companies. However, investor sentiment was the main driver of performance during the quarter. Management appears to be more optimistic than investors, pointing to the outlook for significant volume growth driving up utilization of existing assets and creating demand for new infrastructure. Along with this, companies have taken proactive steps during the downturn to right-size balance sheets and lower cost of capital, positioning them to potentially take advantage of the improving environment. Solid distribution growth, constructive earnings announcements and a shift in focus to fundamentals may reverse declines. Additionally, in our view, more open equity capital markets or clearer alternative sources of funding would be beneficial to companies with funding needs. Our long-term outlook for the midstream sector remains positive with a projection for capital investments in MLPs, pipeline and related organic projects at approximately $125 billion for 2017 to 2019.

Downstream

The downstream segment was the best performing segment of the energy value chain during the second quarter. Refining, in particular, was a bright spot amidst the negative sentiment even though margins tightened. Diversified downstream companies continued to unlock the value of their midstream assets and utilities were helped by lower interest rates.

Petrochemicals were positive as new ethylene capacity started to come online. From 2017-2020 the increase in ethylene capacity is likely to raise ethane consumption. We think this validates the U.S. as a low cost supplier of plastics to the rest of the world and bodes well for pipelines transporting the ethane feedstock.

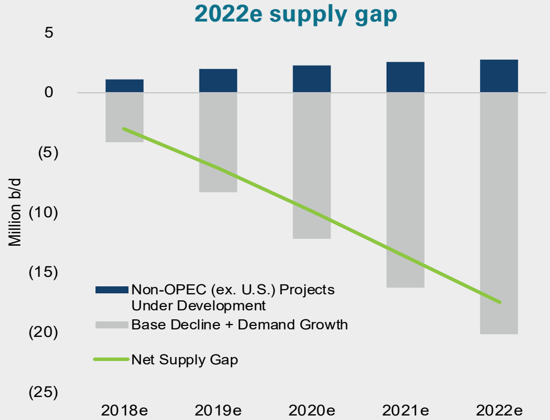
Renewable generation, particularly large-scale wind and solar, continue to be developed at a fast pace. Wind generation is expected to increase by approximately 25% and solar is expected to increase by nearly 50% from the end of 2016 to the end of 2018.[1]

Spotlight: U.S shale and OPEC needed to fill the oil supply gap

We are frequently asked "what is the market missing?" If you look solely at energy fundamentals, you would expect the market to have fairly strong performance. However, recently, the market has focused on short-term news about elevated crude oil inventory balances, and ignored the potential medium-term supply gap, and more importantly, how that gap is going to be filled.

What is the crude oil supply gap?
Global investment in upstream production outside the U.S. has declined for three consecutive years. Additionally, output from older fields, which make up nearly one third of global production, fell by 5.7% in 2016 due to depletion. This was the biggest decline since 1992[1]. These two factors have caused a steep production decline and is expected to limit supply growth beyond 2018. On the other side of the equation, demand growth remains strong with an expectation to grow approximately 1.4 mmb/d in both 2017 and 2018[1]. When considering all these factors, we think you will see a substantial supply gap expected in 2022.

2022e supply gap



How is the supply gap going to be filled?
We think the global markets will likely become increasingly dependent on U.S. crude oil exports. The U.S. can help meet demand growth in the short term as shale drilling remains among the lowest cost on the global dispatch curve. We believe, the U.S. has the potential to meet approximately 20% of global petroleum demand by 2022.

Conclusion
Higher crude oil prices will likely be required to incent investment in non-U.S. projects needed to meet global demand in the next decade. However, based on the current environment, the U.S. has the ability to add significant incremental production with oil prices above $40. We think this could be the catalyst that positions the U.S. as a significant supplier of crude oil to the rest of the world.

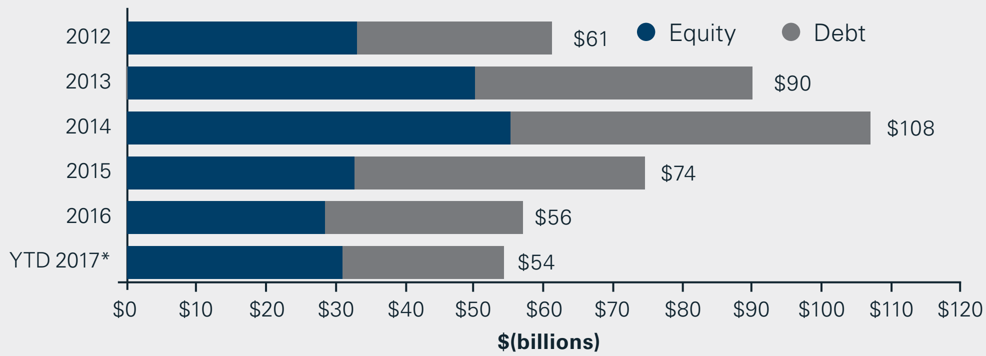
[1]Wood Mackenzie, Bloomberg, HIS, EPD. As of 6/30/2017

Capital markets

Over the second quarter, we experienced a temporary pause in the thawing of capital markets. This lack of traditional capital market activity heightened the need for alternative, more flexible sources of capital, such as private investment in public equity (PIPE) deals.

Though there were three midstream initial public offerings during the quarter, MLPs and other pipeline companies only raised $15 billion, which is less than half the capital raised during the first quarter. The majority of capital raised during the quarter was in debt offerings.

MLP and pipeline company debt & equity offerings

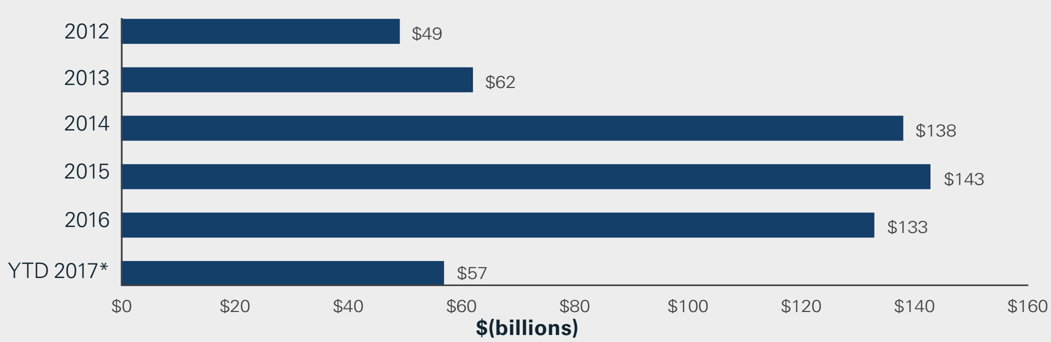


Source: Company filings. *Period reflects 12/31/2016 - 6/30/2017. Includes equity issued to sponsors.

Merger and acquisition activity

Merger and acquisition activity among MLPs and other pipeline companies significantly slowed from the previous quarter totaling nearly $14 billion. Pembina Pipeline Corp. had the largest announced transaction of the quarter with its acquisition of Veresen Inc., in a deal valued at approximately $5 billion.

Announced MLP and pipeline company acquisitions



Source: Company filings. *Period reflects 12/31/2016 - 6/30/2017.
Includes MLP and pipeline corporations, including those transactions between MLPs.

Regulatory corner

Federal Energy Regulatory Commission (FERC) Update:

- Due to open positions, essential decisions are currently at a standstill as two or more commissioners are needed to establish a quorum.
- However, two individuals are currently in the approval process with a Senate vote needed and two more have been nominated by President Trump.

Trump's energy dominance agenda

The Trump administration's agenda includes the following initiatives:

- Revive and expand nuclear energy sector
- Address barriers to financing of overseas coal plants
- Build a petroleum pipeline to Mexico
- Increase LNG exports to South Korea
- Approved two long-term applications to export additional natural gas from Lake Charles LNG terminal in Louisiana
- Release new offshore oil and gas leasing program

Concluding thoughts

Lower crude oil prices and negative investor sentiment drove energy sector performance to the downside during the quarter. Yet, U.S. shale fundamentals have remained intact and we expect shale to be a growing force in supplying the world with energy. For upstream companies, production is expected to grow as breakeven costs continue to fall with improved efficiencies. Midstream and downstream companies should benefit respectively, from higher volume throughput and a greater supply of low cost inputs. We believe the current global energy landscape offers compelling investment opportunities in the sector.

[1] Energy Information Administration, July 2017

[2] Bentek, June 2017

Disclaimer

This commentary contains certain statements that may include “forward-looking statements.” All statements, other than statements of historical fact, included herein are “forward-looking statements.” Although Tortoise Capital Advisors believes that the expectations reflected in these forward-looking statements are reasonable, they do involve assumptions, risks and uncertainties, and these expectations may prove to be incorrect, Actual events could differ materially from those anticipated in these forward-looking statements as a result of a variety of factors. You should not place undue reliance on these forward-looking statements, which speak only as of the date of this publication. Tortoise Capital Advisors does not assume a duty to update these forward-looking statements. The views and opinions in this commentary are as of the date of publication and are subject to change. This material should not be relied upon as investment or tax advice and is not intended to predict or depict performance of any investment. This publication is provided for information only and shall not constitute an offer to sell or a solicitation of an offer to buy any securities.

The Tortoise MLP Index® is a float-adjusted, capitalization-weighted index of energy MLPs. The Tortoise Midstream MLP Sub Index is comprised of all constituents included in the following sub sector indices: Crude Oil Pipelines, Gathering & Processing, Natural Gas Pipelines, and Refined Products Pipelines. The Tortoise North American Pipeline Index℠ is a float-adjusted, capitalization-weighted index of pipeline companies (MLPs, corporations, LLCs) domiciled in the U.S. or Canada. The Tortoise North American Oil and Gas Producers Index℠ is a float-adjusted, capitalization weighted index of North American companies engaged primarily in the production of crude oil, condensate, natural gas or NGLs. The S&P 500® Index is a market-value weighted index of equity securities. The S&P Energy Select Sector® Index is a modified market capitalization-based index of S&P 500 companies in the energy sector involved in the development or production of energy products. The FTSE NAREIT All Equity REITs Index is an unmanaged, capitalization-weighted index of all U.S. equity real estate investment trusts. The S&P Utilities Select Sector Index® is a modified market-cap weighted index composed of constituents of the S&P 500® Index in the utilities sector. The Barclays US Aggregate Bond Index is an unmanaged index comprised of government securities, mortgage-backed securities, asset-backed securities and corporate securities to simulate the universe of bonds in the market. The maturities of the bonds in the index are over one year.

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It is not possible to invest directly in an index.

About Tortoise

Tortoise is a leader in essential assets and income investing. Through its registered advisers, Tortoise provides investors access to differentiated active and passive investment solutions and market insights. Tortoise had $20.3 billion assets under advisement as of June 30, 2017. Its business is rooted in more than a decade of leadership and expertise in both income and equity investing in energy and essential assets.