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2017 REVIEW AND 2018 OUTLOOK

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Overview

In many ways, 2017 was a story or strong demand growth across energy markets. For several energy commodities, heightened levels of demand were driven by a period of low prices during 2017, which saw consumer level consumption surge. In other markets, policy shifts played a role in bolstering demand, with new clean air policies in key areas of China driving gas demand higher at the expense of coal, while policy barriers constraining nuclear generation boosting both natural gas and coal demand. Relatively low energy prices also forced the hands of many producers to moderate supply growth, ranging from OPEC/Russia oil production cuts, to emerging restraint in U.S. shale oil and gas production. However, global oil, gas, and NGL production did indeed rise in 2017, with shale again leading the way and a particular focus on the Permian and Appalachian Basin shale plays. The combination of stronger demand and restrained supply in 2017 winnowed away the global crude oil surplus, and brought U.S. natural gas inventories down from historic maximums to around the five-year average. Behind the scenes, the development of renewables and electric vehicles (EVs) continued to accelerate, with wind and solar generation growth having a greater impact on energy markets than EVs, for now.

Into 2018, global demand for oil and gas is expected to remain robust, requiring an acceleration in production to not only accommodate enhanced demand, but to prevent another year of inventory losses. For the oil market, U.S. shale output is expected to be strong, although OPEC conservatism will likely lead to excessive inventory tightening, which will be constructive to market pricing. Despite a marked amount of new gas pipeline takeaway capacity out of the Appalachia, gas production growth has not matched that growth. While record U.S. gas production growth now in effect will limit upside price risks, incremental coal-to-gas switching and LNG exports stand to limited downside price risks this year.

GLOBAL OIL

- Global oil market rebalancing accelerated in 2017 with surplus stocks falling 1 MMB/D during the course of the year, virtually eliminating the entire surplus. Strong oil demand growth and supply cuts were the key factors driving stock decline. 2018 will see global supply, led by U.S. shale, grow faster than demand but stocks will still decline, supporting oil market backwardation and relatively strong nominal prices at the back end of the year.
- Global liquids supply grew 1 MMB/D in 2017, mostly from non-OPEC sources and driven by U.S. shale (0.7 MMB/D), which rebounded as a result of higher oil prices in the second half of the year. The U.S. horizontal oil rig count almost doubled and operators lowered costs & increased productivity. However, OPEC and Non-OPEC crude production cuts helped eliminate surplus stocks in Three Major OECD regions. Liquids supply expected to grow 2.0 MMB/D in 2018, with the majority coming from U.S. shale and Canadian oil sands. OPEC crude output will increase only marginally due to political issues in Venezuela and Middle East countries.
- World refinery distillation capability grew by about 1.3 MMB/D in 2017, slightly more than the five-year average but below the 2016 level. U.S. refining continued to expand, largely to support the growing export market, with much of the rest of the increase occurring in Asia and the Middle East. Oil product demand will again post healthy gains in 2018, keeping refinery margins strong.

GLOBAL NGLS AND PETROCHEMICALS

- Activity in the Permian Basin continues to drive NGL production forecasts higher, with 2018 production from the region expected to increase 30% over 2017 volumes. Production growth in this region and elsewhere in the U.S. will continue to pressure prices for ethane, which is already abundantly supplied, likely incentivizing a “second wave” of steam cracker projects in the U.S. Northeast and Gulf Coast.
- Asian and European chemical companies favored naphtha for most of 2017, but the recent run up in crude has allowed ethane to become the preferred chemical feedstock in both regions recently. Propane prices have risen nearly 50% since mid-2017, ahead of the gains seen in Brent over the same time frame, which has prevented the liquid from pricing itself back into the chemicals market.
- Saudi Arabia’s exploration of crude to chemicals technology, the impact of China’s ban on importing recycled plastics are key areas to watch in 2018, particularly as China imports about 2.5 million metric tons of recycled polyethylene each year. Starting in 2018 that will need to be made up using virgin polyethylene.

AGRICULTURAL COMMODITIES & BIOFUELS

- The largest U.S. corn stocks in the post-ethanol era were reduced early in 2018 due to a historic Argentinean drought and Brazilian planting delays. Soybean prices continue to outperform corn prices due to production issues in South America. Chinese soybean demand remains strong globally, albeit weaker in the US due to proposed protectionist tariffs in other commodities. With a fragile U.S. farm economy, 2018 will be another year of U.S. farmers trying to produce their way out of relatively flat prices. There is also some potential for a reduction in exports due to retaliatory tariffs.
- U.S. ethanol production rates reached new record highs in 2017, pushing producers to look abroad to find homes for their excess product. Ethanol demand grew only moderately in the U.S. and the world in 2017. Production and consumption of ethanol is expected to surpass expand further in 2018, with global trade expected to rise once again.
- The volatility in RIN prices, which saw a substantial rise in 2017, remains the topic of much discussion amongst lawmakers in Washington.

NATURAL GAS

- After posting outsized Y/Y declines in electric power sector (EPS) gas demand from October 2016 to September 2017, more competitive gas prices along with colder temperatures during the 2017-18 heating season, helped EPS gas demand rebound. These gains, are mixing bullishly with structural growth from gas exports and industrial consumption. Even so, the return of U.S. gas production gains in mid-2017 — which was soon followed by new record high levels before year end — is precluding sustained gas price strength. Indeed, despite the stretch of acute below-normal U.S. temperatures that resulted in record high gas demand and caused downstream and even upstream prices alike to spike in January, support soon dissipated — as underscored by the return of sub-$3/MMBtu Henry Hub prices. While record U.S. gas production growth now in effect will limit upside price risks, incremental coal-to-gas switching and LNG exports stand to limit downside price risks this year.
- With the U.K.'s Rough asset no longer operating as a long range storage facility, a severe cold snap in early 2018 tested withdrawal flexibility and system reliability. European gas production continues to move lower both in the U.K. Continental Shelf as well as Dutch production out of the Groningen field. An increase in LNG supply in 2018 will be required to refill continental storage on a likely continuation of bullish power sector factors.
- The development of new LNG liquefaction remains caught between producers wanting to sign long-term contracts in order to secure financing and consumers wanting maximum buying flexibility and showing little interest in making such a commitment. At the same time, an aggressive shift in Chinese policy toward air quality has led to a major uptick in seasonal LNG buying patterns, that is relatively insensitive to price. Qatar's lifting of it gas development moratorium triggered a wakeup call to competitors that lowering LNG costs will be necessary to compete. The onslaught of new LNG supply arriving in 2018 will test the market's ability to consume or store gas during the second and third quarter of the year without a major reduction in price.

GLOBAL POWER

- In many ways, 2017 marked the continuation of several trends in the U.S. power industry including slow load growth (<0.5% on a weather-adjusted basis with several regions continuing to decline), gains in renewables market share due to cost declines and extension of tax credits in late 2015, and growth in gas-fired capacity in response to low gas prices and to replace retiring coal units. One of the major changes to look for in 2018 is a slowdown in renewable energy development. Reduction in the corporate tax rate, reductions in availability of tax equity, a tariff on imported solar panels/modules, changes in PURPA regulations or avoided cost estimates, and a backlash against net-metering are potential negatives.
- European power in 2017 was highlighted by historically low hydro and nuclear generation, while coal-fired generation continued its historical decline. Wind/solar generation continued to steadily march higher although gas-fired generation was up 40 TWh year-over-year, but still to only 75% of the historical annual high seen in 2008. Policy developments will be crucial for European prices as nations grapple with the future of coal, nuclear, and renewables.

COAL

- Global coal demand bounced back in 2017, surging in several markets around the world. From unwinding of coal-to-gas switching in the U.S., to sizeable overall energy demand growth in in China, to underperforming nuclear generation, coal was generally the fuel of choice to meet incremental fossil fuel demand in the power sector outside of Europe in 2017. Coal demand growth is expected to decelerate in 2018, led by China. A combination of surging renewable generation and a clean air policy will reduce China's coal consumption, which will have an outsized bearish impact on the global coal market. Recovering nuclear output in Europe and Asia will also serve to constrain coal-fired generation.

- Despite promises to the contrary, Trump's support for U.S. coal industry has not moved the needle. The restart of coal leases on federal land, the repeal of the Stream Protection Rule, and the repeal of the Clean Power Plan, have not had a meaningful impact on the U.S. coal industry. Weakness in natural gas pricing in late-2017/2018 continue to constrain coal-fired generation, while more and more coal capacity is shut down.

POLICY AND TECHNOLOGY

- Despite the hype, there were 1.3 million EV sales in 2017 out of global sales of 80 million – accounting for upwards of 25 MB/d of oil displacement. Battery prices are decreasing (though challenged by tightness in metals prices), and 2017 saw strong supportive EV policy statements from both individual countries and auto producers. In the U.S., the expiration of federal EV tax credits for key companies will test buyer interest EVs, while there are concerns regarding Tesla's ability to meet expectations of growth in production. China's commitment to alternative fuel vehicle technologies remains strong.
- Stationary storage battery use in the power sector is ramping up – qualifying for capacity markets and supported by mandates in increasing numbers of regions and contracts. While still an expensive option, batteries have demonstrated the ability to be effectively installed and operated to meet specific, niche needs and opportunities.
- A tariff on solar panel imports into U.S. has been imposed, increasing costs of solar projects within the U.S., where natural gas generation stands to benefit from policies increasing the costs of renewables. Other decisions on key U.S. federal policy are expected regarding light duty vehicle fuel efficiency standards for 2022-2025 and beyond – setting up a showdown with California and its special policy-making status / EPA waiver.