Energy and Fertilizer

Report & Outlook



2018

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Energy Highlights

- Geopolitics, Middle East tensions, fund flow, lower U.S. \$ Index, falling Venezuelan production and better demand, all contributing to higher crude oil prices. However, rising non-OPEC production from U.S., Canada and Brazil a headwind and capping prices.
- U.S. Diesel maritime fuel rule changes for shipping vessel containers could be a game changer for 2019. Perhaps the bear super cycle maybe over faster than expected as we break above \$60/barrel.
- Crude oil has been in an uptrend since June of 2017 and looks to gradually take the stairs higher overtime. If Venezuelan production were to ever come back on line (a big if) and OPEC decided to stop curbing supplies we could be back to a supply surplus in 2019 which could weigh on prices but higher demand could offset.
- Fill your tanks up now before the spring 2018 planting season but look for any price breaks back to \$55 to book forward and mange your 2019 needs.
- The lows are behind us on fertilizer prices and have also been slowly climbing the ladder higher in sympathy with higher crude oil and grain futures. Prices are still within the bottom 15-20% of the past 10-year lows but now is the time to book if you have fallen behind. Do not wait for demand to pick up during the 2018 planting season.

Geopolitics, Middle East Tensions, fund flow, falling Venezuelan oil production and a weak U.S. \$ all providing support

Crude oil futures are up 5.5% thus far in 2018 or up +\$3.31/barrel and up \$13.29/barrel in the past year up +27% to a 14-month high as the managed money funds added to their length to a new record high +496,111contracts in January as the global market gets closer to a rebalance as OPEC continued its cut of 1.8 million barrels per day which was extended in the fall of 2017 for an additional year. (Please see chart on the right)



CRUDE OIL - NET MANAGED MONEY

While Venezuela boasts the world's largest proven oil reserves, crude production in the state has been steadily declining in recent years. Falling oil production in Venezuela since 2005 now below 2 million barrels per day (bpd) and expected to hit 1.38 by the end of 2018 due to an economic crisis has also underpinned oil markets and could tip global markets into a deficit. That would represent the oil-dependent state's lowest level of output in approximately 70 years (with the exception of the 2002-2003 strike). (Please see chart on the right)







Rising Non-OPEC production, a headwind

OPEC's production curbs will increasingly have to make do with playing second fiddle to a wave of U.S. shale production growth. Oil output has climbed sharply in the United States, Canada and Brazil, as they ramp up production to benefit from higher crude prices which is capping any further gains.

With a total rig count at 800 the highest in 3 years and up over a year ago at 591, output in the U.S. is likely to increase further as energy companies have boosted spending. Consequently, U.S. crude oil production has risen by more than a fifth since mid-2016, to 10.38 million barrels per day (bpd), pushing it past top exporter Saudi Arabia and could surpass Russia the #1 producer at 11 million bpd later this year. At \$70, the U.S. growth increases by a multiple of 1.5 times. (Please see chart on the left)

Soaring U.S. output, as well as rising production in Canada and Brazil, is undermining efforts led by OPEC and Russia to curb supplies and bolster prices (next meeting June of 2018). There remains too much oil and we could be back to an oversupply situation by 2019.

However, demand could be the ultimate driver in 2019

Better-than-expected global economic growth could also boost oil demand in the first half of 2018 but could get derailed if we get into a trade war with the U.S. Diesel maritime fuel rule changes could also be a game changer for 2019 and create more global demand! The short-term outlook for the diesel market in North America calls for current prices to remain largely untouched (range bound) through spring planting, however it could change drastically after that.

Tom Kloza of the Oil Price Information Service in New Jersey says, "A single container vessel (currently) emits more sulfur in its lifetime than 10 to 15 million diesel cars and the switch will be a big one as the ships move from fuel that contains 35,000 parts per million (sulfur) to something much lower, perhaps as light as 5,000 parts per million which means that diesel will likely be in high demand by the latter part of 2019." (Please see chart on the right)





The IEA upwardly revised its global oil demand forecast to 99.3mb/d in 2018. Nonetheless, it's also highlighting and warning that changes in global trade policy could slow down global economic growth and have a negative impact on oil production and demand. Fears of a potential global trade war were reignited after Trump announced plans to impose tariffs on up to \$60 billion of Chinese imports, specifically targeting the technology and telecommunications sectors penalizing China for intellectual property theft. A slowdown in global trade would have strong consequences, particularly for fuel used in the maritime sector and in the trucking industry. (Please see chart on the left)

Is the crude oil bear super-cycle over?

In our last report in 2017, we spoke about being in the crude oil bear super-cycle. According to Wells Fargo, bear markets in oil may last another decade, with U.S. crude stuck between \$30 and \$60 a barrel. Commodity bear super-cycles typically last 20 years, but have been shortening over the last century. Bear markets in commodities are a consequence of human behavior in the preceding bull market. As of Nov. 2017, the bear market had already gone through the first step of the healing process: weeding out the weakest players. Roughly 22% of exploration and production companies went bust during this phase, compared with about 26% in the 1986 oil price crash. As we try to bear out above \$60, maybe the bear market is over? (Please see chart on the right)



Current Oil Bear Super-cycle versus 1980s Bear 40 WTI Oil (8/4/1983 - 12/30/1999) (Barrel) 30 Oil Price 15 Si 10 5 1983 1985 1987 1989 1991 1993 1995 1997 1999 120 WTI Oil (2/24/2012 - Now) (U.S. Dollars Per Barrel) 100 **Oil Price** 80 60 40 20 2012 2014 2016 2018 2020 2022 2024 2026 2028 Sources: Bloomberg, Wells Fargo Investment Institute, 10/30/17

Crude oil futures technically trading at a new higher trading range

The new trading range is \$60 -\$65 with support at \$60 while resistance at \$65. A break below \$58 would open the door to \$55 while a break above \$64 on the daily chart opens the door to \$72.00. A large triangle formation with a break out to the topside suggest significant upside potential to \$80 long-term. (Please see chart on the left)

On a weekly basis a sustained break above \$63.00 opens the door to \$80.00 not seen since the fall of 2016. (Please see chart on the right)





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Crude oil prices have been in an uptrend since June of 2017 and look to take the stairs even higher over time thanks to better demand, fund flow, a supply deficit (OPEC supply curbs and falling Venezuelan production). However, the chances of crude oil prices soaring to \$100/barrel anytime soon look very unlikely! The risk for crude oil has turned to the topside for the 1st half of 2018 with \$65 a major resistance. We cannot rule out a move to \$72 in the coming quarter.

There have been no runaway prices yet and none expected with diesel fuel prices steady as she goes so just fill up your tanks now before the 2018 spring planting season. A surplus supply in the second half of 2018 early 2019 could provide for a better pricing opportunity for fall and winter of 2019 near \$55/barrel. (Please see chart below)

| A | ô | Farms.com Risk Management | | |
|------------------------------|-----------|------------------------------|--|--|
| | | COMMODITY MARKETING | | |
| TREND | SENTIMENT | TARGET RANGE | | |
| 2 nd Quarter 2018 | BULLISH | \$60 - \$65 | | |
| End of Year 2018 | BEARISH | \$55- \$60 | | |

Natural Gas / Propane

Natural gas demand could surge thanks to China and Asia

According to an analyst at Tortoise Capital Advisors, U.S. is expected to export 3.6 billions of cubic feet of gas a day in 2018, and that could grow to 10 to 12 Bcf by the early 2020s. Chinese demand for liquefied natural gas was up 40% year-over-year better and sooner than most expected and should continue to remain strong. China wants and needs cleaner air, and this shift longer term creates more demand. China's goal is to use natural gas for 10% of its needs by 2020, and it needs LNG (Liquified Natural Gas) to meet that demand.

The United States currently produces 76 billion cubic feet of gas, and it should grow to 90 Bcf by 2020. This demand-pull and supply-push will require a \$200 million investment infrastructure in the U.S. The industry will need to bring more than 100 million tons of new liquefaction capacity to the market to meet the export demand by 2025.

EIA expects natural gas prices to moderate in the coming months, based on a forecast of record natural gas production levels. Canadian natural gas prices have deteriorated significantly in recent months and now appear to be plagued by numerous problems spanning the poor start and weaker demand to the current winter, deliverability issues, high storage, transportation capacity, surging supplies, erosion of market share, and very poor regional pricing. TransCanada does not see its new Alberta capacity of one billion cubic feet a day being ready until at least 2020-21. For 2018, analysts are forecasting a downgrade in their expectations to \$2.21 per one thousand cubic feet, down from previous expectations of \$3.61.

Prices have bounced after hitting multi-year lows in December of 2017 at U.S. \$2.50 support. Look for any further weakness by the end of the second quarter to manage your bookings for the late 2018 - 2019 winter heating oil needs. (Please see chart on the right)

Stronger U.S. exports, tighter inventories and a colder than normal winter resulted in higher than expected propane prices



U.S. heating costs are up as much as 20% in the past few months compared to last year as the winter in 17/18 was 13% colder than in 16/17 and high crude oil prices pinch. Demand for propane by consumers and chemical manufacturers, which use butane and propane to make plastics, is up sharply this year as U.S. stocks have declined despite rising production.

U.S. propane exports averaged above 1 million barrels per day (bpd) in five months in 2017 vs. 770,000 bpd for all of 2016. According to the National Propane Gas Association trade group, more than half of the propane produced in the United States is being exported today compared with just 10% in 2009. East Asian countries take more than 40% of exports, with Japan, South Korea and China among top buyers.

After peaking in early 2018, prices have seen some weakness look for opportunities to lock in your 2018/19 future heating/drying needs by the end of the 2nd or early 3rd quarter of 2018.



Fertilizer

Fertilizer inputs continued to rise in 2018 after hitting lows in September/October of 2017 as crude oil prices recovered with rising crop prices. On average fertilizer prices are up from 13- 31% from their lows in 2017. (Please see chart below)

| Î | | 1 | Îl | | - | Risk Management COMMODITY MARKETING THAT MAKES CENT\$ | |
|--------------------|-----------|-------------------------|----------------|--------------------------------|-------------------------|---|-----------------------------------|
| NUTRIENT / FUEL | 15-Mar-18 | LOW SINCE MARCH 2011 | DATE OF LOW | % CHANGE CURRENT VS. LOW | HIGH SINCE JAN. 2015 | HIGH SINCE MARCH 2011 | AVERAGE SINCE MARCH 2011 |
| Anhydrous | \$521.80 | \$398.10 | 14-Sep-17 | 31.07% | \$734.37 | \$892.50 | \$691.72 |
| DAP | \$480.69 | \$414.21 | 05-Jan-17 | 16.05% | \$559.31 | \$710.00 | \$550.70 |
| MAP | \$491.67 | \$428.33 | 14-Sep-17 | 14.79% | \$578.00 | \$731.25 | \$571.09 |
| Potash | \$351.67 | \$287.61 | 01-Sep-16 | 22.27% | \$484.40 | \$645.71 | \$472.63 |
| Liquid Nitrogen | \$235.03 | \$207.00 | 12-Oct-17 | 13.54% | \$334.30 | \$429.51 | \$320.22 |
| Urea 📄 | \$369.83 | \$300.00 | 14-Sep-17 | 23.28% | \$472.20 | \$750.21 | \$466.74 |
| Farm Diesel | \$2.46 | \$1,49 | 21-Jan-16 | 65,10% | \$2.62 | \$3.76 | \$2.88 |

U.S. corn plantings in the U.S. will remain flat to down in 2018, with 90 million acres or less being planted but soybean acres are expected to hit a record high at 91-92 million acres. Sharply lower exports will be offset by modest increases in domestic use.

Despite oversupply conditions improving demand has placed a bottom in fertilizer prices. Closure of Chinese urea plants has constricted global supply, boosting urea prices. The potash market is set to remain in oversupply, with new capacity expected in Belarus, Canada, China, Russia, Turkmenistan and the US. but prices supported by production cutbacks by some Canadian producers. Top consumer China increased its potash imports by over 25% during the first eight months of 2017, creating firm demand. Most of the increased demand is coming from outside the U.S. including India and Brazil.

U.S. currently imports more UAN than it exports by an almost two-to-one margin. However, said Hutson, the U.S. is projected to have UAN production capacity of more than 19 million tons by 2020, up from a little over 15 million tons today. This could have a profound impact on the country's place in the UAN supply market globally.

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Fertilizer prices are expected to maintain a steady recovery in 2018 as demand increases 2.5% globally less than the 4% increase in 2017. In our last report in November of 2017, we recommended looking to the end of 2017/ early 2018 to book your 2018 fertilizer needs that were 3-6% lower in prices. The low in fertilizer prizes is behind us (September/October of 2017) but are still within the bottom 15-20% of the past 10-year lows so still a great opportunity to catch up on booking your 2018 planting/and harvesting needs.

The CDN \$ has resumed its

downtrend since peaking in February on economic growth risk (economy stalling), central bank risk (interest rates looking like they will go up slower and gradually overtime) and trade war "trump" risk all weighing on the CDN \$ (however, NAFTA negotiators making good progress and could have a deal within weeks). Trading at a 10-month low it may have all of the above factors priced in but Trump headline risk remains a wild card.



(Please see chart on the right)

Managing your input costs in a lower low return environment seems prudent!

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