

Oil & Gas Monthly Report

Aug – Mid Sep 2019 Issue



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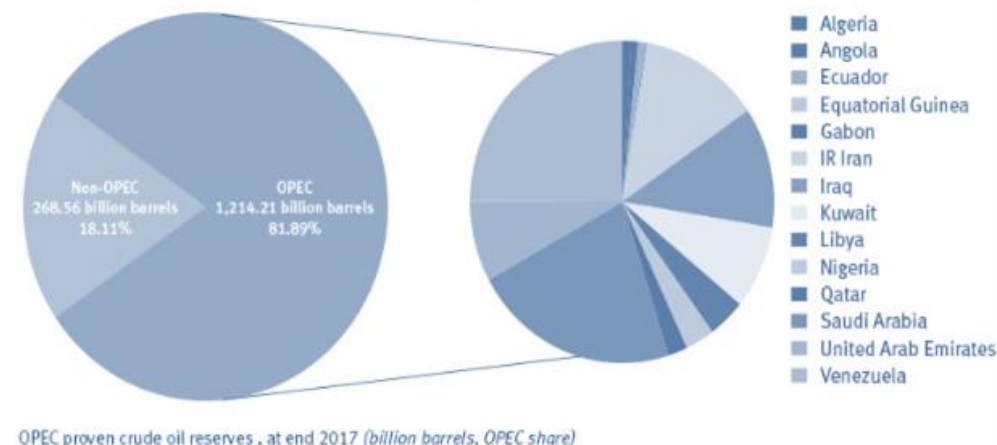
MARKET DEFINITIONS

- This research analyzes the Global Crude Oil and Gas Market, its major categories (West Texas Intermediate (WTI), Brent Blend and OPEC Basket), its present status, current trends, demand drivers, demand restraints and forecast outlook.
- Crude oil is a natural resource; it is a petroleum product which is composed of hydrocarbon deposits and organic materials. Crude oil is a fossil fuel which is refined to produce various products, for instance, gasoline, diesel and other petrochemicals. Crude Oil is a nonrenewable resource, i.e. it cannot be replaced naturally at the rate of its consumption and is hence is a limited resource.¹
- There are more than 160 different oils traded on the market, however for the scope of this study, we will focus on three primary oils that dominate the news and the markets, which are - West Texas Intermediate (WTI), Brent Blend and OPEC Basket.²

GEOGRAPHIC LOCATION: 3 MAJOR CRUDE OIL GRADES



OPEC SHARE OF WORLD CRUDE OIL RESERVES, 2017



¹Crude Oil <https://www.investopedia.com/terms/c/crude-oil.asp#ixzz5JlGqvYoH>

²<https://oilprice.com/Energy/Crude-Oil/A-Detailed-Guide-On-The-Many-Different-Types-Of-Crude-Oil.html>

GLOBAL TRENDS IN OIL & GAS INDUSTRY

- Year, 2016 Strategic Partnership agreement between China & Iran got updated \$400 million Chinese investment in Iranian Economy complicates US efforts in isolating Iran.³
- *PDC Energy* is planning to buy its smaller rival – *SRG Energy* for \$971.3 million deal in cash.⁴
- US Natural Gas futures recovered due to Saudi attacks and saw a sharp jump from \$2.07 to \$2.68 from Aug 5 to mid Sep 2019.⁵
- Two bills passed by House blocked drilling in Atlantic, Pacific and Florida Gulf coasts.⁶
- As per the Rystad Energy recent update, US light oil supply is forecasted to reach 9 million bbl/d by the end of year 2019. Shale production continues to grow and is expected to grow further in medium term but may be at a slower rate.
- Despite agreeing to reduce supply in 2019, OPEC's production for August increased by 80,000 bpd which equates to 136% compliance to the cuts.³
- Dwindling oil prices found no support from the US shale industry. The growth in Permian Basin was reported to be less than 1% as per EIA report in August 2019. A number of logistical factors along with bottlenecks in operations brought down the production in the Permian Basin.
- Russian Energy Minister, Alexander Novak promised to comply by OPEC+ countries' supply cuts although the month of August saw Russia increase production to 11.29 mbd. This overproduction was balanced by cuts in the Global Supply. till August 2019.
- Natural Gas exports and consumption has increased globally but US continues to increase supply of Natural Gas causing prices to go down despite good demand scenario.
- Oil futures were volatile over much of August driven by apprehensions over US-China trade war. Weak economic performance of US, China and Germany added to the bearish sentiment in the market. The market fundamentals of oil were satisfactory as supply and production was more or less stabilized.
- Saudi's new Energy Minister, Prince Abdulaziz bin Salman, maintained that no more supply cuts would be planned until OPEC's next meet in December. The promised stability in supply along with sluggish oil demand, slumped oil prices further down.⁴
- Oil prices were further burdened as European Central Bank cut deposit rates to an all time minimum at -0.5% for Euro growth.
- US continued to be the a single largest petroleum producer like last year. The EIA quoted that "Last year the increase in the United States production was one of the largest absolute petroleum and natural gas production increases from a single country in history."

³ <https://www.forbes.com/sites/arielcohen/2019/09/19/chinas-giant-400-billion-iran-investment-snubs-trump/#5a11a92784d1>

⁴ <https://www.reuters.com/article/us-src-energy-m-a-pdc-energy/pdc-energy-to-buy-src-energy-for-971-million-in-cash-push-idUSKCN1VG11W>

⁵ <https://www.wsj.com/articles/saudi-oil-attacks-could-end-natural-gas-rally-11568980801>

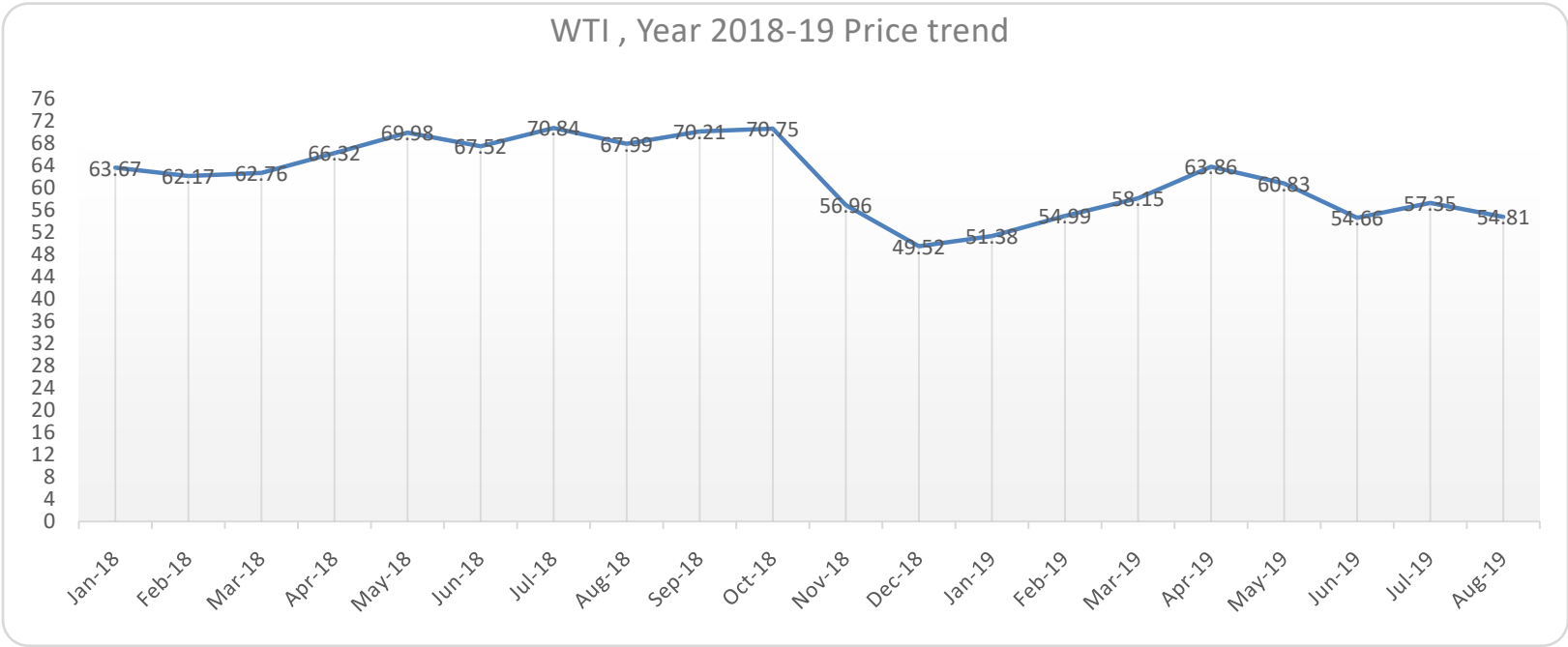
⁶ <https://www.cnbc.com/2019/09/11/house-to-vote-on-blocking-trump-push-to-drill-off-us-coasts-arctic.html>

⁷ <https://uk.reuters.com/article/oil-opec-survey/table-opec-oil-output-rises-by-80000-bpd-in-august-reuters-survey-idUKL5N25Q2KQ>

- Petroleum and natural gas production in the United States jumped by 16% and 12%, respectively, in 2018, which has set new production records and

placed United States the world's single largest

the
as



producer of oil and natural gas.

US Crude Oil Market – Spacing Issue & Analysis

Spacing Issue May Cut Oil Recovery Up to 20%

The oil companies, drilling child wells (secondary wells drilled close to the first, or parent, well) in the Permian basin are running at a risk of losing almost 15–20% of the crude oil that otherwise could be recovered.

Ideally, the child well should be drilled at an appropriate distance from the parent well for them to be most prolific

While over proximity to the parent well makes the child well a lot less prolific than one further away from the parent, if the child well is drilled too far from the parent, the drilling firm may risk running a dry well

According to a research, in the Permian region, the quantities of oil that can be recovered from child wells is on an average ~20–30% lower than that from the parent well. This translates into a 15–20% lower overall production than that initially projected by the producers. Child wells get increasingly worse relative to the parent well with spacing constriction

Solutions to Lower Oil Recovery from Child Wells

One solution that the drilling firms can look at for the parent-child problem is to begin drilling & fracking both the wells at the same time.

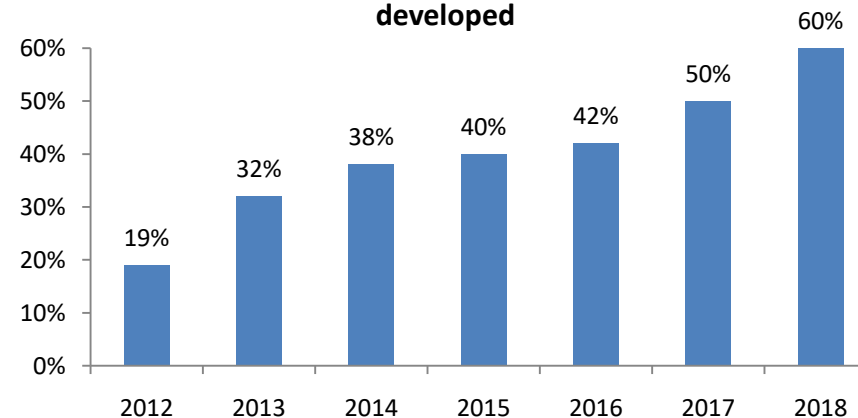
This has historically shown to improve recoveries and such “co-developed” wells have shown results that are mostly in line with the firm’s projections

In the full year 2018, ~60% of wells in the Permian’s Delaware sub-basin were child/co-developed wells.

Until 2017, majority of the Delaware was made up of parent wells.

Child & co-developed wells in Delaware increase

Percentage of Delaware wells that are Child or Co-developed



Spacing Impact on Drilling Firms Valuation

Drilling firms are already witnessing the impact of spacing problem.

Concho Resources Inc., a leading industry participant experienced the pain of spacing issue. Concho’s shares plunged by 22% on Aug. 1 post the company revealed that it had spaced a 23-well pad very tightly.

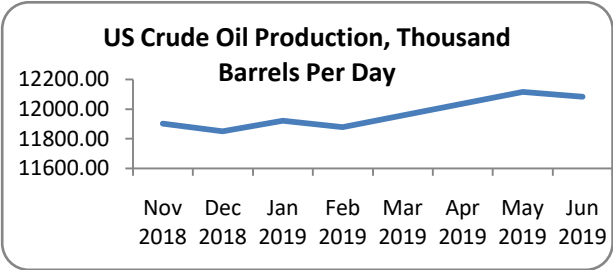
A few industry veterans are of the opinion that the US crude oil producers are running out of prime drilling areas. This might result in reduced U.S. crude oil production in the medium term.

Source: <https://www.bloomberg.com/news/articles/2019-09-19/permian-child-wells-may-cut-oil-recovery-up-to-20-bank-says>

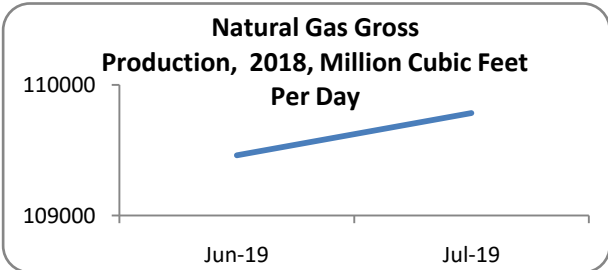
WORLD CRUDE OIL AND NATURAL GAS SUPPLY SNAPSHOT

US Oil & Gas Production

- US crude oil production was recorded at 120,082 thousand barrels per day in June 2019, increasing slightly since May 2019, as per the data published by U.S Energy Information Administration.
- US natural gas production saw a rise in month of June 2019 (as per latest data available) and stood at 109,786 million cubic feet per day.



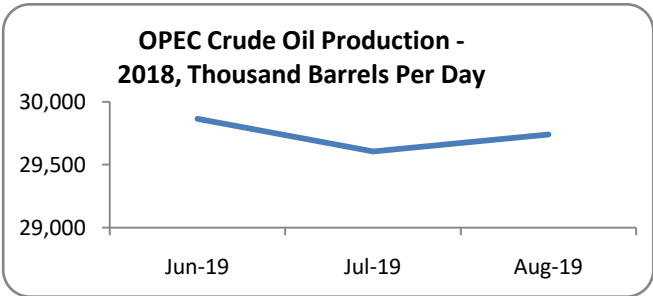
Source: EIA 914 US Energy Information



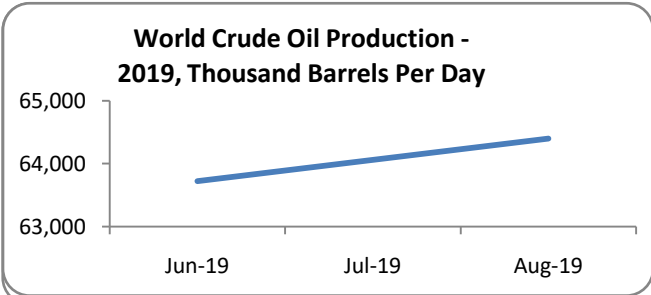
Source: EIA 914 US Energy Information

OPEC Crude Oil Production

- According to secondary sources, total OPEC-14 preliminary crude oil production averaged 29.74 mb/d in August, higher by 136 tb/d m-o-m. Crude oil output increased mostly in Saudi Arabia, Nigeria, Iraq and the UAE, while it declined mainly in Venezuela, Iran, I.R., Libya, Kuwait and Algeria.



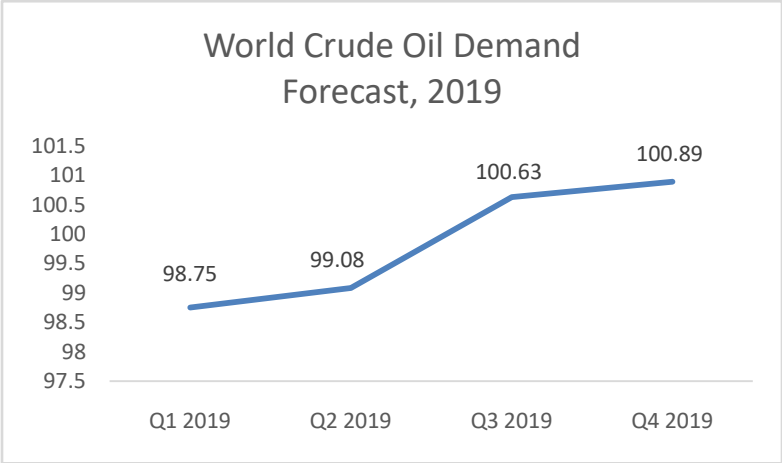
Source: OPEC monthly report – Aug 2019



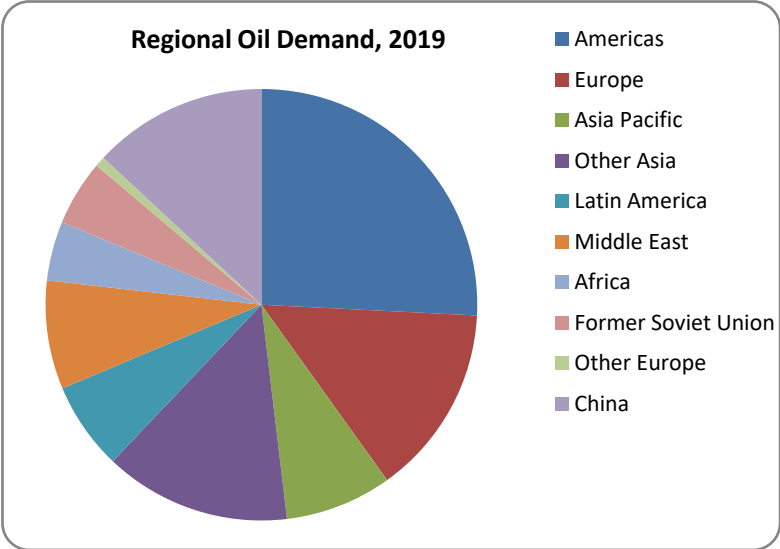
Source: OPEC monthly report – Aug 2019

WORLD CRUDE OIL DEMAND SNAPSHOT

- According to OPEC, in 2019, World oil demand in 2019 is expected to grow by 1.02 mb/d, which is 0.08 mb/d lower than last month’s projection.
- World oil demand growth in 2019 is now pegged at 1.02 mb/d, with total global consumption at 99.84 mb/d.
- In the OECD, anticipated 2019 oil demand growth has been revised downward by 0.03 mb/d after considering trends from latest available historical information and the most recent economic outlook. Oil demand in 1H19 has been resilient in Americas, but it remained in negative territory in Europe and the Asia Pacific.
- In July 2019, India’s oil demand flipped into positive territory after declining the previous month, increasing by 0.14 mb/d, or more than 3%, y-o-y.
- In the Middle East, oil demand in 2019 was revised lower by around 0.02 mb/d, due to economic restructuring plans, including subsidy reductions.
- World oil demand growth in 2020 is now anticipated to increase by 1.08 mb/d, with total global consumption reaching 100.92 mb/d.



Source: OPEC Oil Report, Aug 2019



Source: OPEC Oil Report, Aug, 2019

GEOPOLITICAL ISSUES

- **Drone Attack on Saudi Oil facilities: Oil prices spiked, initial jump of nearly 20%!**



Military tensions have significantly increased in Middle East post attack on Saudi oil facilities. It is estimates that half of the Saudi oil capacity was disrupted as a result of militant attack. Yemen's Houthi rebels claimed responsibility for attacks. However, as per US officials, attacks were carried out by Iran. Rebels claim that they targeted 10 Drones on Saudi's Aramco facilities in Khurais& Abqaiq. Abqaiq handles crude oil from world's largest oil fields and attack could prove a major blow to Global Oil market and Economy.⁸

5.7 million Barrels per day were cut from production and it's estimated that global supply of 5% was impacted from Drone attacks.⁹

As per Saudi officials, attack was executed by Iran as it's suspected that Iranian drones were used in carrying out strike at oil facilities. Oil prices spiked rapidly as soon as the news of attack broke out. Initial jump in prices was estimated to be huge 20%. As per S&P's Platts, Brent price could target \$80 in the wake of attacks.

Saudi's Aramco is planning to roll out IPO as soon as possible as per Saudi's Energy Minister Prince Abdul-Aziz bin Salman.

- **Pressure on Iran:**



Donald Trump ramped up the pressure on Iran by announcing a reward program for disrupting Iran's financial operations. Further US has also offered to reward tanker captains in case they help the US to impound Iranian vessels.

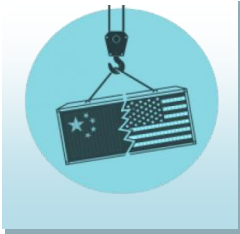
US rolled out new sanctions against Iranian "oil for terror network". US announced a reward program of a \$15 million to hamper Iran's Revolutionary Guard Corps financial operations.¹⁰

⁸ <https://www.aljazeera.com/news/2019/09/saudi-oil-attacks-latest-updates-190916102800973.html>

⁹ <https://edition.cnn.com/2019/09/14/business/saudi-oil-output-impacted-drone-attack/index.html>

¹⁰ <https://edition.cnn.com/2019/09/04/politics/us-iran-reward-sanctions/>

- **U.S.-China Trade War intensifies⁵**



President Trump kicked off August with announcements of additional 10% tariff for remaining exports from China worth USD 300 billion and increasing existing tariffs to 25% on goods worth \$250 billion from September while also accusing China of Currency Manipulation for unfair gains from International trade as the value of Yuan fell against the Dollar. China responded by suspending purchases of US agricultural imports. As the month progressed, US delayed the tariff enforcement to the month of December but continued hostility led¹¹ China imposing tariffs worth \$75 billion on US produced goods which would be divided into two lists and enforced from September and December. As the trade war gives way to lesser consumptions and economic slowdowns, the demand for oil dwindled while China also withdrew from being one of US's largest consumer of oil and looked elsewhere, especially into Iran.

- **OPEC production to four-month high⁶**



While OPEC and its partners had pledged to cut Oil supply in the beginning of the year, prominent OPEC countries continued to increase production as partner, Russia also did not adhere to production cut norms. OPEC, helped majorly by Nigeria and Saudi collectively increased production by 200,000 barrels a day to 29.99 million a day, as reported by Bloomberg. Riyadh also increased output by 50,000 barrels a day to 9.83 million a day in August. This change of strategy was to fight off global slowdown and dwindling growth. Nigeria has produced close to 1.95 million barrels per day in the month of August. OPEC managed to reach 136% of pledged cuts as compared to 150% in July.

⁵<https://www.china-briefing.com/news/the-us-china-trade-war-a-timeline/>

⁶<https://www.reuters.com/article/us-oil-pec-survey/pec-posts-first-2019-oil-output-rise-despite-saudi-cuts-reuters-survey-idUSKCN1VK1YD>

- **BREXIT concerns lower consumption⁷**



The EIA in its last report maintained that World Oil demand shall remain low for a foreseeable future despite OPEC's efforts to balance demand-supply. One of the reasons for the bleaker outlook on demand was UK's exit from the European Union inciting apprehensions amongst consumers and lower consumer confidence, more supply chain re-assessments, declining investment and direct reduction of trade.

- **US Sanctions on Venezuela⁸**



US sanctions on Iran, the fifth largest producer of crude oil have further slowed the production to 712, 000 barrels per day (bpd) in August, down from 755,000 in July. The major buyer of Venezuela's oil exports, China, has scrapped purchases for second time in a row by 62%. China's cancellation of exports along with the US sanctions has been a huge roadblock for Venezuela, an economy that depends on oil for 99% of its revenue.

ECONOMIC FACTORS

- **Oil and Gas Bankruptcies Spike**

Almost twenty-six U.S. oil-and-gas producers, which include **Sanchez Energy Corp. and Halcón Resources Corp.**, have filed for bankruptcy in 2019. That is quite close to the numbers of 2018 when nearly 28 producers filed for bankruptcies, and the number is expected to rise, as companies stare at mounting debt maturities.

Several drillers financed production growth and became deeply leveraged, betting on higher oil prices that would sustain them. But investor interest has waned away post years of meager returns, and a few companies are stressed to meet their obligations as oil prices hover below USD 60 per barrel. The companies are struggling to service debt and secure new funding, as investors lose confidence in the shale business model. Private firms and smaller public drillers have been hit hardest. Those producers together generate a major portion of U.S. oil.

Another company, EP Energy Corp. missed a USD 40 million interest payment due on August 15 as it was pressured under the debt it took on to help private-equity investors

- **Hurricane Dorian⁹**

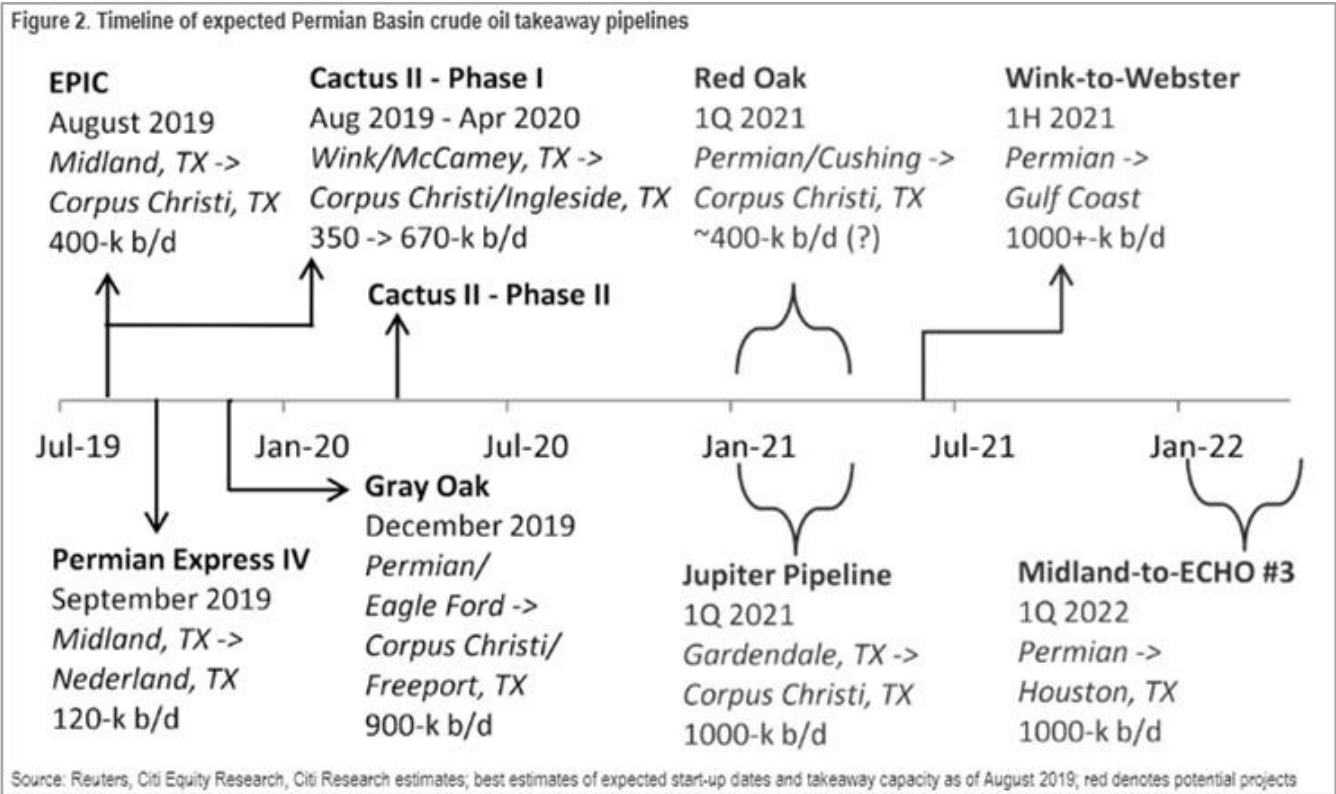
Hurricane Dorian hitting the Gulf of Mexico has impacted oil production in Florida. While Oil prices slumped ahead of the hurricane, it is also estimated to dampen oil demands further. Oil prices have fallen 20% since last April and Dorian is expected to hit the coasts in the incoming weeks, further affecting the energy market.

- **Mexico's Ageing Offshore Oil Fields¹⁰**

Mexico's oil production has been declining constantly and has reached 1.9 million barrels per day in the month of August. As the output from old offshore oilfields keeps plummeting, IEA anticipates fall of another 130,000 barrels per day this year.

• **US aims to increase production with more inter-connected oilfields¹¹**

The US has planned to increase oil production with its **Plains All American Pipeline's Cactus II** project which plans to increase production to 670,000barrels per day and connect the Permian Basin to Corpus Christi, Texas. Another pipeline by the name of Epic is scheduled to start bolstering US production by 1 million barrels. The new pipeline structure would look as below:



⁶<https://www.reuters.com/article/us-storm-dorian-refineries/u-s-gulf-coast-refinery-operators-keep-an-eye-on-hurricane-dorian-idUSKCN1VJ2NV?rpc=401&>

¹⁰https://www.google.com/amp/s/m.economictimes.com/markets/commodities/views/supply-risks-building-crude-oil-has-potential-to-hit-80-a-barrel/amp_articles/65597378.cms

¹¹<https://www.cnn.com/2019/08/27/the-us-is-about-to-send-a-lot-more-oil-into-an-oversupplied-market.html>

PRICE DRIVERS AND RESTRAINTS



Geopolitics: Geopolitical tensions pressured the crude oil prices to fall as global slowdown and trade war hurt consumer sentiments. However, due to attack on Saudi oil facilities, prices saw a spike in mid September.



Dollar Value: Dollar strengthened in August 2019 with tighter monetary policies in the US helping US oil exports .



Supply: Global Oil Supply increased in August 2019 by 0.83 mb/d m-o-m to average 99.24 mb/d.



Demand: Global demand shows a weakening trend due to slow economic growth of emerging economies like China and India. World Oil Demand Growth for 2019 was revised lower by around 0.08 mb/d



Traders Sentiments: Bearish sentiments prevailed in the market as Oil production continued to rise in the backdrop of a slow economic growth globally and lower consumption levels.



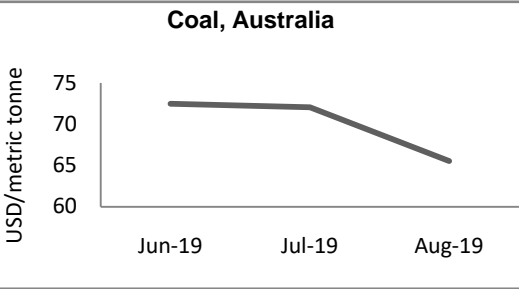
Refiners: US Refinery margins fell in August 2019, affected by greater refined product output which led to a build in product stock and pressurized product prices in the month.

COMMODITY PRICE TRENDS



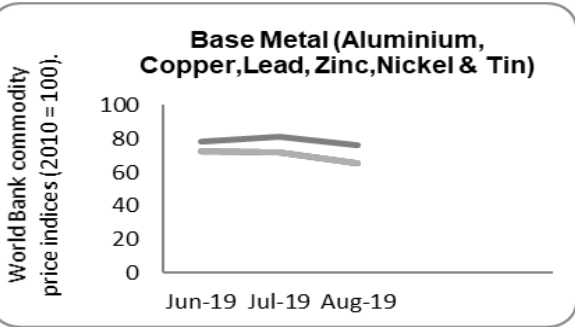
Coal

Average Thermal Coal Prices decreased to \$65.55 /mt in August and continuously declining since June 2019. Demand continues to lower due to slow economic growth globally, decreased demand for steel and adoption of sustainable resources in the wake of climate change.



Base Metals

International demand for base metals weakened in 2019 which brought down the prices for base metals. Sluggish manufacturing industry and lower consumption levels plummeted base metal prices.



Precious Metals

Gold, silver and platinum grew at an average of 0.68%, 2.34% and -1.16% respectively in 2019. As Asian Equity markets and Emerging economies sought comfort in precious metals from bearish trade sentiments and falling currencies, precious metals picked up pace in August 2019.

