

IICEC Energy Market Newsletter

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FEATURE STORY - US-China Trade Dispute Escalates, Increasingly Threatening Global Flows and Stifling US Energy Exporters:

Recently announced US tariffs on additional Chinese goods will affect over \$250 billion in trade. Chinese officials promptly responded with threats of retaliatory measures should the US proceed to escalate its trade dispute with Beijing.ⁱ Energy markets felt the first reverberations from trade tensions in August, when China listed liquefied natural gas (LNG) and petroleum products on US tariff schedules, a step that poses much higher risk to global markets.ⁱⁱ

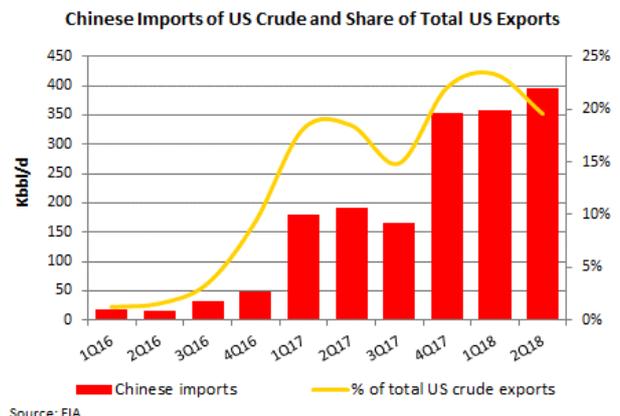
As US unconventional oil and gas production supplies growing export volumes, amid elevated LNG spot prices in Asia and mounting disruptions in global crude supply, falling demand from China could blunt the rise in US supplies and distort energy balances and prices.ⁱⁱⁱ Chinese buyers increased purchases of US LNG in anticipation of the new tariffs to be applied as soon as early September.^{iv}

A protracted trade battle could see construction of LNG terminals delayed, or regasification capacity taken by competing supply for larger customers seeking out greater supply security.^v The recent announcement of a 22-year supply agreement between PetroChina and Qatargas is one such instance in which US LNG could lose out on incremental demand growth in China.^{vi}

In terms of crude and product markets, the US and China were set to grow a symbiotic energy relationship in which growing demand could be sated by the rapid increase in US crude supply.

This dynamic was also thrown into disarray when Chinese officials initially placed tariffs on crude oil in early August. The first tariffs actually applied on US energy exports entailed a 25% surcharge on imports of oil products, including jet fuel, naphtha, NGLs, as well as coal.^{vii}

Despite an official retraction of crude from the list, markets had already associated the higher political risk and traders failed to rush back to US crude shipments.^{viii} Such steps resulted in some of China's largest importing firms, such as Unipetec, suspend liftings from the US for two months, with smaller volumes set to load for the month and a half voyage starting again in October.^{ix}



With a trade dispute between the US and China, any further developments will inevitably alter the outlook for global crude markets. China was expected to push its crude imports from the US significantly in the near-term, rising from marginal volumes to start 2017 to 400-500 Kbbl/d in July, providing a consistent outlet for 20-25% of US oil exports. Should US crude cargoes return to schedules for Chinese tariffs, other major exporters – including Iran – could seek to fill the void and deprive US producers of expanding market share, and the associated ramifications for international oil flows and global benchmarks.^x

IEA Executive Director Visits India

On 29th of August, IEA Executive Director Dr. Fatih BİROL (Dr. Birol is also IICEC's Honorary Chairman) paid an official visit to India to meet with four top Ministers. Dr. Birol also delivered the prestigious Darbari Seth Memorial Lecture, a featured annual event of the Energy and Research Institute (TERI) since 2002.

Strategic Discussions with the Ministers

Dr. Birol met with Minister of State (IC) Power and New & Renewable Energy HE R. K. Singh, to discuss India's efforts to promote renewable energy deployment. Birol also had meetings with HE Dharmendra Pradhan, Minister for Oil and Natural Gas to discuss India's oil stockholding program. While India does not have obligations under the IEA treaty to hold strategic oil stocks, it is nonetheless important that countries outside the OECD, especially large oil importing countries such as India, to hold similar levels of strategic stocks since they consume over half of the world's' oil production.



HE Dharmendra Pradhan and Dr. Birol

Afterwards, Dr. Birol and HE Piyush Goyal, Minister for Railways and Coal, discussed IEA's work on rail transport, including the upcoming Global Railway Outlook which will include a special focus on India.



HE Piyush Goyal and Dr. Birol discusses IEA's work on rail transport

A memorandum of understanding on cooperation in the areas of energy research and innovation was signed by Dr. Birol and HE Harsh Vardhan, Union Minister for Science & Technology, Earth Sciences, Environment, Forests and Climate Change. Minister Vardhan said that he plans for his ministry to work closely with the IEA in the future to access global best practices. In the last meeting, the deepening cooperation between IEA and India, including improving India's energy statistics and discussing India's electric power development was held with Amitabh Kant, CEO of NITI Aayog.

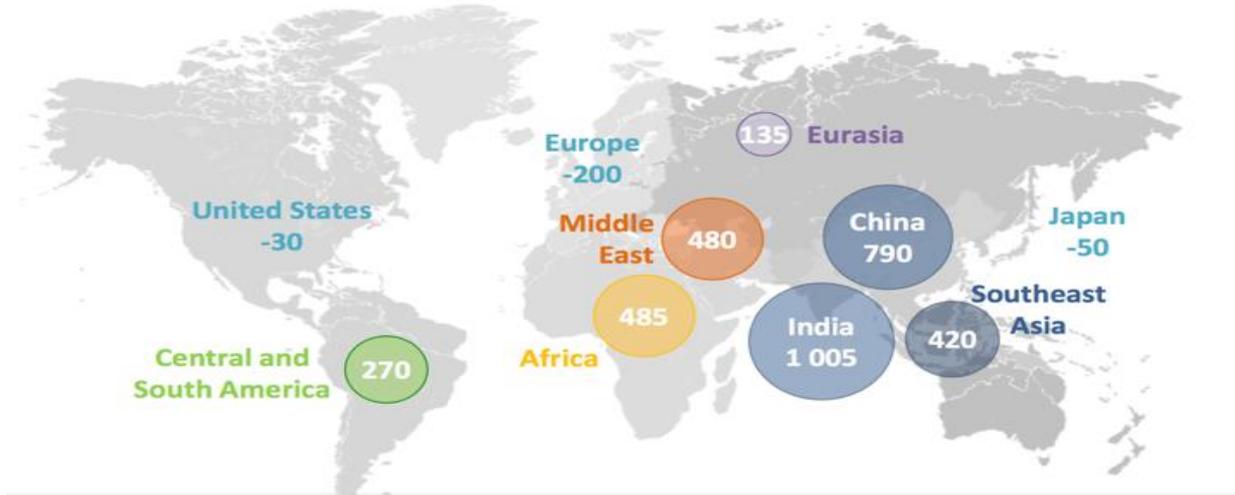
Since becoming IEA's Executive Director, Dr. Birol has made expansion of the IEA to the emerging countries a top priority since they both produce and consume more energy than OECD countries and their policies will shape global energy markets and the environment.

Increasing Role of India in the Global Energy Market

For the Darbari Seth Memorial Lecture, Dr. Birol recognized the increasing role of India in the global energy market noting progress to increase electrification, improve energy efficiency and advance the use of wind and solar. Birol noted India's renewable policies such as the tendering of large projects so investors could take advantage of economies of scale. Energy investment in India amounted to over \$80 billion in 2017, driven by renewables and electricity grids.

Why India is so Important to our Energy and Climate Future (IEA)

Change in energy demand, 2016-40 (Mtoe)



Natural Gas

Prices/Fundamentals

Asian Spot LNG Prices Hit Multi-Year Seasonal Highs on Peak Summer Demand:

Spot prices for LNG in the bullish Asian market, a key driver of global demand growth, continued to edge higher in early September, with prices now at four-year seasonal highs, exceeding each winter peak since 2014.^{xi} Spot prices for October LNG-AS delivery rose to \$11.55/MMBtu. Prices for winter delivery in the peak demand months of December and January rose to \$12.20/MMBtu.



Japan is the world’s largest importer of LNG, with China last year surpassing South Korea for

the second spot. All three are seeking to increase LNG stocks for the upcoming winter. Japanese demand also rose due to power outages stemming from a 6.7 magnitude earthquake in Hokkaido, a populous northern island, and also in the aftermath of unprecedented summer heat waves that depleted LNG stocks.^{xii} The price impact of the seasonal drop in demand from Japan post-summer peak could be compounded by the return of nuclear power capacity, with two separate units coming back on-line in early September.^{xiii}

Chinese appetite for LNG imports, however, has also been a critical factor, as the country has now imported 40.4 BCM in 2018, an increase of 45% from 2017. The underlying factor there is the Blue Skies Initiative, Beijing’s policy implemented last year to address pollution from coal-fired power plants by replacing the power generation with cleaner burning natural gas.^{xiv}

Upstream/Supply

Egyptian Gas Supply Expands with Ramp-up at Zohr, Status of Net Exporter on Horizon:

The economic benefits provided to Egypt by the Zohr offshore natural gas field continue to grow, as the perennial gas importer has the potential to become a net exporter in 2019. Production at the Zohr gas field has now hit 2 Bcf/d, propelling Egyptian gas output overall to 6.6 Bcf/d.^{xv} The country's goal of becoming a natural gas exporter should be attainable early in 2019. LNG tenders are ending in the fourth quarter of 2018. Egypt's Petroleum and Mineral Resources Minister, Tarek El-Molla, noted that the country expects to draw \$10 billion in foreign investment both this year and next year.^{xvi}

Eni is making substantial financial commitments to its upstream operations in Egypt, with various plays exhibiting growing potential and a government seeking to pay down its arrears, boosting the investor appeal for upstream investment.^{xvii} In September, Eni announced the Faramid South Prospect in the Western Sahara, Eni's Egyptian subsidiary discovered numerous layers of commercial gas volumes.^{xviii} Moreover, two separate oil discoveries have also been made by Eni in the Egyptian Western Dessert over the past several months, with exploratory wells seeing flows of light crude.^{xix} Additionally, the Italian operator is seeking out other wildcat success as it explores the Noor field in the North Sinai area of the Mediterranean at a cost of \$105 million.^{xx}

Midstream/LNG Transit

Construction of Nord Stream 2 Begins in German Waters amid Threat of US Sanctions, Berlin Seeks Alternative Supplies:

Construction of the Nord Stream 2 natural gas pipeline began in German waters, despite the threat of US sanctions on Berlin for its cooperation with Russia. With construction beginning in 2015 and scheduled to end in 2019, the major pipeline project aims to double the capacity of natural gas shipments from northwest Russia to the German domestic market, from 55 BCM/y to 110 BCM/y. The commencement of activity in German territory is a significant development given the heightened

scrutiny under which the second phase of Nord Stream finds itself.^{xxi}

Half of the project's cost is being funded by a consortium of five European energy firms, including Germany's Uniper and Wintershall, the Anglo-Dutch group Royal Dutch Shell, France's Engie, and Austria's OMV, to which the partners have made public commitments to execute the project despite the prospect of US sanctions.^{xxii} Russia's Gazprom owns the remaining 50% stake for the planned project costing \$11 billion.

German industry champions the project as it promises plentiful and cheap gas. Russian gas supplies to Europe were up again in August, with year-on-year flows for the first eight months up by 6% to 133 BCM, indicative of the competitiveness of Russian gas prices.^{xxiii}

However, a fire on August 30 in Russia's Arkhangelsk region slowed progress in building the Nord Stream expansion.^{xxiv} Specifically, the fire took place at the Russian gas trunkline Ukhta-Torzhok-2. The terminal there would help serve not only the European export market, but also Russia's domestic energy market, according to the Russian Unified Gas Supply plan. The fire was contained, and gas was rerouted to a back-up line.^{xxv}

As political pressure has grown internationally – from the US and its European allies especially – Berlin is looking to diversify sources for future natural gas imports in order to dilute the added relative dependence that supplies from Nord Stream 2 will represent. Currently, Germany imports 39% of its gas from Russia. The German Chancellor has floated the potential for smaller pipeline deals with Azerbaijan, and later Turkmenistan. Beyond accessing greater pipeline imports, Merkel has also discussed accelerated LNG trade volumes from exporters such as Qatar and the US.^{xxvi}

Imports/Demand/Downstream

Strong Demand from Major Asian Markets Could Grow Further, Supporting LNG Prices:

Qatar's Emir Sheikh Tamim bin Hamad Al-Thani announced plan to invest \$11.6 billion in the Germany over the next five years, which is inclusive of LNG infrastructure to grow future energy trade. German Chancellor Angela Merkel stated that there was significant potential for bilateral LNG collaboration between the two countries, as Berlin seeks to diversify the German gas import supply mix. Merkel noted that the German gas grid is interconnected to LNG infrastructure across Northwest Europe; indeed, only 28% of Europe's LNG terminal capacity was used in 2017.^{xxvii}

The beginnings of a German-Qatari collaboration may be in the works. In early September, RWE electricity giant purchased a "considerable" part of the 5 BCM/y LNG import terminal in Brunsbuttel, near Hamburg. Qatar Petroleum is now in direct talks with RWE about securing regasification capacity at the terminal.^{xxviii} However, the terms of long-term supply contracts with Qatar came under investigation by the European Commission (EC) in late June, as strict prohibitions from diverting cargoes within the European market inhibits the creation of a single regional gas market.^{xxix} Such legal and regulatory uncertainty will constrain the growth potential for Qatari LNG in Europe.

Power, Renewables & Efficiency

Global Market Trends

Indian Official Medium-Term Targets for Renewables Portion of Energy Mix Continue to Grow:

In late August, the cost of carbon dioxide emissions rose to its highest levels in a decade, reaching 20.70 euros per ton. Established and managed by the EU Emissions Trading System, CO₂ allowances impose an effective tax on coal electricity generators, and are thus designed to address climate change concerns and hasten the switch from coal to natural gas electricity generation. The price of allowances have more than quadrupled from less than 5 euros since

the middle of 2017, and Carbon Tracker, a climate change research group, predicted that CO₂ allowance prices may continue to spike to over 50 euros by 2021. The group also noted that fuel switching induced by the CO₂ allowance price surges will remove up to 60 million MT/y in carbon emissions by 2019, 90 million MT/y between 2020-22, and 70 million MT/y in 2023. The four European countries in which emissions reductions may be achieved at scale are Germany, Italy, Spain, and the Netherlands.^{xxx}



Increases in CO₂ allowance prices will not only impose new costs on utilities and coal power generators, such as Germany's RWE, but also electricity consumers across the continent. This is especially true in the UK, Germany, and France, where electricity prices have reached the highest levels in years. These three countries have initiatives to phase out coal-fired electricity completely over the coming decades.^{xxxi}

One clear beneficiary is natural gas. Reduced CO₂ emissions from burning natural gas rather than coal mean that power utilities will need to purchase about half the allowances needed than if they continued to utilize coal. For example, Carbon Tracker predicted that the allowance price increases will mean 46 terawatt hours (TWh) extra gas-fired output in Germany, and 42 TWh of incremental generation powered by gas in Spain. This calculus underscores the urgency for the EU to find new natural gas sources.^{xxxii}

Generation/Fuel Sources

As Turkey Hits Renewables Capacity Target Five Years Early, Development Accelerates:

Turkey has revised its clean electricity target, stating that its renewable generation mix must be 50% by 2023. This is an increase from its 2013 target of 31%, which the country achieved five years ahead of schedule in August 2018. Turkish President Recep Tayyip Erdoğan plans to achieve the 50% target through a series of tenders meant to boost renewable electricity generation, namely wind, solar, and geothermal sources.

Solar tenders will aim to increase solar power plants with a total capacity of 3GW, with a total investment target of \$4.8 billion. To boost wind capacity, the Ministry of Energy and Natural Resources will accept applications until October 23 for one of the world's biggest offshore wind plants, and the first of its kind in the country. The offshore wind plant will generate 1,200 MW of electricity. Notably, the tender requires 60% of the farm's equipment to be built by Turkish firms, and 80% of the engineers employed to be Turkish citizens.^{xxxiii}

Oil Market

As the first round of US sanctions on Iran came into effect in early August, global crude markets have been actively surveying the initial reactions from Tehran's main oil customers. While July saw the first diversification away from Iran by importers, primarily in Europe and South Korea, August marked a substantial drop in crude and condensate exports, off over 750 Kbb/d to just 2.1 Mbb/d.^{xxxiv} Furthermore, Washington recently secured a commitment from Japan to halt imports before sanctions that directly apply to the oil and gas sector come into effect in early November.^{xxxv} With its OECD allies exhibiting intentions to fall in line with US policy, now the US has turned its focus to the second biggest importer of Iranian crude, India.^{xxxvi} What makes these negotiations with

New Delhi even more crucial for the US is that, China, Tehran's largest customer, is expected largely to spurn US sanctions, validated by August data that indicate a jump in imports from Iran, hitting 875 Kbb/d.^{xxxvii}



Part of the impetus behind the June agreement between Saudi Arabia and its Gulf allies with Russia to boost supply by an initial 1 Mbb/d, with the ability to revisit such levels at short notice, was the likelihood of falling production from Iran in the face of US sanctions. One manifestation of these higher export volumes from Saudi Arabia is the growing barrels making their way to the US market, accounting for almost half of the Saudi rise in output, which currently sits at 10.4 Mbb/d in August.^{xxxviii} The prospect of Saudi crude replacing lost Iranian barrels has served to cap oil prices, alongside greater supply from Iraq and other exporters.^{xxxix} However, should these incremental volumes not be sufficient to supplant a growing Iranian disruption, particularly of the same crude quality, importers willing to comply with US sanctions may still have little option but to continue importing oil from Iran.^{xl}

The decision by Saudi Arabia in particular to increase supply in order to compensate for any future disruption from Iran has caused some difficulties within OPEC, with Iran going so far as to claim that any assumption of their own production quota is a violation of the OPEC charter.^{xli} A meeting later this month in Algeria could amount to a showdown between Iran and Saudi Arabia as to the efficacy of redistributing

a producer’s allowable output.^{xlii} The regional geopolitical competition between Iran and Saudi Arabia have also reached physical flows of crude oil, as Tehran has threatened the Strait of Hormuz while Houthi rebels forced Saudi Aramco to cease sending tankers through another global chokepoint, the Bab el Mandeb, for a week in late July.^{xliii}

Prices/Fundamentals

IEA Forecasts Higher Non-OPEC Supply Growth with Greater Risk of Volatility:

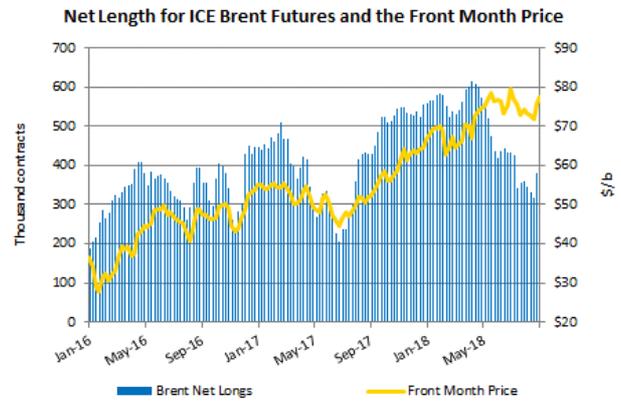
With oil prices hovering around \$80/b, their highest since 2014, the IEA released a mixed forecast, warning that calm in global oil markets may be transient. Concerns about global supplies, especially pertaining to the effect of US sanctions on Iran, may be outweighed by a few factors. While production from Iran – at 3.8 Mbbl/d for the first half of 2018 – will likely decline, the supply gap will be partially offset by rising production from non-OPEC nations. The IEA revised up its 2019 forecast for non-OPEC countries growth from 1.8 to 1.9 Mbbl/d, with US production adding a net 1.25 Mbbl/d.^{xliiv} Markets also responded to news that the US may give temporary relief to Asian buyers of Iranian crude.

The IEA also modestly increased its forecast for 2019 global demand growth, from 1.4 to 1.5 Mbbl/d, predicting that robust Chinese and Indian growth should overcome small declines in European demand, which fell by 120 Kbb/d in the second quarter of 2018.^{xliv} The IEA also noted the cross-cutting currents of higher oil prices on dampening global demand, and the dangers of a protracted US-China trade war on energy flows.

After Months of Hedging Exposure, Investors Regain Bullish Sentiment in Oil Futures:

Speculative capital flows in ICE Brent futures markets has begun to exhibit the first rebound in risk appetite since higher output from Russia and Saudi Arabia cooled a record run-up in long exposure. Since hitting a peak of 615,000 net

long contracts in mid-April, net length nearly halved to just 315,000 positions by August. Investors have since added 92 Mb in paper barrels, as disruptions from Iran materialize and geopolitical risk persists.^{xlvi}



Source: ICE

However, futures markets will stay rangebound as summer demand wanes and consensus on the short-term supply outlook remains elusive.^{xlvii}

Upstream/Supply

Venezuelan Crude Output Declines Further, Tanker Collision Compounds Export Woes:

Though OPEC’s production has risen to a 10-month high at 32.57 Mbbl/d, it did so in the midst of precipitous output declines from Venezuela. Crude output in August dropped to 1.22 Mbbl/d, as operational challenges and financial strains continue to erode productive capacity.^{xlviii} The nation’s crude output figures reflected a year-on-year plunge of 680,000 b/d. Most tellingly, its overall production numbers signified its lowest output in 60 years.

In late July, PDVSA announced planned turnaround at two of four crude upgraders in Venezuela, which hold export capacity of 360 Kbb/d, scheduled to undergo maintenance for August. The 150 Kbb/d Petromonagas upgrader run by PDVSA and Russia’s Rosneft, and the 210 Kbb/d Petropiar upgrader operated by PDVSA and U.S. major Chevron, will both be offline.^{xlix}

A tanker collision in late August at the country’s main crude export terminal in the city of Jose

led to its shuttering for repairs, potentially delaying up to 5 Mb in crude deliveries to Russian company Rosneft, US-based major Chevron, and large US independent refiner, Valero.ⁱ Crude shipments will now run through the port at Puerto la Cruz, where a backlog of tankers is already growing.ⁱⁱ

An August 20th settlement with the US' ConocoPhillips could be a positive sign, although Caracas has not made any installments on that agreement as yet. At stake is access to Venezuela's extensive network of shipping and storage infrastructure in the Caribbean islands of Curacao, Bonaire, and St. Eustatius. These facilities were crucial to its operations before the judgment in favor of ConocoPhillips, which had been seeking to seize said assets as compensation for the 2007 expropriations of its Venezuelan assets.ⁱⁱⁱ ConocoPhillips ultimately won an award of over \$2 billion from a tribunal convened by the World Bank.ⁱⁱⁱⁱ

Pipelines/Truck/Rail

Further Challenges for Canadian Pipeline Offtake Growth Outlook with Court Ruling:

On August 30th, a Canadian federal court annulled regulatory approval for the controversial Trans Mountain oil pipeline.^{lv} The pipeline is designed to triple existing capacity between the country's massive tar sands fields of Alberta and the Pacific Coastal city of Vancouver, a city with large crude export capacity. The Federal Court of Appeal ruled that Canada's oil regulator (the NEB) made a "critical error" when it greenlit the project in 2016, namely that it failed to take into account an increase in tanker traffic around the coast of British Columbia, where Vancouver is located.^{lv}

The ruling has put the \$5 billion project in limbo. The prognosis for the Trans Mountain project looked good as recently as August 16th, when Canada's oil regulator approved a large portion of the pipeline. If completed, the project would triple existing capacity to 890,000 b/d, with construction scheduled to begin in 2019 and

conclude by 2020. Canada's oil producers in Alberta have long decried the lack of downstream infrastructure in the landlocked province, claiming that production could easily triple with more pipeline capacity.^{lvi}

The ruling stands as another major headache for the Canadian government. Amidst much political controversy, the Trudeau administration agreed to purchase the project for \$3.41 billion in May from Kinder Morgan.^{lvii} However, one clear winner from the court ruling is clearly the Canadian National Railway Company, who signed a deal with oil producer Cenovus Energy to increase rail shipments of crude by 50% to 300,000 b/d by year's end. This deal was apparently signed only days before the court ruling.^{lviii}

Imports/Refining/Product Demand

Downstream Cooperation between Turkey and Azerbaijan Expands with Start of Refinery Operations, Petchem Plant Plans:

In early August, two downstream infrastructure developments epitomize the deepening partnership between Azerbaijan and Turkey, as a petrochemical plant received approval while the first cargo of Azeri oil arrived at a refining complex on the Turkish coast. The announcement of the planned STAR petrochemical complex on Izmir's Aliaga Peninsula, will be operated by SOCAR Turkey Energy. Construction is slated to begin in June of 2019, with a scheduled completion by the fourth quarter of 2022. The STAR refinery will employ 5,000 Turkish workers and have an annual export potential of \$3 billion, which would make the firm Turkey's second-largest industrial company.^{lix}

The announcement came as SOCAR Turkey received its first shipment of Azerbaijani crude oil on August 3rd, a cargo slated for delivery to the STAR Turkey Aegean Refinery. Construction of the \$6.3 billion refinery project began in 2010 and is slated to reach operational capacity by end-2018, for which preliminary activities have started. The Petkim

and STAR projects are part of a series of initiatives that began in 2008.^{lx}

Political-Economy

Macroeconomy

Strong Growth from the US Economy Drives Dollar Strength, Bigger Burden for Importers:

The US Dollar Index surged to a 13-month high in August, a gauge of the dollar's strength against a basket of six major currencies, averaging 96.46. Such strength has been boosted by positive data in employment and wage growth, although rising inflation is mitigating the benefits of higher pay. Slowing inflation in the eurozone has pushed the US dollar still higher.^{lxi}

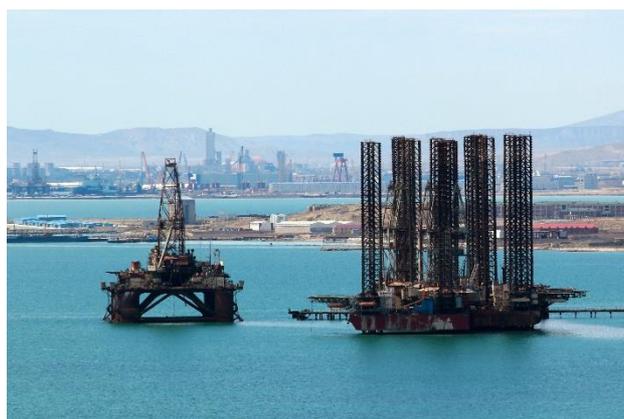
US consumer confidence slid to 11-month lows amid concerns with rising house prices, the automotive market, and generally higher consumer inflation. The US Labor Department stated that the US created 201,000 new jobs in August, with the unemployment rate remaining unchanged at an 18-year low of 3.9%.^{lxii} As such, the US Federal Reserve remains on track to raise rates two times in the coming year, as the US economy booms. Talk of an overheating economy is premature, yet robust growth will continue to drive inflationary pressures, which has now passed 2%.^{lxiii}

Dollar strength can easily result in bearish pressure on global oil markets, making oil relatively more expensive for much of the world that has already seen sizeable increases in energy prices. Even as Iran sanctions threaten 2.4 Mbb/d of exports from global crude supply, the persistence of a strong dollar could remain as long as the Federal Reserve continues nudging interest rates higher given the outperformance of the US economy, with the associated low unemployment and growing inflation. Such good economic news for the US could become a massive burden on consumer nations of crude oil, which could in turn become its own headwind for global demand growth.^{lxiv}

Geopolitics

After Decades of Stalemate, Caspian Border States Reach Political Settlement:

On August 12, leaders from Russia, Azerbaijan, Iran, Kazakhstan and Turkmenistan signed a landmark agreement demarcating the energy resources and maritime borders of the Caspian Sea. The deal was the culmination of over two decades worth of negotiations following the collapse of the Soviet Union; the agreement meant that signatories classified the Caspian Sea as a sea, rather than a lake. As such, each country would be entitled to control 15 nautical miles of water from its shoreline for mineral exploration, and 25 miles for fishing. Underneath the Caspian Sea lies an estimated 50,000 Mb in oil reserves and another 9 TCM of natural gas. One of the clearest winners of this deal may be Kazakhstan, which can now scale its operations at the massive Kashagan oil field, which posts current output of 300 Kbb/d. This field ranks as one of the world's largest discoveries in the last 20 years, and production began in 2016 after significant delays and cost overruns.^{lxv}



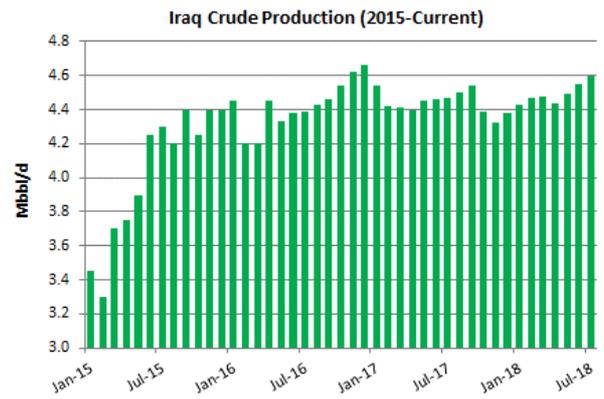
Still, further details must be finalized following the agreement, with some geopolitical issues remaining unresolved. The Russian delegation seems keen to prevent the completion of the Trans-Caspian Gas Pipeline, a project seemingly valid under the provisions of the accord, as bilateral, rather than exclusively

multilateral, energy partnerships are now permitted. This pipeline would cut across the Caspian, connecting Turkmenistan's considerable natural gas reserves with a Southern Corridor pipeline in Azerbaijan, thus allowing Turkmenistan to export natural gas directly to Europe. Russia's market share in Europe could erode in such a scenario.

Meanwhile, Iran seems to have received jurisdiction over a smaller territory located in the southernmost part of the Caspian Sea, with its reserves being in the deepest part of the Sea and under high pressure. Immediately following the deal's consummation, an Iranian MP stated that Iran's portion of the sea was reduced from 50% to 11%, although the amount of reserves around the Gulf will remain a priority in terms of upstream development in Iran.^{lxxvi}

Protests in Southern Iraq Turn Violent, Risk Grows over Increasing Export Volumes:

Although civil unrest has grown during the hottest summer months in Basra over the past few years, the protests that ignited early in July throughout southern portions of Iraq have been larger, more prolonged, and in the closest proximity to oil infrastructure. With unemployment growing precipitously, in addition to the traditional lack of public services and electricity, unrest spilled over near several oil fields, including West Qurna, Iraq's largest.^{lxxvii} While protests have continued around certain oil fields^{lxxviii}, political tensions are reaching new heights following a week of violent demonstrations in the city of Basra, which were only just quelled.^{lxxix}



Source: EIA

In spite of the elevated security risk, including direct breaches of oil facilities, returning upstream investment is translating into growing crude production and exports, posting 4.6 Mbbbl/d in July, with initial estimates for August showing record levels of nearly 4.7 Mbbbl/d.^{lxx} Imminent output additions will come from fields operated by both Iraqi state subsidiary Southern Oil Company (SOC) as well as projects such as Halfaya, being developed by CNPC.^{lxxi} With these developments underway, Baghdad is growing increasingly vocal about increasing its crude production and exports, although opening the taps excessively could precipitate pushback from fellow OPEC members.^{lxxii}

In addition to the near-term upside potential for production, the Iraqi government has undertaken significant efforts to lure greater investment from operators of the largest projects in the south.^{lxxiii} However, should such febrile political tensions endure, investment, as well as current output from southern Iraq could become materially impacted.

Fighting Hits Tripoli, Attack on NOC HQ Represents Imminent Threat to Stability:

After nearly 18 months of consistently elevated production of above 900 Kbbbl/d, conflagrations between political factions around Libya's largest oil terminals quickly halved output. Notwithstanding seeing five of seven onshore ports shuttered for some weeks in June, a relative calm returned, along with crude supply, which the National Oil Corporation (NOC) was able to bring back to 1 Mbbbl/d by mid-

August.^{lxxiv} For an economy that has been in the perpetual doldrums, the persistently high output levels – combined with the rebound in oil prices – have led to a welcome boost for revenues for NOC as well as the government. Already cash flows that have accrued to the state-run oil group hit \$13 billion through August surpass the entire annual revenues for 2017, with projections for 2018 hitting near \$23.5 billion.^{lxxv}

However, just as some of the final significant fields that are connected to Es Sider, the terminal most impacted by fighting in June, potentially adding to Libyan production prospects^{lxxvi}, the lack of broad political resolution in Tripoli is again resulting in mounting violence and greater risk both to

political stability and oil export volumes and inflows of crucial foreign exchange. Despite several efforts to broker a political consensus, first in Paris in April, with a follow-up meeting held recently in Zawiyah, the absence of key stakeholders throughout these negotiations, as well as an expanding presence of the Islamic State (IS), has helped lay the groundwork for the uptick in violence.^{lxxvii} While the fighting has been concentrated around the capital, Tripoli, with an attack on the headquarters of NOC as the most recent example of the deteriorating security environment^{lxxviii}, there has also been sabotage of energy infrastructure^{lxxix}, occurrences of which would grow if the current political conditions persist.

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