FIPI

Federation of Indian Petroleum Industry

POLICY & ECONOMIC REPORT OIL & GAS MARKET

AUGUST 2019

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Policy & Economic report – Oil & Gas market

Economy in Focus

1. **In face of global instability, emerging markets struggle to maintain brisk growth**

A recent World Bank Report suggests that that the pace of global economic growth reached its lowest level in three years. Large emerging markets failed to attain expected levels of international trade and investment, despite forecasted growth in these markets for 2020.

The UN Conference on Trade and Development reported a fall in overall global flows of foreign direct investment (FDI). The funds amounted to $1.3 trillion, which is the worst level since the last global financial crisis in 2008.

In this regard, world leaders have expressed concerns for the global economy during the G20 Summit in Osaka that took place in June. The leaders emphasized that the US and China should finalize a trade deal, given that trade tensions between these two countries have a significant impact on the global economy. With a weaker global economy, the outlook for large emerging markets, including China, Brazil, Russia, and India has worsened.

China: The Chinese economy is witnessing a slowdown since June 2019. The statistics on industrial output and investment almost violate the government's 6 per cent bottom line for growth. As a result, China's growth will most likely decrease in the next few years. Fitch ratings has forecasted a slowdown in China's growth from 6.2 percent this year to 5.8 percent in 2021.

Brazil: BBC has predicted for a lower growth expectation for Brazil. The country's fiscal deficit hampers economic growth and increases pressure for liberal reforms. The recently introduced bill on pensions reforms has raised the investor confidence in the country. This bill would give the Brazilian government a total savings of roughly $250 billion in the next ten years through the increase in the minimum retirement age and other rules that are more demanding for retirement. The free trade agreement between Mercosur and the European Union may provide Brazil some relief and will increase Brazil's gross domestic product by $87.5 billion and expand foreign investment in Brazil by $113 billion over the next 15 years.

Russia: Over the years, Russia has been seeing a fall in living standards and widespread poverty. The Russian economy has hit stagnation and the overall outlook does not look very positive. The Russian Economic Report, a report published by World Bank, forecasts for a growth at the rate of 1.2 per cent in 2019 but cites risks for medium-term growth such as the possibility of harsher economic sanctions, lower oil prices, and the financial instability in other emerging markets.

However, if Russia decides to increase its expenditure on foreign policy goals so that it can claim global power status, there will be less funding for domestic changes and investments that can create growth. During a national development goals meeting, Prime Minister Mr. Dmitry Medvedev stated that while external factors slowed the economy, the government must take actions to reduce these risks so that Russia's growth can exceed the global average.

India: India has the brightest outlook of all emerging markets. Although the International Monetary Fund (IMF) reduced India's growth expectations for the next three years due to "softer underlying momentum," the institution presumes that India will remain the fastest-growing economy in the world with a 7.3 percent real GDP growth.

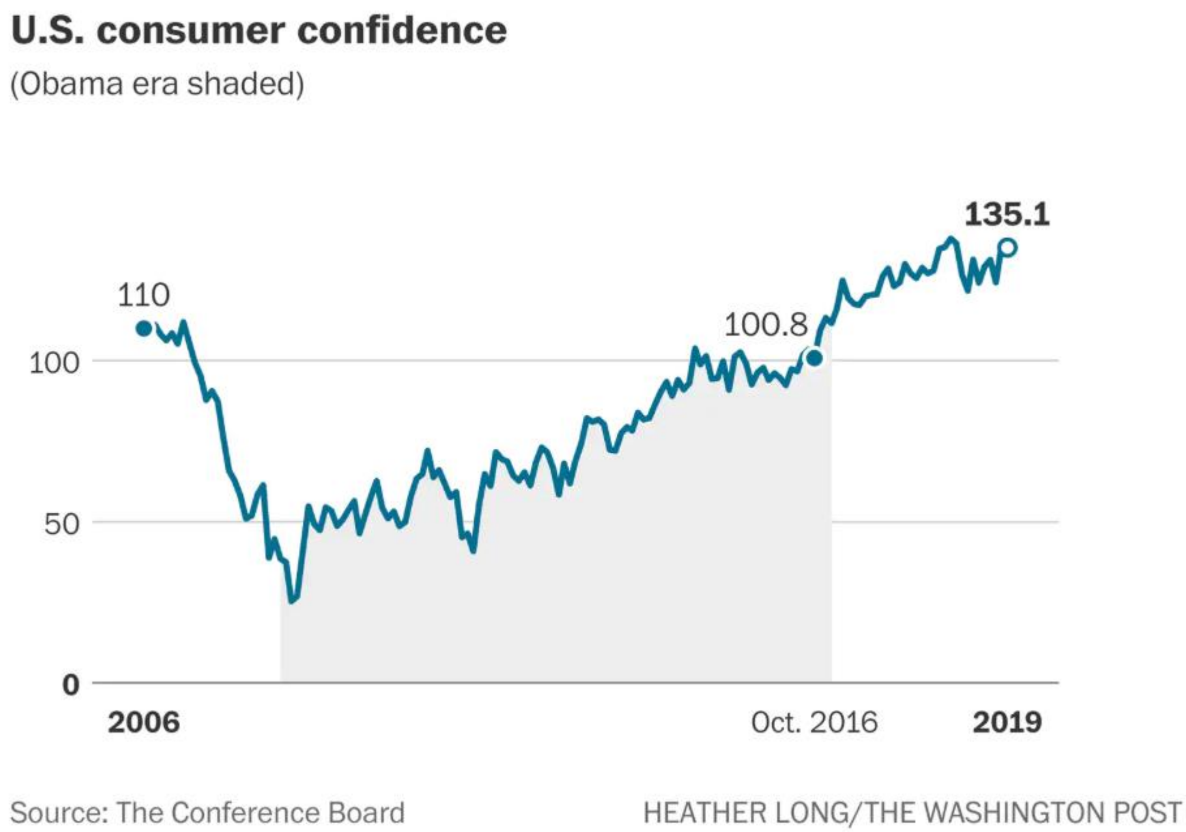
India failed to reach its expected real GDP growth for the first quarter of 2019. Additionally, there are other important concerns for the Indian economy. While the United Nations forecasted India's population will outgrow China's by 2024, the country struggles with jobless growth, a macroeconomic circumstance in which a high unemployment rate accompanies growth. In fact, the unemployment rate in India recently reached a 45-year record high.

In response to these pressures, India has outlined plans to meet its goal to become a $5 trillion economy. In this regard, the Indian Government has emphasized on the need to invest in infrastructure, technology, and job creation. As the economy loses momentum, the government seeks to create growth with a model similar to China's: more investment, savings, and exports.

2. Slowing growth in employment could trigger recession for the US economy

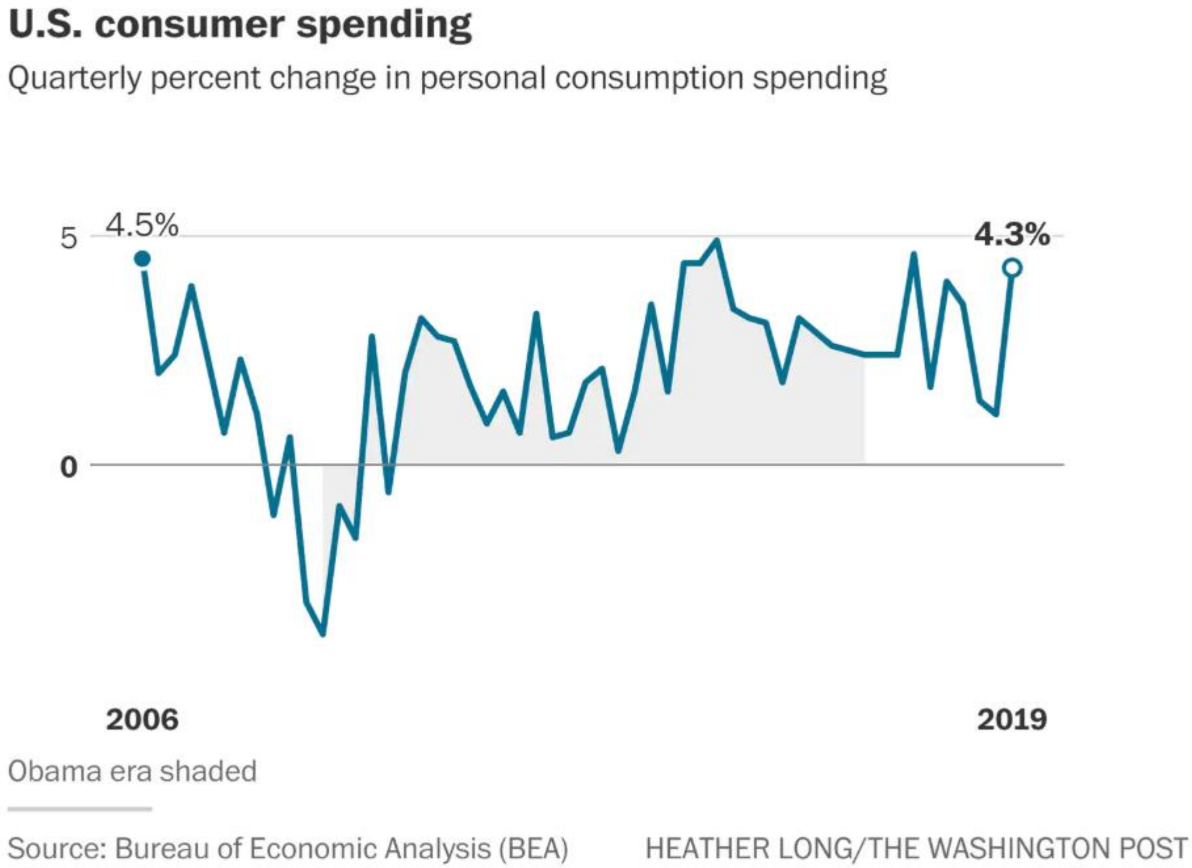
The US economy is presently in a very confusing space where fundamentals look strong: Jobs are plentiful, inflation is tame, wages are rising and the economy continues to grow a tad above 2 percent, yet, many experts are warning that a recession might come by 2021.

Broadly speaking, economic growth in the United States is driven by three factors — spending by consumers, the government and businesses. At the moment, businesses have pulled back because of the trade war, and government spending is not expected to change much, especially with a two-year budget deal in place. That leaves the consumer as the most significant variable that can change the country's fortunes .i.e. ordinary US citizen will decide whether a recession will come sooner rather than later. And therein lies the strength and weakness of the economy: It depends on people. Their spending makes up about 70 percent of economic activity, and they rely on their gut feeling about the economy when they decide whether to make big purchases such as cars, refrigerators or fancy birthday dinners. The latest data on consumer confidence that came out this week caused a sigh of relief on Wall Street.



The US President's decision to raise tariffs on imports hasn't discouraged people from visiting stores (or shopping online) yet, but his next round of tariffs is set to hit popular items such as shoes, phones and laptops, and business leaders are already on edge. U.S. companies have cut back spending sharply because they don't like investing in new factories or initiatives when the business environment is unstable. The concern is that after businesses stop spending, they typically pare down hiring — or even start layoffs. That would be a devastating blow to those who lose their jobs, and it has wider psychological effects. Even for those who are still employed, negative headlines about market drops, mass layoffs and gloomy expectations can spook Americans into tightening their belts.

For now, consumers have been buoyed by gains of about 6 million jobs in the past three years, wages that are rising well above the cost of living and tax cuts for most households.



Economists say what would really tip consumer confidence is if businesses pull back on hiring. And there are early signs that might be starting to happen. While the economy continues to add jobs at a healthy rate, the pace has slowed from 223,000 job gains a month last year to 165,000 this year. Job openings have also declined in the past several months as some executives say they are in wait-and-see mode because of the U.S.-China trade war.

The optimistic case is that consumers will continue to spend, ignoring the mayhem between China and the United States and the recent gyrations of the markets. The pessimistic case is that these latest blows between the United States and China will add up to a psychological blow that will persuade even healthy businesses to stop hiring and consumers to limit their spending.

3. Mental health problems cost £35 billion to UK employers in 2018: report

According to a recent report published by Centre for Mental Health, Mental health problems in the UK workforce cost employers almost £35 billion last year. The report suggests that the cost has now reached £34.9 billion from £26 billion a decade ago. This means that mental health problems cost £1,300 for every employee in the UK economy.

The report finds that by far the largest part of the business cost is in the form of reduced productivity among people who are at work but unwell: or 'presenteeism'. This costs businesses twice as much as sickness absence relating to poor mental health. The remainder of the cost relates to turnover – people leaving their jobs as a result of poor mental health.

Ms. Sarah Hughes, Chief Executive, Centre for Mental Health noted that at any one time, one in five working people will have a mental health difficulty. Many will never get any help. Some end up losing their jobs while for others being at work is an important part of recovering from a mental health problem. However, more and more employers have started to take the issue seriously and do more to support the wellbeing of their staff. Mental health issues are talked about more widely and more people with mental health problems are speaking about their experiences and seeking help when they need it.

It is expected that the UK Government's independent review of work and mental health, led by Paul Farmer and Lord Stevenson, will identify ways of supporting the mental health of working people and helping employers manage wellbeing more effectively. Employers that take steps to support mental health at work will benefit from a more productive, happy and loyal workforce. Those that ignore the issue, or who undermine the mental health of their staff, risk not only the health of the people who work for them but the wealth of their business and the health of the economy as a whole.

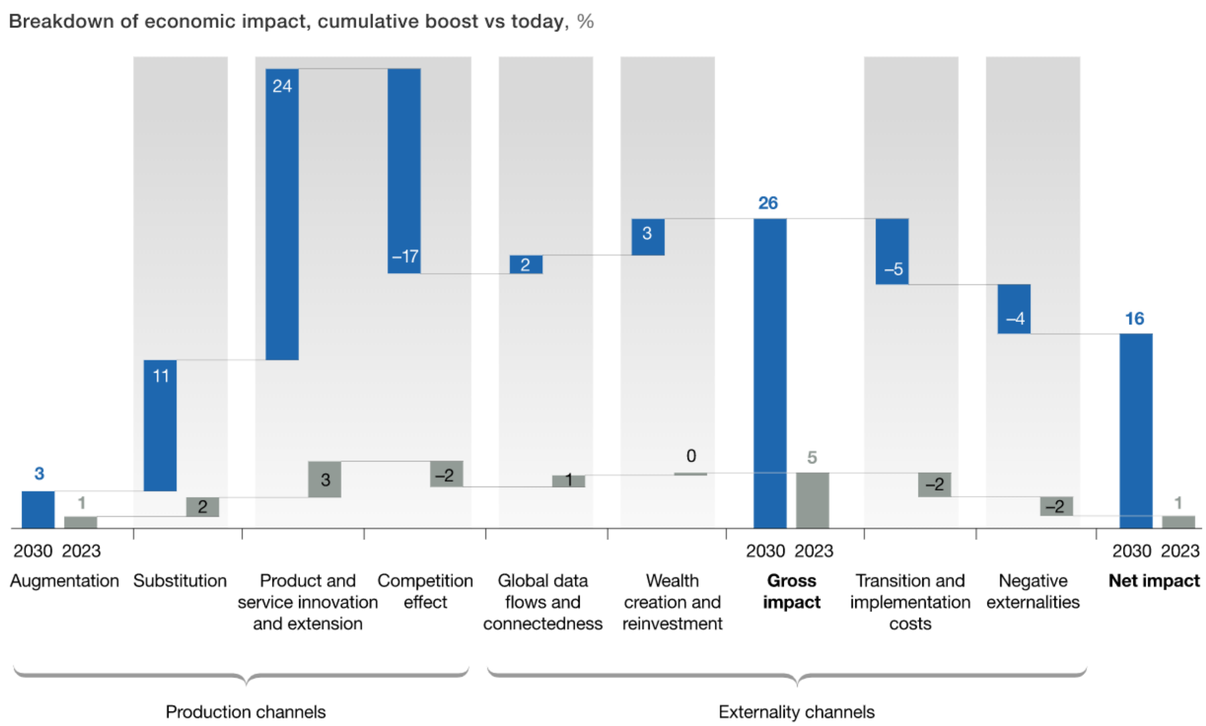
4. Impact of AI on world economy

Artificial Intelligence (AI) has taken up an increasingly important role in business and the global economy. This is not surprising given that AI might usher in radical—arguably unprecedented—changes in the way people live and work. A recent report by McKinsey Global Institute attempts to simulate the impact of AI on the world economy.

The report looked at five broad categories of AI: computer vision, natural language, virtual assistants, robotic process automation, and advanced machine learning. Companies will likely use these tools to varying degrees. Some will take an opportunistic approach, testing only one technology and piloting it in a specific function (an approach our modeling calls adoption). Others might be bolder, adopting all five and then absorbing them across the entire organization (an approach we call full absorption). In between these two poles, there will be many companies at different stages of adoption; the model also captures this partial impact.

By 2030, the average simulation shows that some 70 percent of companies might have adopted at least one type of AI technology but that less than half will have fully absorbed the five categories. At the global average level of adoption and absorption implied by the simulation, AI has the potential to deliver additional global economic activity of around $13 trillion by 2030, or about 16 percent higher cumulative GDP compared with today. This amounts to 1.2 percent additional GDP growth per year. If delivered, this impact would compare well with that of other general-purpose technologies through history.

A number of factors, including labor automation, innovation, and new competition, affect AI-driven productivity growth. Micro factors, such as the pace of adoption of AI, and macro factors, such as the global connectedness or labor-market structure of a country, both contribute to the size of the impact.



Source: Mckinsey & Co.

The impact of AI might not be linear but could build up at an accelerating pace over time. Its contribution to growth might be three or more times higher by 2030 than it is over the next five years. An S-curve pattern of adoption and absorption of AI is likely—a slow start due to the substantial costs and investment associated with learning and deploying these technologies, then an acceleration driven by the cumulative effect of competition and an improvement in complementary capabilities alongside process innovations.

How AI would affect countries?

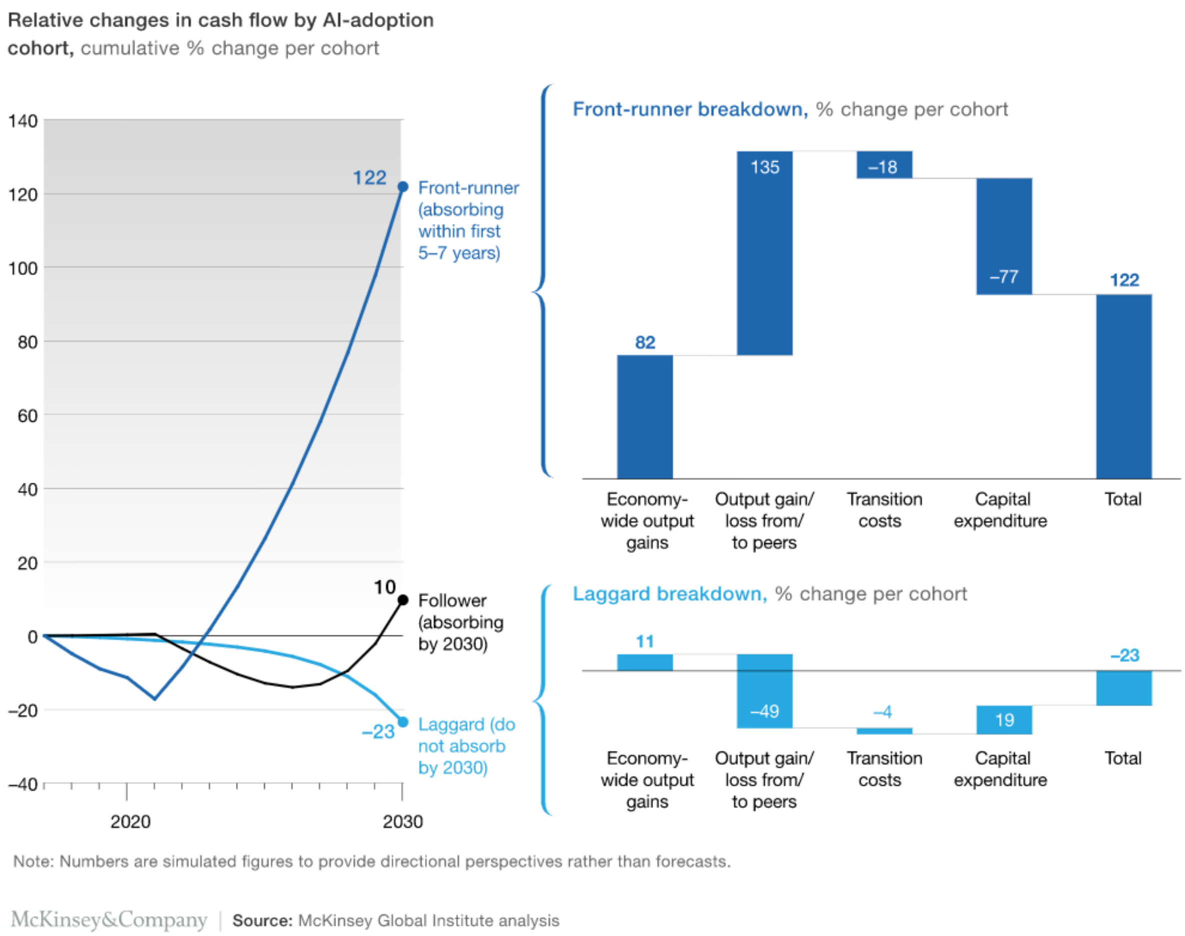
AI might widen gaps between countries, reinforcing the current digital divide. Countries might need different strategies and responses as AI-adoption rates vary. Leaders of AI adoption (mostly in developed countries) could increase their lead over developing countries. Leading AI countries could capture an additional 20 to 25 percent in net economic benefits, compared with today, while developing countries might capture only about 5 to 15 percent. Many developed countries might have no choice but to push AI to capture higher productivity growth as their GDP-growth momentum slows—in many cases, partly reflecting the challenge due to aging populations.

How AI would affect companies?

It is possible that AI technologies could lead to a performance gap between front-runners (companies that fully absorb AI tools across their enterprises over the next five to seven years) and non-adopters (companies that do not adopt AI technologies at all or have not fully absorbed them in their enterprises by 2030).

At one end of the spectrum, front-runners are likely to benefit disproportionately. By 2030, they could potentially double their cash flow (economic benefit captured minus associated investment and transition costs). This implies additional annual net cash-flow growth of about 6 percent for longer than the next decade. Front-runners tend to have a strong starting IT base, a higher propensity to invest in AI, and positive views of the business case for AI.

At the other end of the spectrum, non-adopters might experience around a 20 per cent decline in their cash flow from today's levels, assuming the same cost and revenue model as today. One important driver of this profit pressure is the existence of strong competitive dynamics among companies that could shift market share from laggards to front-runners and might prompt debate about the unequal distribution of the benefits of AI



How AI would affect workers?

A widening gap might unfold at the level of individual workers. Demand for jobs could shift away from repetitive tasks toward those that are socially and cognitively driven and require more digital skills. Job profiles characterized by repetitive activities or that require a low level of digital skills could experience the largest decline as a share of total employment to around 30 percent by 2030, from some 40 percent.

The largest gain in share could be in non-repetitive activities and those that require high digital skills, rising from roughly 40 percent to more than 50 percent.

5. Low inflation in Euro-Area, forces ECB to consider rate cuts

Inflation in the Euro-Area remained well stuck below the European Central Bank's goal in August, providing more reason for policy makers to unleash measures next month to jolt prices and growth.

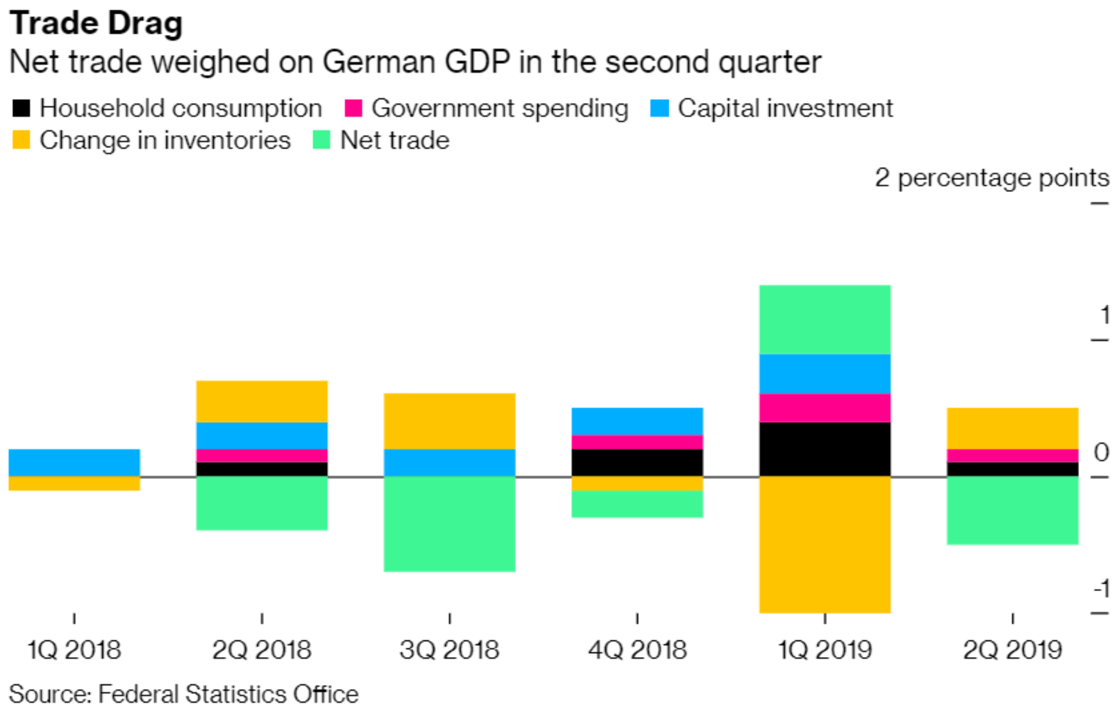
The 1 per cent rate, in line with economists' estimates, compares with the ECB goal of just under 2 per cent. The core measure, which excludes more volatile elements such as energy, food and tobacco, was even lower, at 0.9 per cent.

Inflation, in the Euro-zone, has been on a downward trajectory for months and is now about half the rate it was a year ago. This has prompted the policy makers to rethink and respond with more monetary stimulus next month.

ECB is expected to cut interest rates even deeper into negative territory and potentially also restart quantitative easing. However, not every member of the Governing Council may be on board with aggressive loosening. By adding stimulus, ECB would be joining other central banks around the world, who have responded to the global slowdown with their own interest-rate cuts.

6. Trade war pushes German economy closer to recession

In the second quarter of the financial year, a collapse in exports have pushed Europe's largest economy to the brink of recession. The extremely hostile trade war between the U.S. and China is partially to blame for Germany's deepening manufacturing crisis. Exports from the country declined by 1.3 per cent, causing a contraction in total economic output.



Bundesbank has predicted that GDP could decline again in the third quarter, and sliding business confidence has been piling pressure to Chancellor Angela Merkel to provide fiscal stimulus.

Germany's export-oriented economy has sustained significant collateral damage from a U.S.-inflicted trade conflict that continues to escalate. The US President has further threatened to impose tariffs on European car imports earlier this month and labeled the EU "worse than China."

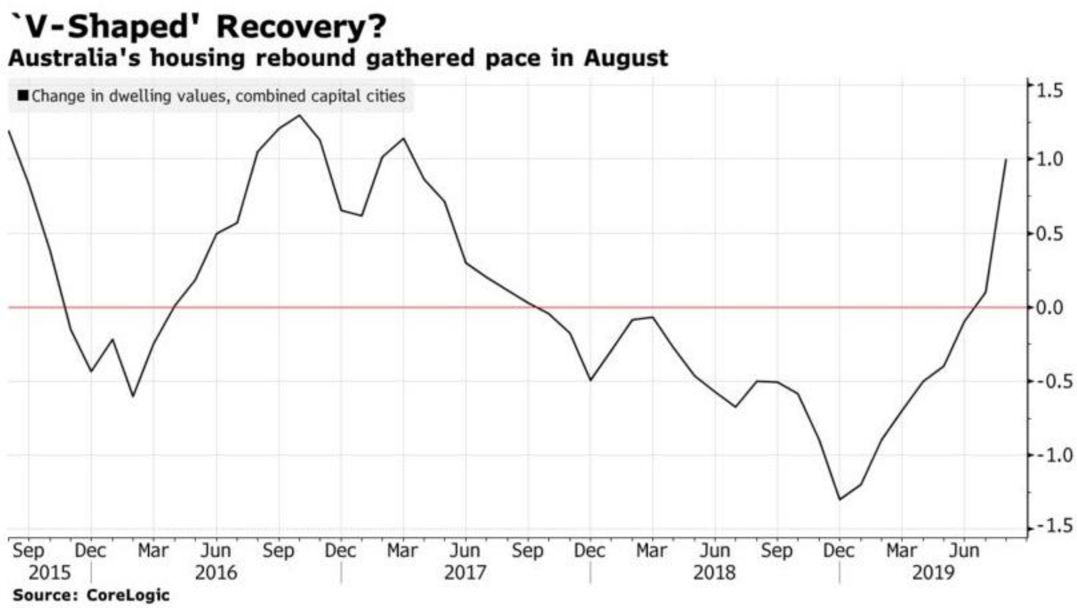
Many German companies are blaming geopolitical uncertainty and trade for a weaker outlook. Many firms have highlighted difficulties in predicting earnings prospects. To make things worse, weakness in manufacturing is starting to spread into other industries. In August, the business-confidence indicator slid to the weakest level in almost seven years.

7. Policy reforms and a new Government provide the much needed fillip to the Australian property sector

As the property prices in Sydney and Melbourne started emerging from a two-year slump in June, the rebound has caused a rise in property prices across Australia for the first time since October 2017.

House prices in Sydney jumped 1.6 per cent in August while Melbourne climbed by 1.4 per cent. However, it's not all one-way traffic – in some of the other major cities in the country like Perth and Darwin, the property prices have continued to follow a downward slope.

There are four major factors which have provided a fillip to the property: market interest rate and tax cuts, an easing in bank-lending rules, and the surprise re-election of Scott Morrison's government, which killed off plans by the opposition Labor party to unwind tax breaks for landlords. Sentiment has risen so sharply, that some experts believe that this could potentially turn into a V-shape recovery. Going forward, a lot will now depend on the spring selling season as more supply hits the market.



8. **Growth in economic activity in India reaches a six year low**

Witnessing a sharper than expected slump in output, India's economic growth forecasts have been revised downwards and economists have predicted for deeper interest-rate cuts.

While Goldman Sachs Group and Citigroup lowered their growth projections to 6 per cent for the fiscal year through March 2020, Oxford Economics said there's a risk the expansion could be weaker than that. GDP increased 5 per cent in the June quarter from a year ago, the slowest pace in six years and lower than all the forecasts. Over the last few months, India's consumption and export growth have slowed down and investments in the country have remained subdued.

The government -- which is sticking to its 7 per cent growth projection for the fiscal year -- has in recent days announced a number of steps to improve India's longer-term growth, without providing any immediate support. It will merge state-run banks to help spur credit growth, ease foreign investment rules and give concessions on vehicle purchases.

Below mentioned are some of the new projections for the country:

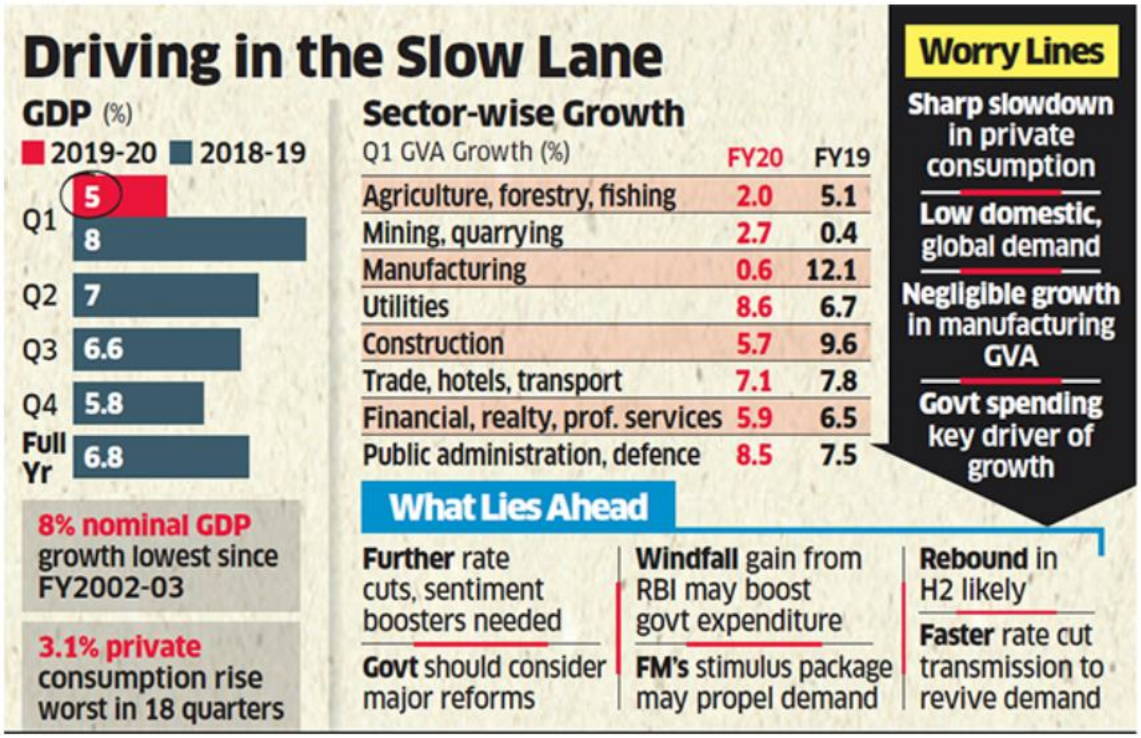
ECONOMIST	NEW GDP FORECAST	PREVIOUS GDP FORECAST	INTEREST RATE FORECAST
Citigroup	6%	7%●	25bps cut in October, with 30% probability it could be higher
Goldman Sachs	6%	6.9%●	50bps cut in 4Q vs previous prediction of 25bps
Oxford	Below 6%	●	75bps rate cuts
Nomura	6%	6.5%●	40bps cut in 4Q vs earlier projection of 15bps
Bloomberg Economics	6.6%	7%	

Source: Bloomberg

9. India grows at 5 per cent in Q1 of FY20; RBI calls it a cyclical slowdown

In the first quarter of FY20, India has recorded a growth 5 per cent, its lowest in six years due to a sharp deceleration in consumer demand and tepid investment. Nominal GDP growth, a measure of GDP without adjusting for inflation, rose just 8 per cent, the least in the current series of national accounts going back to FY12, indicating a deep slowdown. Comparing across different series, it could be the lowest since FY03.

Consumption, the bedrock of growth in the past few years, collapsed to an 18-quarter low of 3.1 per cent from 10.6 per cent in the March quarter, pointing to fragile sentiment. Investments grew 4 per cent, up from 3.6 per cent in the previous quarter. The slowdown in investment and consumer demand derailed manufacturing, which grew just 0.6 per cent. A meagre 2 per cent rise in farm sector added to the demand slowdown. The Chief Economic Advisor Mr. Krishnamurthy Subramanian has reassured that the Government is taking the necessary steps to bring the economy back on the high growth path soon.



Need for Major Reforms

The Reserve Bank of India (RBI) in its recent report has claimed that the slowdown is cyclical and would not require deep reforms. However, the experts are of the opinion that the country needs something to stimulate the economy and more interest rate cuts could probably prove helpful in this direction.

Automobile sales, a barometer of the economy, have declined sharply in recent months, forcing production cuts and jobs losses. The government has offered incentives on auto purchases to help revive demand. Weak global economy and trade tensions have kept export growth muted.

Experts feel that regardless of the monetary easing and the measures announced so far by the Government to support the economy, some of the constraints to economic growth, including the moderate capacity utilization levels, cost of land acquisition, and weak outlook for farm incomes, would persist

10. Government's record withdrawal from RBI, if used wisely, could prove a boon for the ailing economy

The Central Board of Reserve Bank of India (RBI) decided to transfer Rs 1.76 lakh crore to the government – its highest transfer ever. The Government made the withdraw, acting on the recommendations of the committee chaired by Mr. Bimal Jalan, Former Governor, RBI on capital transfers. Many experts are seeing this withdrawal as a lifeline for the Government to explore options to revive economic growth amid a period of sluggish consumer demand and weak investments.

Before the RBI's announcement, the government had budgeted Rs 90,000 crore as surplus and dividend transfers from RBI for the current fiscal. However, it will now get Rs 86,000 crore more than the budgeted amount. RBI maintains reserves through gold reserves and foreign exchange assets, which collectively forms Currency and Gold Revaluation Reserve Account. The RBI also stores a Contingency Fund (CF), which is another provision for tackling unexpected emergencies.

Experts are divided on the new surplus transfer policy. While some have welcomed the move as it will help the government counter the shortfall in revenue and tax collection others feel that this move could put RBI in a vulnerable position apart from diminishing its autonomy. However, most economists agreed that the move will help the Government prove a stimulus to the economy alongside recapitalizing the core sectors. What will be crucial is the manner in which the Government makes use of the excess fund for reviving the economy.

Setting a precedence

RBI has often transferred surpluses to the government over the years. For instance, in 2017-18, it transferred Rs 50,000 crore of surplus to the government, including an interim dividend. In 2016-17, the transfer was to the tune of Rs 30,659 crore. However, this time around, not only is the dividend payment the largest ever disbursed, but the recommendations of the Mr. Bimal Jalan Committee have also set clear guidelines for the future, ending the central bank's discretion when it comes to deciding surplus transfers to the government.

RBI maintains reserves through gold reserves and foreign exchange assets, which collectively forms Currency and Gold Revaluation Reserve Account. The RBI also stores a Contingency Fund (CF), which is another provision for tackling unexpected emergencies. For 2018-19, the RBI had a record surplus as the central bank intervened in the forex market and the money markets, selling dollars at a big profit in the former and conducting open market operations in the latter.

The RBI Board’s decision is being criticized because of its decision to maintain the contingent risk buffer at 5.5 per cent, the lower end of the recommended range.

How the Government should use the RBI funds?

The government should reserve the amount and make up for the shortfall in tax and GST collections. A portion of the funds should be used to re-capitalize public sector banks as soon as possible. The excess surplus transfer has offered a great opportunity to the government to contain and even a lower fiscal deficit. A report on Business Standard indicates that the government is planning to contain fiscal deficit at 3 per cent of the GDP in 2019-20.

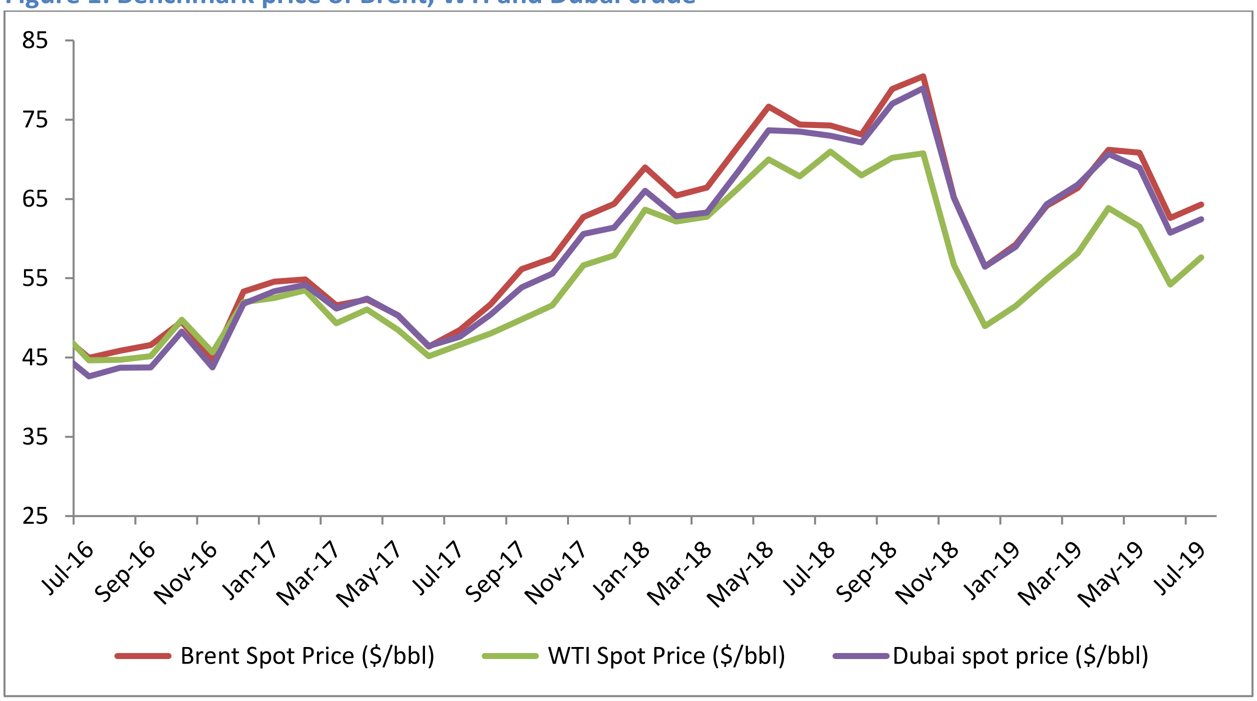
Oil & Gas Market

Crude oil price

Crude prices steadied in the first week of July after going through severe volatility in the month of June. Crude prices were in the range of USD 60-65/barrel throughout the month of July despite the threat of supply interruption in the Strait of Hormuz and ongoing US-China trade issues.

Average Brent, WTI and Dubai basket crude prices went up by 2.8 %, 6.4 % and 2.80 % respectively from the prices in the month of June.

Figure 1: Benchmark price of Brent, WTI and Dubai crude



Source: WORLD BANK

- Brent crude price averaged $64.34 per bbl in July 2019, and was up 2.8 % and down 13.3% on a month on month (MoM) and year on year (YoY) basis, respectively.
- WTI crude price averaged $ 57.65 per bbl in July 2019, and was up 6.4 % and down 18.8% on a month on month (MoM) and year on year (YoY) basis, respectively.
- Dubai crude price averaged $62.45 per bbl in July 2019, and was up 2.8 % and down 14.4% on a month on month (MoM) and year on year (YoY) basis, respectively.

Table 1: Crude oil price in July, 2019

Crude oil	Price ($/bbl) in July 2019	MoM (%) change	YoY (%) change
Brent	64.34	2.8%	-13.3%
WTI	57.65	6.4%	-18.8%
Dubai	62.45	2.8%	-14.4%

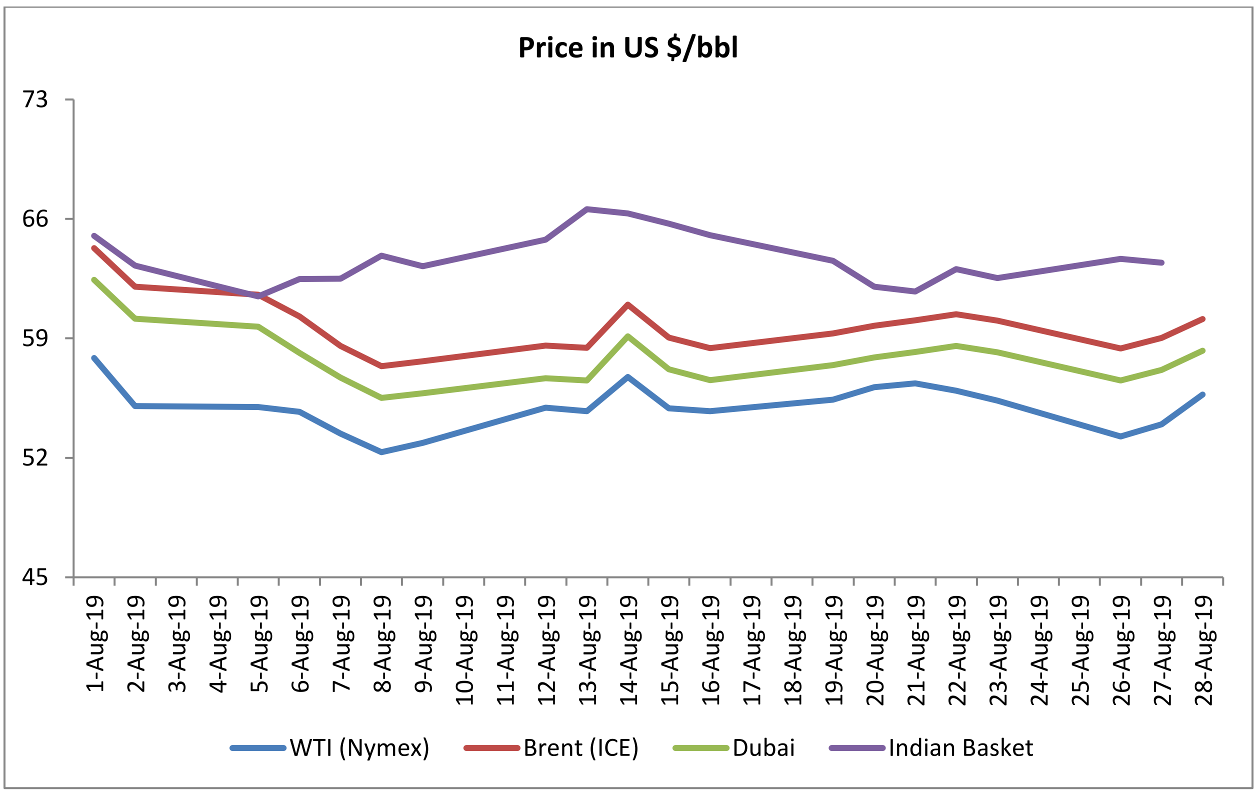
- *Source: WORLD BANK*

Crude oil price slips in August 2019

Crude prices declined in the month of August due to economic worries across the globe trade war between the US and China, increase in crude stock and the slightly reduced demand forecast. Though there were fluctuations in the mid-August to varying crude inventory levels, the prices went down.

Average Brent, WTI and Dubai basket crude prices went down by 7.2 %, 4.7 % and 7.4 % respectively from the prices in the month of July.

Figure 2: Crude oil price in August 2019

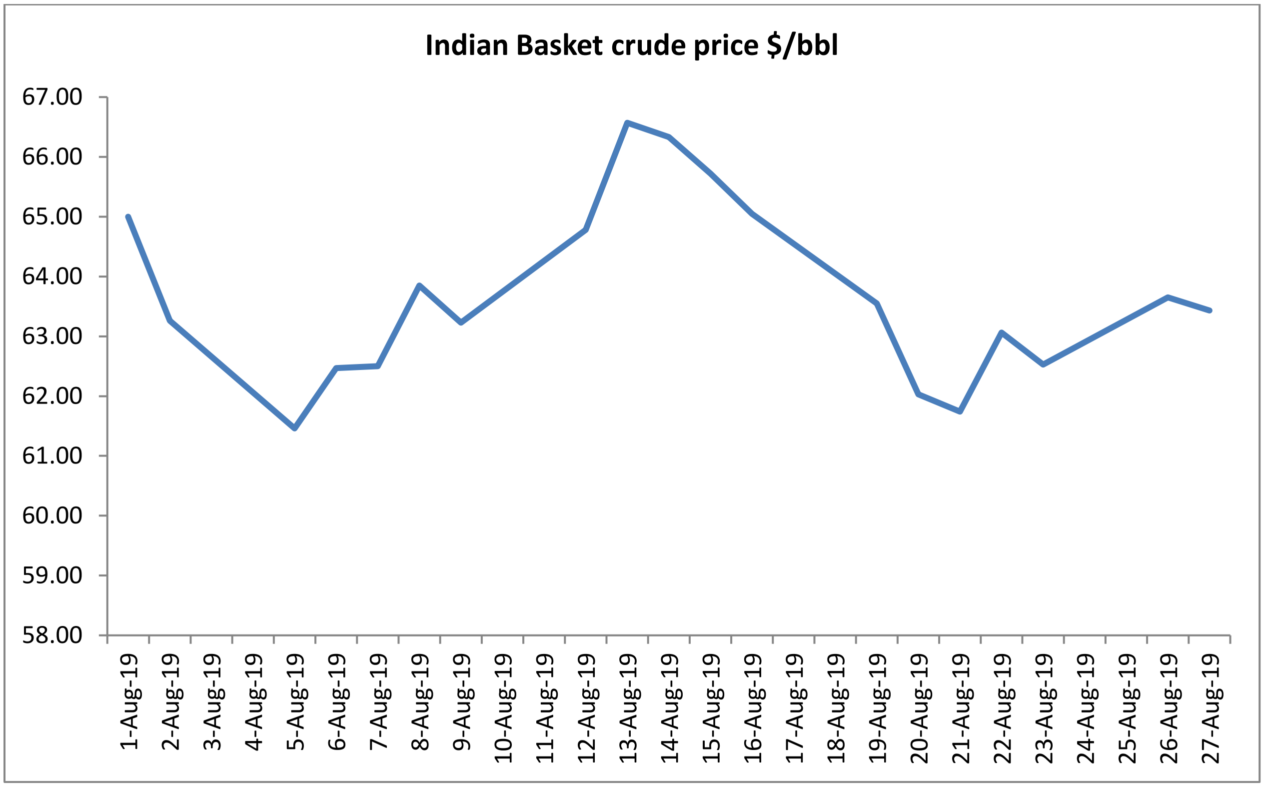


Source: EIA, PPAC

Indian Basket Crude oil price

- The Indian basket of Crude Oil represents a derived basket comprising of Sour grade (Oman & Dubai average) and Sweet grade (Brent Dated) of Crude oil processed in Indian refineries in the ratio of 74.77:25.23 during 2017-18.

Figure 3: Indian crude oil basket price in $ per bbl



Source: Petroleum Planning & Analysis Cell

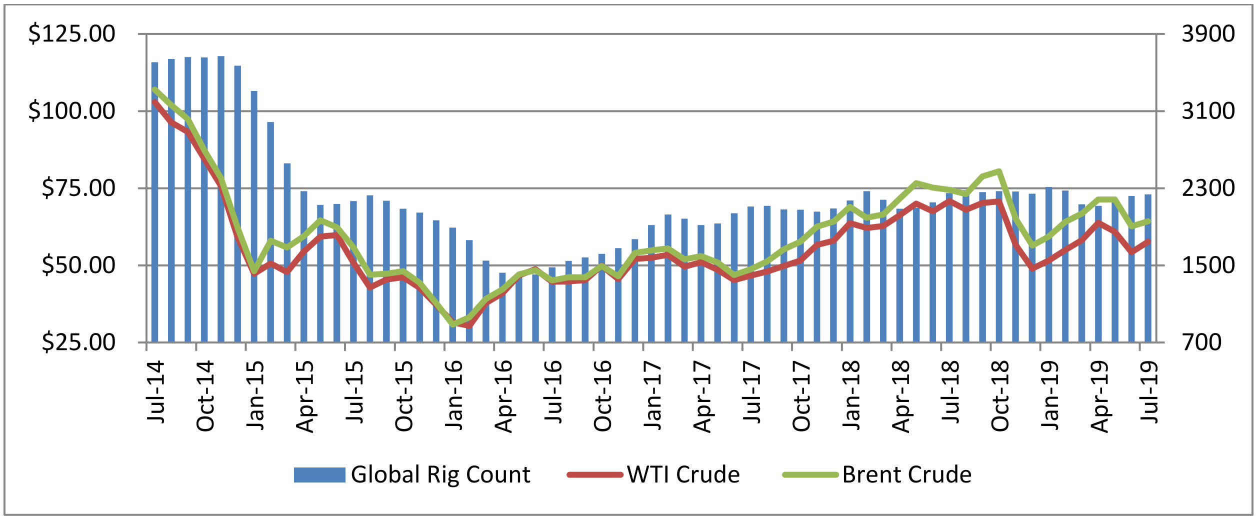
- Indian crude basket price averaged $ 58.94 per barrel in August, down 7.2 % on Month on Month (M-o-M) basis and down 19.6% on a year on year (Y-o-Y) basis, respectively.

Upstream activity & Rig count

Global rig count

Rig count represents the total number of active drilling rigs in the world. Demand for drilling rig is highly dependent on crude oil price. When the oil price increases, demand for exploration activity increases, resulting in the increase in rig count. A lower oil price could trim the exploration budget of the oil companies, thereby reducing the demand for drilling rig.

Figure 4 Global Rig Count vs. Crude Prices



Source: Baker Hughes

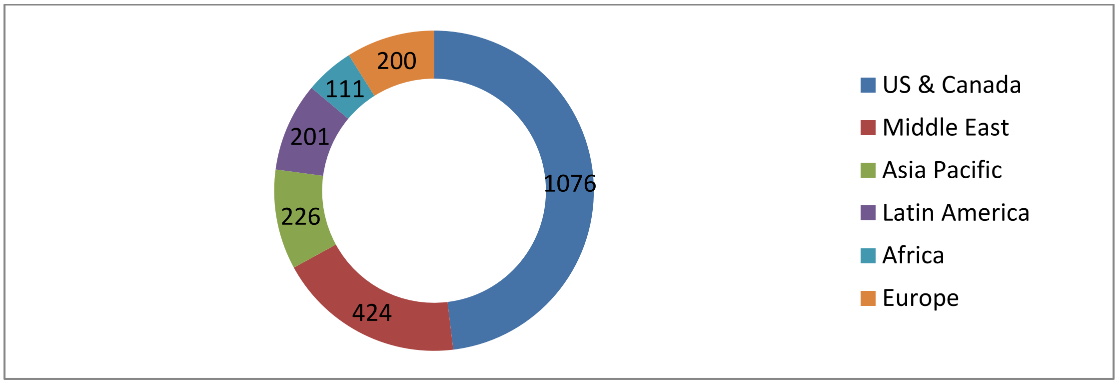
In July 2019, global drilling rig count stood at 2,238, 17 more than June. Onshore rigs went up by 7 and offshore rig count went up by 10. Rig count saw a marginal increase in Latin America, Europe and Middle East, while Africa, North America and Asia-Pacific saw a marginal decrease in rig count. United States is the most active market for drilling industry with a rig count of 955. 930 were onshore rigs and 25 were offshore rigs. US & Canada and the Middle East count for about 2/3rd of the global rig count.

Table 2 : Global Drilling Rig Count

Rig Type	Count in July 2019	MoM (%) change	YoY (%) change
Land	1955	0.36 %	-2.88 %
Offshore	283	3.66 %	18.91%
Total	2238	0.77 %	-0.58 %

Source: Baker Hughes

Figure 5 Geography-wise Rig count - July 2019



Source: Baker Hughes

Indian Drilling Rig Count

Indian rig count declined by 9 in the month of July 2019 to reach 111. On Y-O-Y basis, Indian rig count declined by 6.72 % in 2019 as compared to July 2018. 91 drilling rigs were deployed in oil fields and the rest 20 drillings rigs were deployed in gas fields.

Figure 6 Indian Rig Count vs. Indian Basket Crude Price

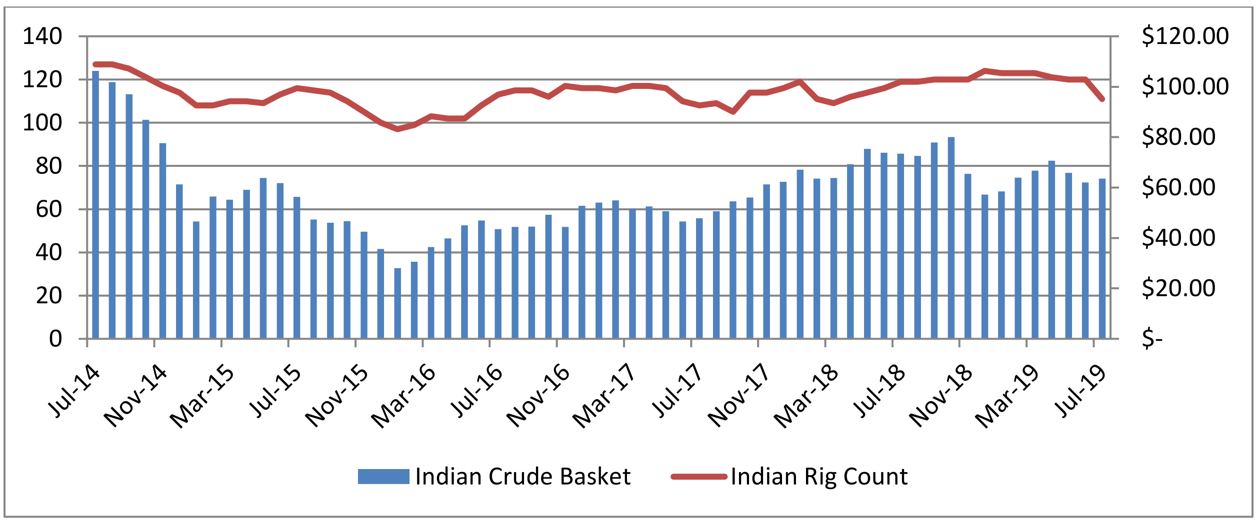


Table 3 : Indian Rig Count

Rig Type	Count in July 2019	MoM (%) change	YoY (%) change
Land	79	-7.06 %	-7.06 %
Offshore	32	-8.57 %	-5.88%
Total	111	-7.50 %	-6.72 %

Source: Baker Hughes

Oil demand & supply

Preliminary data indicates that global oil supply increased slightly by 0.23 mb/d m-o-m to average 98.71 mb/d in July 2019, compared with the previous month. An increase in non-OPEC supply (including OPEC NGLs) of 0.48 mb/d in to average 69.11 mb/d in July was mainly driven by incremental production in Canada, Norway, the UK , Australia, India , Brazil and Azerbaijan. Overall, there was a total increase in global oil output of 1.92 mb/d y-o-y. The share of OPEC crude oil in total global production declined by 0.3pp to 30% in July 2019 compared with the previous month. Estimates are based on preliminary data from direct communication for non-OPEC supply, OPEC NGLs and non-conventional oil, while estimates for OPEC crude production are based on secondary sources.

For 2019, non-OPEC oil supply growth forecast for 2019 was revised down by 72 tb/d to reach 1.97 mb/d y-o-y , standing at 64.39 mb/d, primarily due to production adjustments by OPEC countries and as well as downward revisions for the US, Thailand, Brazil and Norway.

In 2019, world oil demand is anticipated to grow by 1.10 mb/d y-o-y, with total world consumption to reach 99.92 mb/d.

Table 4: World Oil demand in mbpd

	2018	1Q19	2Q19	3Q19	4Q19	2019	Growth	%
Total OECD	**47.92**	**47.68**	**47.45**	**48.51**	**48.51**	**48.05**	**0.13**	**0.26**
Dev. Countries	**32.62**	**32.97**	**33.06**	**33.40**	**33.10**	**33.13**	**0.51**	**1.57**
~ of which India	*4.73*	*5.03*	*4.83*	*4.58*	*5.15*	*4.90*	*0.17*	*3.53*
Other regions	**18.27**	**18.13**	**18.64**	**18.78**	**19.38**	**18.74**	**0.46**	**2.53**
~ of which China	12.71	12.63	13.19	13.00	13.43	13.06	0.35	2.77
Total world	**98.73**	**98.79**	**99.25**	**100.69**	**100.91**	**99.92**	**1.10**	**1.11**

Source: OPEC monthly report, August 2019

*Note: *2018 = Estimate and 2019 Forecast*

Global petroleum product prices

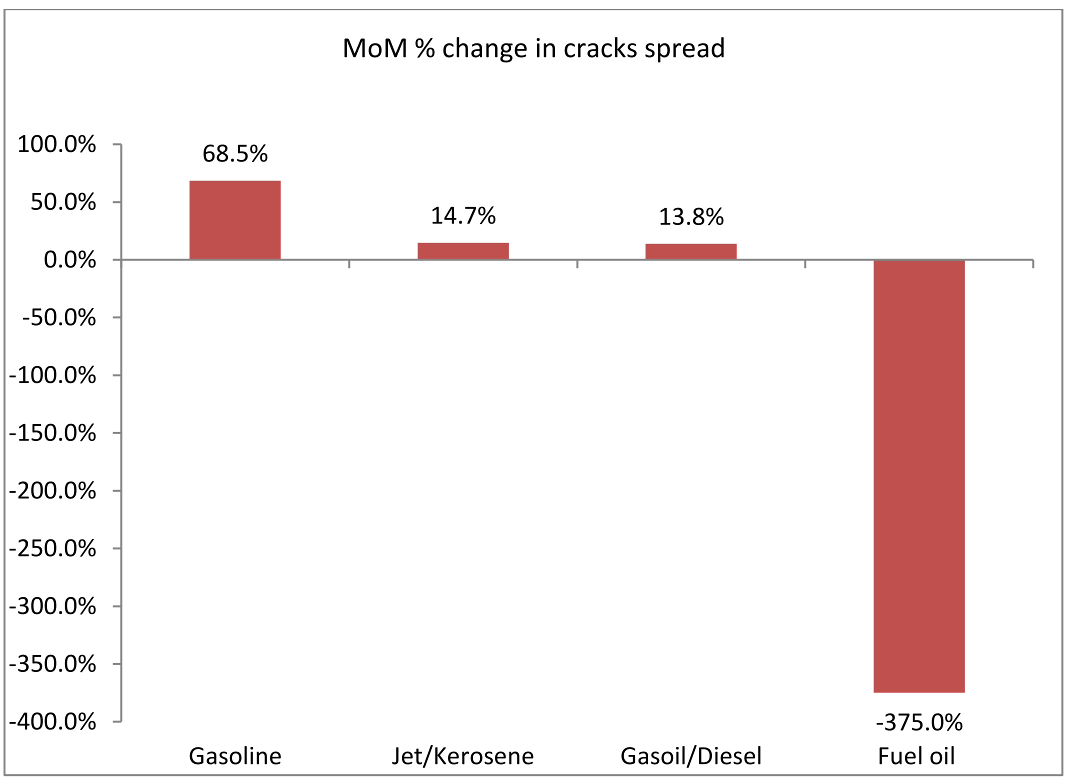
Prices in the Asian Gasoline-92 market saw an increase of 9.1% over the previous month. Refinery margin in Asia rose, reaching the highest level in last 12 months because of the supply disruptions as refinery issues and unplanned shutdown restricted supplies. Refinery margins in July stood at $7.32/b, higher by 79¢ y-o-y basis.

Singapore Gasoline cracks averaged $7.90/b against Oman, up by $3.61 m-o-m and but marginally down by 9¢ y-o-y. Refinery utilization rates decline in July averaging 77.82 % in selected Asian markets comprising of Japan, China, India and Singapore.

Jet/Kerosene prices declined by 10.2% in July due to onset of the peak travel season leading to increase in demand for jet fuel. The Singapore jet/kerosene crack spread against Oman averaged $15.22/b, up $2.14 m-o-m and by $1.00 y-o-y.

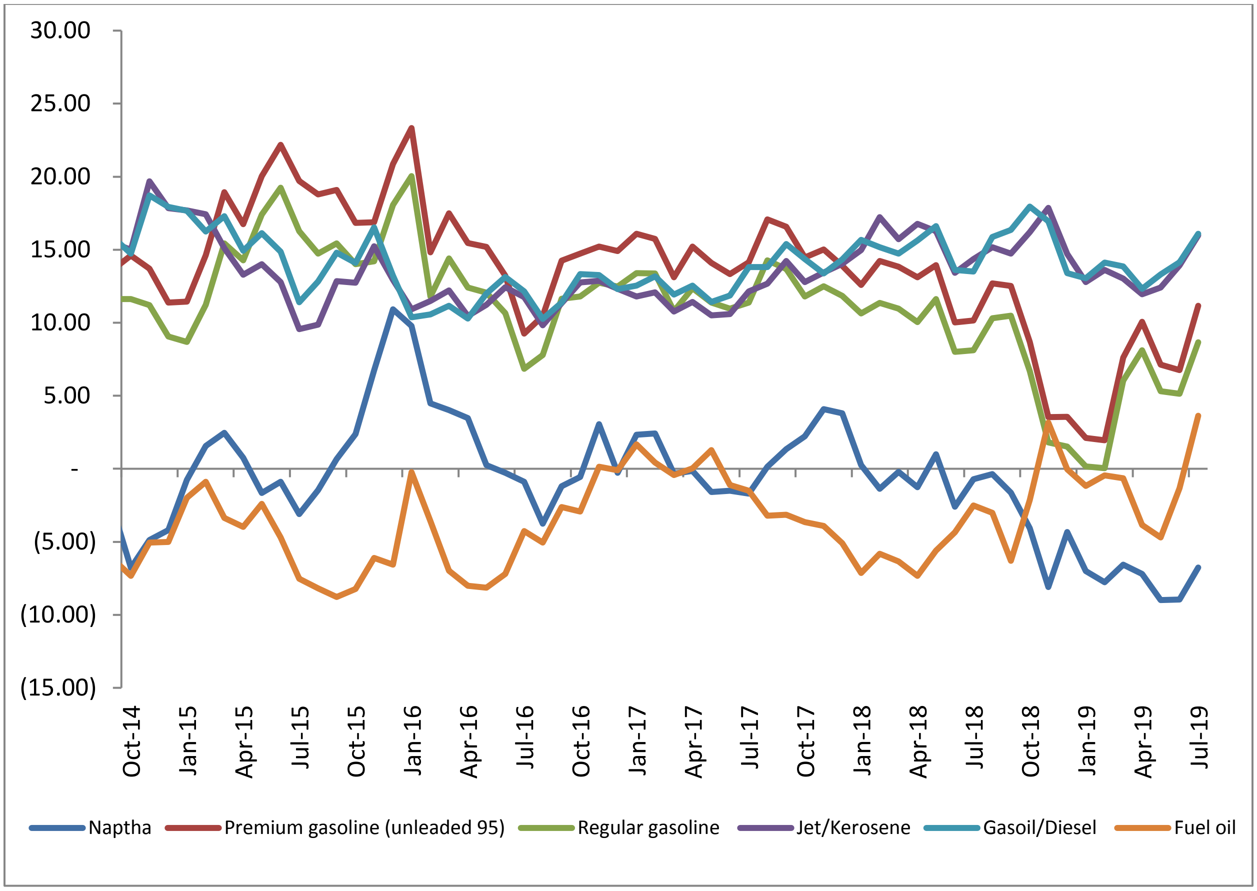
The Singapore gasoil crack spread moved slightly upwards in the month of July on the account of lower gasoil availability. In July, gasoil price decline by 9.2 %. Singapore gasoil crack spread against Oman averaged $15.32/b, up $2.04 ¢ m-o-m and by $1.95 y-o-y.

The Singapore fuel oil crack spread showed the strongest positive performance as it continued to soar. Singapore fuel oil cracks against Oman averaged $ 2.87/b, up by $5.04 m-o-m and up by $5.51 y-o-y.



Source: OPEC monthly report

Figure 7: Product crack spreads vs. Dubai crude



Source: OPEC, FIPI

Table 5: Singapore FOB, refined product prices ($/bbl)

Products	Price ($/b) in July 2019	MoM (%) change	YoY (%) change
Naptha	55.68	7.5%	-22.9%
Premium gasoline (unleaded 95)	73.61	9.1%	-11.4%
Regular gasoline (unleaded 92)	71.11	7.9%	-12.3%
Jet/Kerosene	78.43	5.0%	-10.2%
Gasoil/Diesel (50 ppm)	78.53	4.9%	-9.2%
Fuel oil (180 cst 2.0% S)	66.08	11.2%	-6.2%
Fuel oil (380 cst 3.5% S)	65.49	12.4%	-6.4%

Source: OPEC

Petroleum products consumption in India

- In July, LPG consumption increased by 23.5 % on M-o-M basis after a drop in June.
- Consumption of gasoline increased (8.8% Y-o-Y) driven by higher demand from transport segment.
- Demand for diesel increased by 3.3 % on Y-o-Y basis in the month of July.

Table 6: Petroleum products consumption in India, July 2019

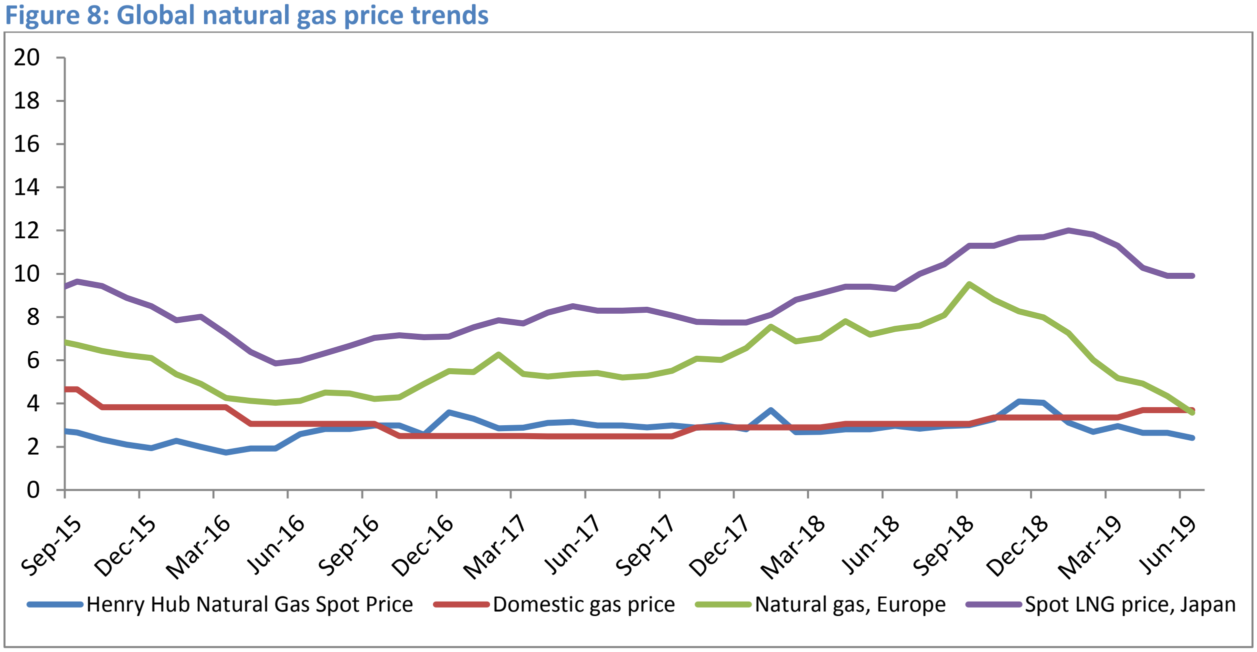
Petroleum products	Consumption in '000 MT July 2019	MoM (%) change	YoY (%) change
LPG	2,215	23.5%	8.5%
Naphtha	1,216	17.7%	6.7%
MS	2,519	-4.4%	8.8%
ATF	674	1.2%	0.3%
HSD	6,826	-8.3%	3.3%
LDO	52	-2.8%	21.7%
Lubricants & Greases	322	3.1%	2.6%
FO & LSHS	547	9.1%	5.7%
Bitumen	390	-21.1%	23.5%
Petroleum coke	1,552	4.5%	-30.6%
Others	1,075	7.7%	91.7%
TOTAL	17,581	-0.5%	3.1%

Source: PPAC

Natural Gas Price

In July, the Henry Hub natural gas index, decreased by 1.7 % to reach $2.36/MMBtu. Decline in demand for natural gas as a result of onset of summer and higher inventory added during the same period across the United States.

Figure 8: Global natural gas price trends



Source: EIA, WORLD BANK

Table 7: Gas price

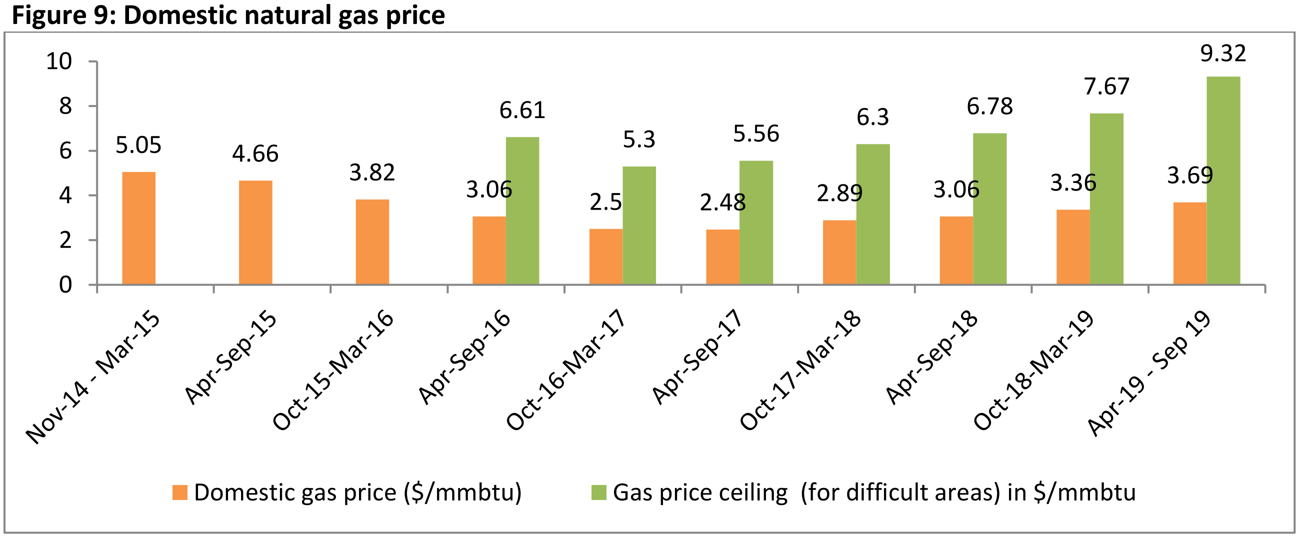
Natural Gas	Price ($/MMBTU) in July 2019	MoM (%) change	YoY (%) change
India, Domestic gas price	3.69	0.0 %	20.6%
India, Gas price ceiling – difficult areas	9.32	0.0 %	37.5%
Henry Hub	2.36	-1.7 %	-16.6%
Natural Gas, Europe	3.62	1.1 %	-52.4%
Liquefied Natural Gas, Japan	10.04	0.0%	0.4%

Source: EIA, PPAC, World Bank

Domestic natural gas price which takes into account international benchmarks including Henry Hub, Alberta hub, Russia and UK National Balancing Point, has increased around 23% as compared to a year before, thus capturing the international gas price trends. Gas price for April to September 2019 is $3.69 per MMBTU

A notification was issued by MoP&NG on 21st March 2016, for marketing including pricing freedom for gas to be produced from discoveries in deep water, ultra-deep water, and high-pressure high temperature areas. For the April to September 2019 period, the price of gas from such areas has been notified at $9.32 per MMBTU.

Figure 9: Domestic natural gas price

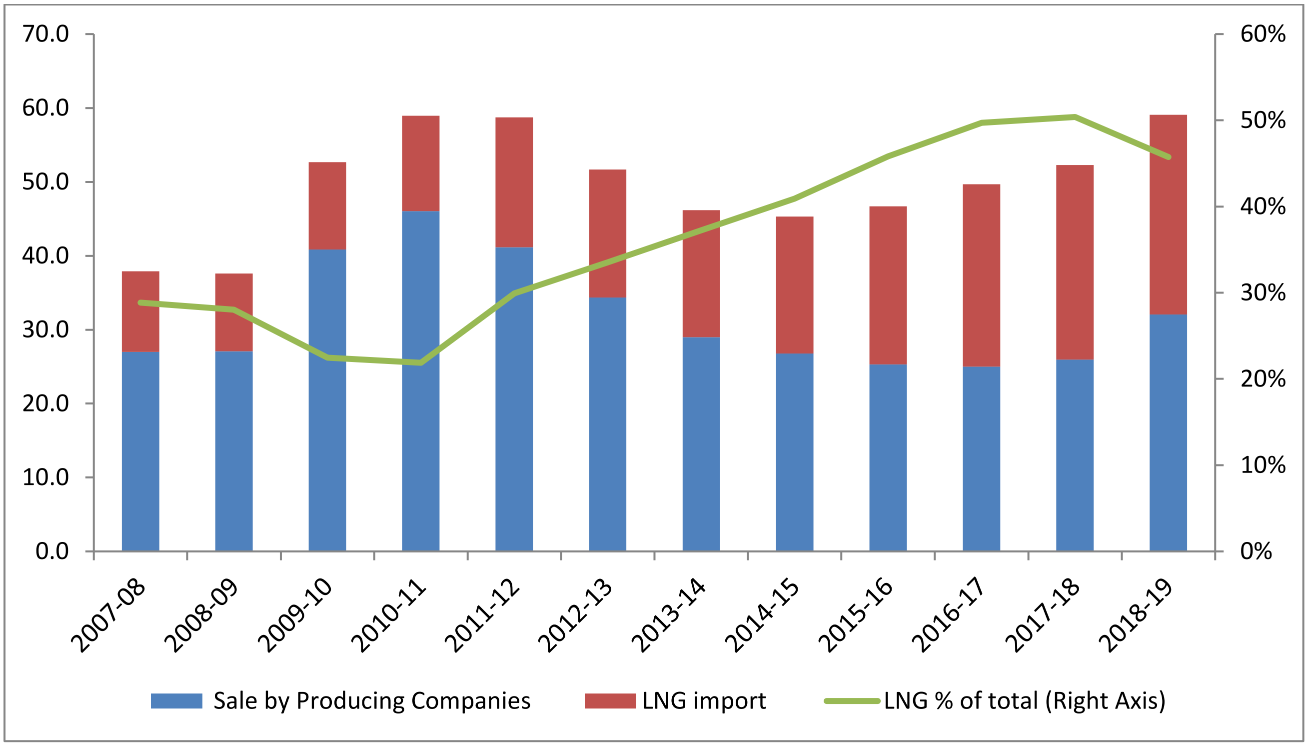


Source: PPAC

Natural gas production, consumption and import in India

- Natural gas constitutes for 6.2% of total energy primary mix of India
- Natural gas consumption in India has grown at a very slow pace in the past 3 – 4 years, with share of LNG imports increasing in the overall consumption mix

Figure 10: Domestic natural gas consumption, domestic production and LNG import in BCM



Source: PPAC

Sale by producing companies includes internal consumption

Key developments in Oil & Gas sector during August 2019

- **Monthly Production Report for July**

Crude oil production during July, 2019 was 2768.95 TMT which is 5.41% lower than target and 4.40% lower when compared with July, 2018. Cumulative crude oil production during April-July, 2019 was 10975.60 TMT which is 3.48% lower than target for the period and 6.22% lower than production during corresponding period of last year.

Natural gas production during July, 2019 was 2717.92 MMSCM which is 0.16% higher when compared with July, 2018 but 5.62% lower than the monthly target. Cumulative natural gas production during April-July, 2019 was 10748.77 MMSCM which is 5.06% lower than target for the period and 0.31% lower than production during corresponding period of last year.

Refinery production during July, 2019 was 21777.03 TMT which is 4.14% lower than the target for the month and 2.82% lower when compared with July, 2018. Cumulative production during April-July, 2019 was 84360.60 TMT which is 0.94% lower than the target for the period and 2.32% lower than the production during corresponding period of last year.

- **Shri Dharmendra Pradhan releases Expression for Interest by Oil Marketing Companies for Biodiesel, made from Used Cooking Oil**

On August 10th, the Minister of Petroleum and Natural Gas & Steel Shri Dharmendra Pradhan released the Expression for Interest (EOI) by National Oil Marketing Companies (IOC, HPCL and BPCL) for procurement of Biodiesel, made from Used Cooking Oil(UCO). On the Occasion of the World Biofuel Day today, Shri Pradhan, along with the Chief Guest–the Minister of Health & Family Welfare, Science & Technology and Earth Sciences Dr Harsh Vardhan launched a sticker on RUCO viz., Repurpose Used Cooking Oil and a mobile app to facilitate the collection of UCO. This year the theme of the World Biofuel Day is "Production of Biodiesel from Used Cooking Oil (UCO)".

Speaking on the Occasion, Shri Dharmendra Pradhan said the Prime Minister has given a target to the Ministry of Petroleum and Natural Gas to bring down import dependency of oil products by 2022, and this can be achieved by enhancing production, improving energy efficiency, promoting conservation and encouraging alternate fuels. He said that the government is promoting the alternate sources of energy in a big way. Ministry of Petroleum and Natural Gas is working on a four-pronged strategy in this regard - promoting Ethanol, 2-G ethanol, compressed bio-Gas and Bio-diesel. Shri Pradhan said that the ethanol blending in Petrol has gone up from 1% to about8% and is likely to touch 10% soon. He said the Government is planning to allow production of ethanol from surplus food grains which now sometimes go waste and also entail expenditure on storage. On the issue of compressed biogas, the minister said that CGD network being set up in over 400 districts will give a big fillip to it, and already 300 letters of intents have been signed with entrepreneurs for setting up CBG plants. Describing Bio-diesel as low hanging fruit in the scheme of alternate source of energies, the minister said that abundant raw material is available for the purpose. It is a good waste to wealth concept. He said that the budget this year has underlined the transformation of Annadata to Urjadata.

- **Launch of commencement of work ceremony for 10th CGD Bidding Round on 26th August 2019**

During 2018-19, PNGRB had successfully completed award of 136 Geographical Areas (GAs) for development of City Gas Development Network under 9th & 10th CGD Bidding Rounds. After 10th round, 70% of India's population, 53% of geographical area, covering more than 400 districts, spread over 27 states and union territories, would have access to CGD network.

Commencement of work for 9th CGD Bidding Round and launch of 10th CGD Bidding Round was inaugurated by the Prime Minister Shri Narendra Modi on 22nd November, 2018. The Letters of Intent were distributed by Minister of Petroleum and Natural Gas and Minister of Skill Development & Entrepreneurship to successful entities for 50 GAs under 10th CGD Bidding Round in a ceremony held at India Habitat Centre, New Delhi on 1st March, 2019.

Minister of Petroleum and Natural Gas & Steel, Shri Dharmendra Pradhan will launch the "commencement of work ceremony" for 50 GAs awarded under 10th CGD Bidding Round for development of City Gas Development Network on 26th August, 2019 at Vigyan Bhavan, New Delhi. These GAs have committed work program of more than 3500 CNG stations, 2 Crore PNG connections and 58,000 Inch KM of steel pipeline over a period of 8 years. These GAs are likely to infuse investment of Rs. 50,000 Crore and generate significant direct and indirect employment in the country.

- **Open Acreage Licensing Programme Bid Round-IV launched on August 27th**

The Government has implemented plethora of reforms in the past five years in the E&P sector. The Hydrocarbon Exploration and Licensing Policy (HELP) replacing the erstwhile New Exploration Licensing Policy (NELP) was approved in March 2016 and the Open Acreage Licensing Programme (OALP) along with the National Data Repository (NDR) were launched in June 2017 as the key drivers to accelerate the Exploration and Production (E&P) activities in India. Government under three (3) OALP Rounds have already awarded Eighty-Seven (87) Blocks covering an area of 1,18,280 Sq. Km with leading E&P companies.

In continuation to its determination for reduction in import dependency of oil and gas and accelerating E&P activities, the Government notified further policy reforms in upstream sector on 28th February, 2019 to increase exploration activities, attract domestic and foreign investment in unexplored/unallocated areas of sedimentary basins and promote ease of doing business by streamlining and expediting the approval processes.

The Government launched the Bid Round-IV for International Competitive Bidding from27th August, 2019 which will be carried out under the revised policy framework. In this bid round, 7 blocks, with an area of approximately 18,500 sq. km., are being offered for bidding to the investor community. All seven (7) blocks are based on Expressions of Interest submitted by the bidder.

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