June
2018

Policy & Economic Report - Oil & Gas Market

Federation of Indian Petroleum Industry (FIPI)

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Table of Contents

Policy & Economic report – Oil & Gas market

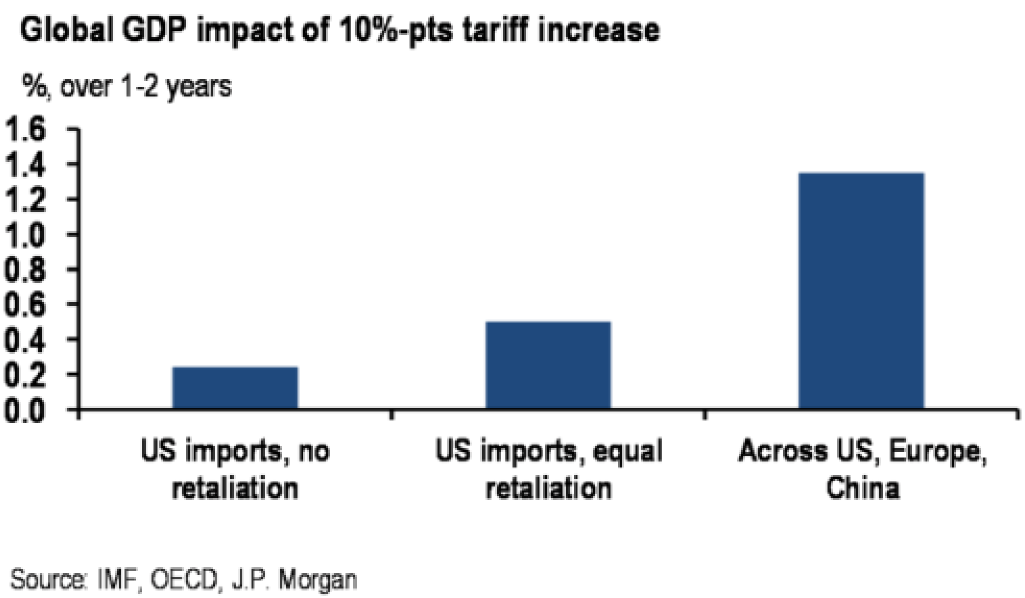
Economy in Focus

Global economic growth is under threat as the world's economic super powers trade tit-for-tat trade sanctions

World economy is in jeopardy and major de-escalation is required as threats of tariff war have been sparked after US President Donald Trump ordered tariffs on steel and aluminium imports from the EU and China. Earlier trade wars of the 1930s have exacerbated economic problems and that they led to higher prices and lost jobs.

The new sanctions affect trade - one and half times higher than over the same period a year earlier. The number of "trade facilitation" measures - which lower barriers between countries - totaled 47, affecting $82.7bn of trade. That was half the value of the same period a year earlier.

A full-blown trade war would punch a hole in global economic growth because of reduced trade volume, supply chain disruptions, and lost confidence. Quantifying just how much damage an entrenched trade battle could wreak upon the international community, J.P. Morgan has come up with three scenarios.



The third, worst-case scenario could reduce global growth by a "material" amount of at least 1.4 percent over the next two years.

In fact as ratification to the perils of trade war, trade tensions are already impacting Hong Kong's trade-exposed economy. Its private sector contracted again in May; a bearish lead indicator on what may be in store for the global economy should a fully-fledged trade war kick off. With both output and new orders falling, order backlogs decreased while staffing levels were cut.

US tariffs - an 'unnecessary test' to Europe's economic recovery

The 19-member region that shares the single currency has been growing at a gradual pace over the last two years following a sharp downturn due to the sovereign debt crisis of 2011. But the current threat of higher tariffs with key trade partners, especially the U.S., could prove a challenge for the euro area's fragile recovery.

The region grew at a rate of 2.4 percent in 2017 — an expansion not seen in about a decade. However, the economic momentum has cooled down in the start of 2018 — something that higher trade barriers could dampen further.

The European Union is currently studying ways to prevent an escalation in trade tensions with the White House. EU could propose a deal to the world's biggest car exporters and thus prevent wider ramifications in case President Donald Trump moves ahead with a 25 percent tax on European car makers. The International Monetary Fund (IMF) also warned in June that higher trade tariffs are the biggest single risk to the euro zone economy.

Indian economy to grow at 7.3% in 2018-19, says World Bank

A recent report released by World Bank, has quoted that the Indian economy is expected regain its pace in the current fiscal and once again become the fastest growing emerging economy. The Global Economic Prospects report released by the World Bank projects that India will see its gross domestic product (GDP) grow at a rate of 7.3 per cent during the ongoing fiscal and at 7.5 per cent in the two succeeding ones. In comparison, the rest of the South Asia region (SAR), excluding India, will post GDP growth of 5.6 per cent in for the current fiscal and the next one, moving up to 5.7 in 2020-21.

The Indian economy has also moved past the disruptions caused by the implementation of Goods and Services Tax (GST) in mid-2017, World Bank observed in its report, adding that manufacturing output and industrial production have continued to firm since then. The report also forecasted that the recovering Indian economy will also help economic growth in South Asia region to accelerate to 6.9 per cent in 2018 from 6.6 per cent in 2017.

Developed economies growth prospects

United States

According to the June 2018 briefing by UN, The economy of the United States is operating at or close to full capacity. The unemployment rate has dropped to 3.9 per cent in April 2018, which is below most estimates of its long-run equilibrium level; the ratio of job openings to job seekers is at its highest level since at least 2000; and rising capacity utilization rates have supported a rebound of investment in equipment. While activity moderated slightly in the first quarter of 2018, prospects for the year remain firm, buoyed by major fiscal stimulus measures introduced in the Tax Cuts and Jobs Act of December 2017 and Bipartisan Budget Act of 2018. GDP growth is expected to reach 2.5 per cent in 2018 and 2.3 per cent in 2019. The aggressive fiscal expansion, at a point when the economy is operating near full capacity, coupled with potential upward pressure on inflation from import tariffs, may accelerate the pace of interest rate rises by the Fed.

Europe: Solid growth with increased downside risks

The growth outlook for Europe remains robust, but downside risks are high. The euro area is projected to expand by 2.1 per cent this year and 1.9 per cent in 2019, a marginal upward revision compared to forecasts released in December 2017. Strong private consumption growth is underpinned by dynamic labour market conditions and rising disposable incomes. Business investment and construction activity will also be supported by the loose monetary policy stance of the European Central Bank (ECB). However, downside risks to the region's outlook have increased. Amid rising trade tensions among major economies, various product groups have become the subject of new or changed tariff regimes. A widening of trade restrictions would pose a significant risk, especially to the export-reliant European economies. As the United Kingdom of Great Britain and Northern Ireland prepares to leave the European Union (EU), the transition phase will entail significant uncertainty, particularly over future trade relations between the two parties.

Japan: Recovery continues despite weak first quarter

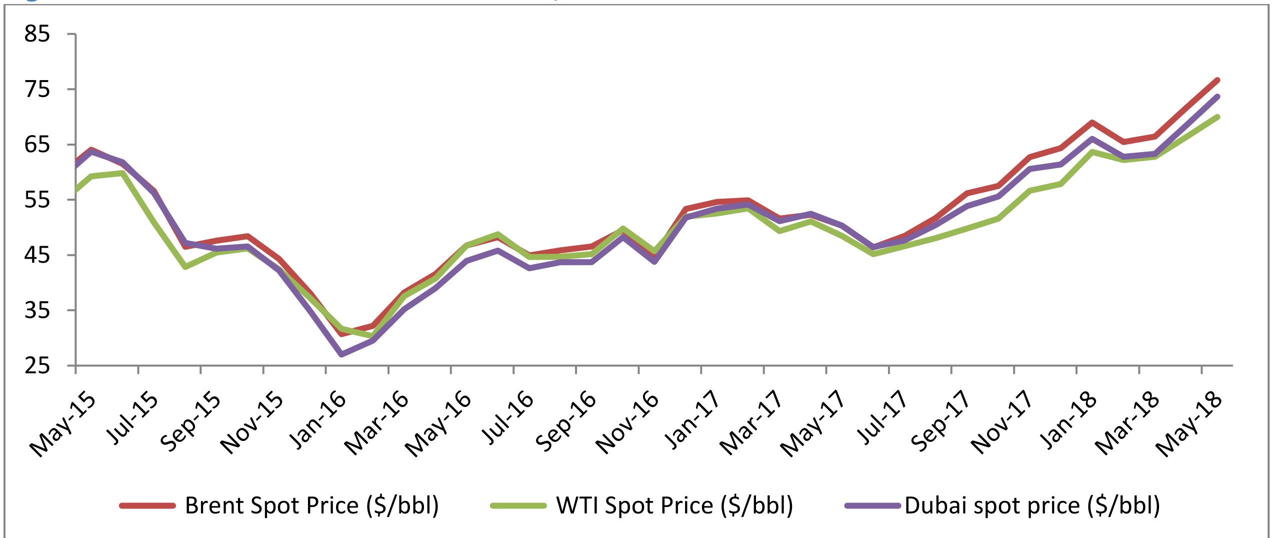
In the first quarter of 2018, GDP contracted at an annualized rate of 0.6 per cent relative to the previous quarter. The contraction was primarily driven by a rundown in inventories, and prospects for the remainder of the year remain strong. According to the World Economic Situation and Prospects as of mid-2018, the GDP growth forecast for 2018 has been revised upwards from 1.2 per cent to 1.6 per cent, reflecting improvements in both external and domestic demand. Domestic demand is supported by rising corporate profits and tightening labour market conditions. This should support a gradual increase in real wages, which will in turn exert some upward pressure on consumer prices in 2018. The potential for a sharp appreciation of the Japanese yen poses a key downside risk to the economy.

Oil & Gas Market

Crude oil price

Crude oil prices showed an increasing trend in the month of May 2018. Global benchmark crudes such as Brent, WTI and Dubai increased in the range of 5% - 8% over the last month due to geopolitical risks in Middle East, curb on production by OPEC, worries over output in Venezuela and rising demand in Asia.

Figure 1: Benchmark Crude oil Prices of Brent, WTI and Dubai crude



Source: EIA, World Bank,

- Brent crude price averaged $76.7 per bbl in May 2018, and was up 7.1 % and 52.3% on a month on month (MoM) and year on year (YoY) basis, respectively.
- WTI crude price averaged $70.0 per bbl in May 2018, and was up 5.6% and 44.3% on a month on month (MoM) and year on year (YoY) basis, respectively.
- Dubai crude price averaged $73.7 per bbl in May 2018, and was up 7.7% and 46.4% on a month on month (MoM) and year on year (YoY) basis, respectively.

Table 1: Crude oil price in May, 2018

Crude oil	Price ($/bbl) in May 2018	MoM (%) change	YoY (%) change
Brent	76.7	7.1%	52.3%
WTI	70.0	5.6%	44.3%
Dubai	73.7	7.7%	46.4%

Source: EIA, World Bank,

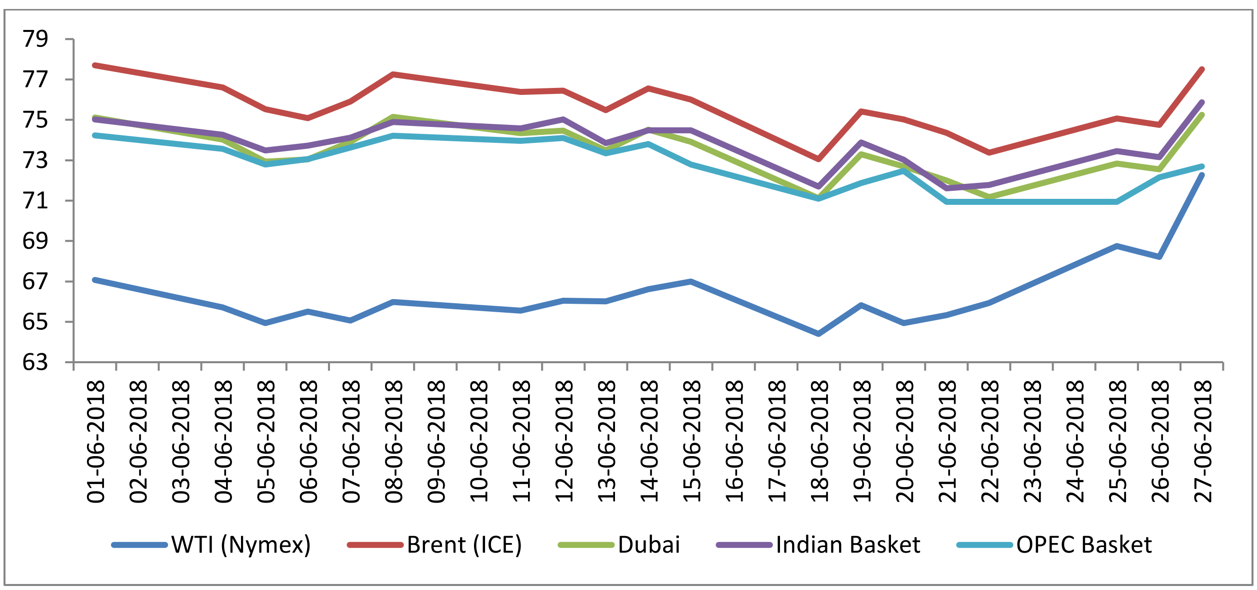
Crude oil prices rally higher at month end in June

Global benchmark crude oil prices came down in June 2018 from their respective high in May 2018 and mostly remained range bound; Brent traded in the range of $ 73 - $ 77 per barrel. Oil prices however spiked up significantly towards end of June, with WTI settling at its highest level since 2014 as crude oil supplies in US notched their biggest weekly drop of the year. The U.S. Energy Information Administration reported that crude supplies declined by 9.9 million barrels for the week ended June 22—the largest weekly decline so far this year.

US government has also issued a statement telling companies that buy Iranian crude oil to completely cut those exports by Nov. 4, or they will face powerful U.S. sanctions, which is further going to put upward pressure on prices. Iran currently exports around 2.4 million barrels a day of crude. Analysts had estimated that anywhere between 0.4 to 1 million barrels could be at risk once sanctions are fully reinstated in six months.

In the recently concluded OPEC meeting, it was agreed to increase the oil output by 1 mbpd, with Saudi Arabia and Iran coming to an agreement. According to OPEC member Iraq, the real increase will be around 770,000 bpd, because several countries that recently suffered production declines will struggle to reach full quotas. The United States, China and India had urged OPEC to release more supply to prevent an oil deficit that would hurt the global economy.

Figure 2: Crude oil price in June 2018

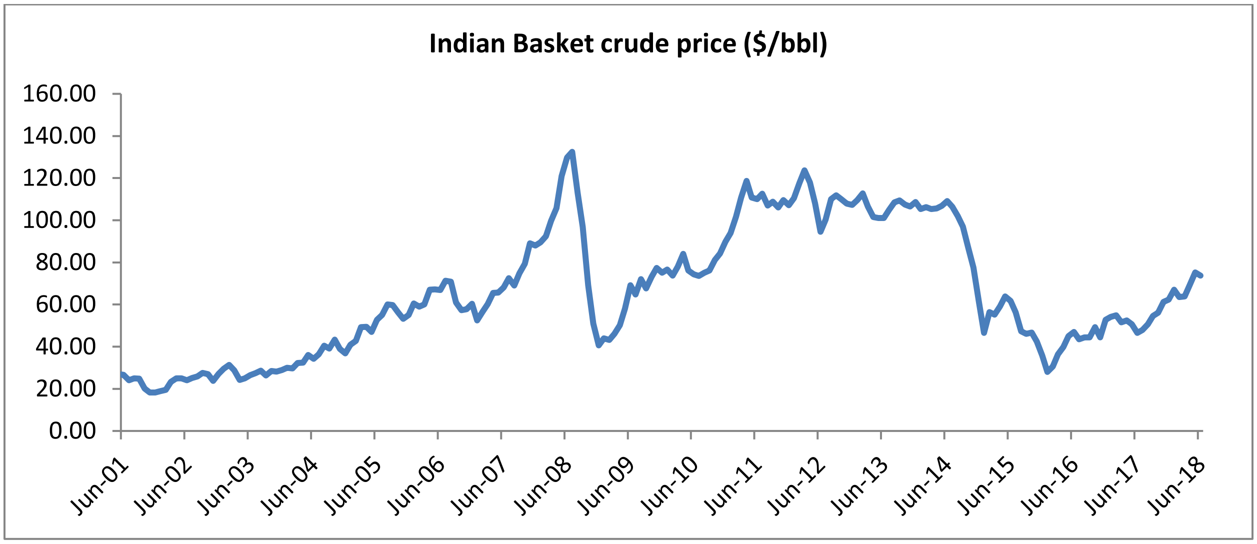


Source: EIA, PPAC

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 72.38:27.62 during 2016-17.

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



Source: Petroleum Planning & Analysis Cell

- Indian crude basket price was $ 75.02 per barrel on June 27, flat on a Month on Month (MoM) basis and up 58.4% on a year on year (YoY) basis, respectively.

Oil demand & supply

- According to OPEC, World oil demand is expected to grow by 1.70% in 2018* to 98.85 mbpd from 97.20 mbpd in 2017. India's demand for oil in 2017 was 4.47 mbpd and is projected to increase to 4.67 mbpd in 2018.

Table 2: World Oil demand in mbpd

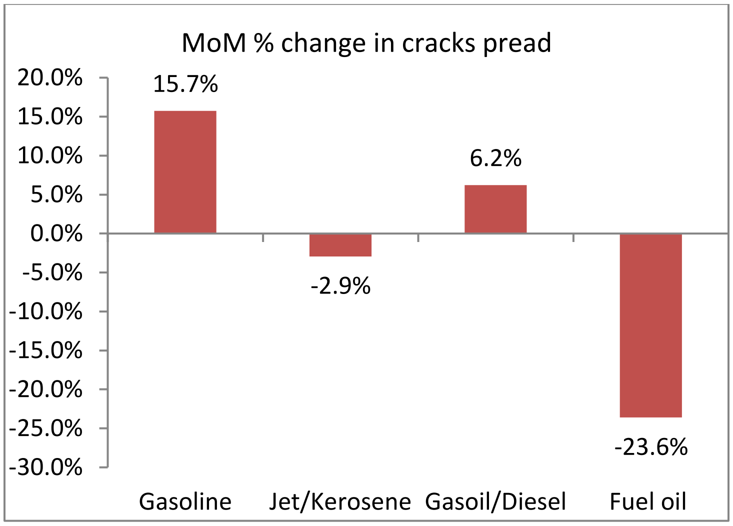
	2017	1Q18	2Q18	3Q18	4Q18	2018	Growth	%
Total OECD	**47.41**	**47.61**	**47.35**	**47.96**	**48.31**	**47.81**	**0.40**	**0.84**
Dev. Countries	**32.04**	**32.33**	**32.69**	**33.13**	**32.79**	**32.74**	**0.70**	**2.17**
~ of which India	*4.47*	*47.75*	*4.66*	*4.32*	*4.97*	*4.67*	*0.21*	*4.66*
Other regions	**17.74**	**17.68**	**18.03**	**18.33**	**19.15**	**18.30**	**0.56**	**3.15**
~ of which China	12.32	12.28	12.84	12.71	13.12	12.74	0.42	3.40
Total world	**97.20**	**97.61**	**98.07**	**99.42**	**100.25**	**98.85**	**1.65**	**1.70**

Source: OPEC monthly report, June 2018

*Note: *2018 = Forecast*

Global petroleum product prices

The Asian gasoline market rebounded from the low witnessed in the previous month. A pick up in arbitrage opportunities from Indonesia backed by higher gasoline demand provided uplift to cracks. High gasoline stocks in Singapore, which increased by 4.7% in the week ended May 30, pressured the regional gasoline market, preventing further upside of Asian gasoline cracks during May.

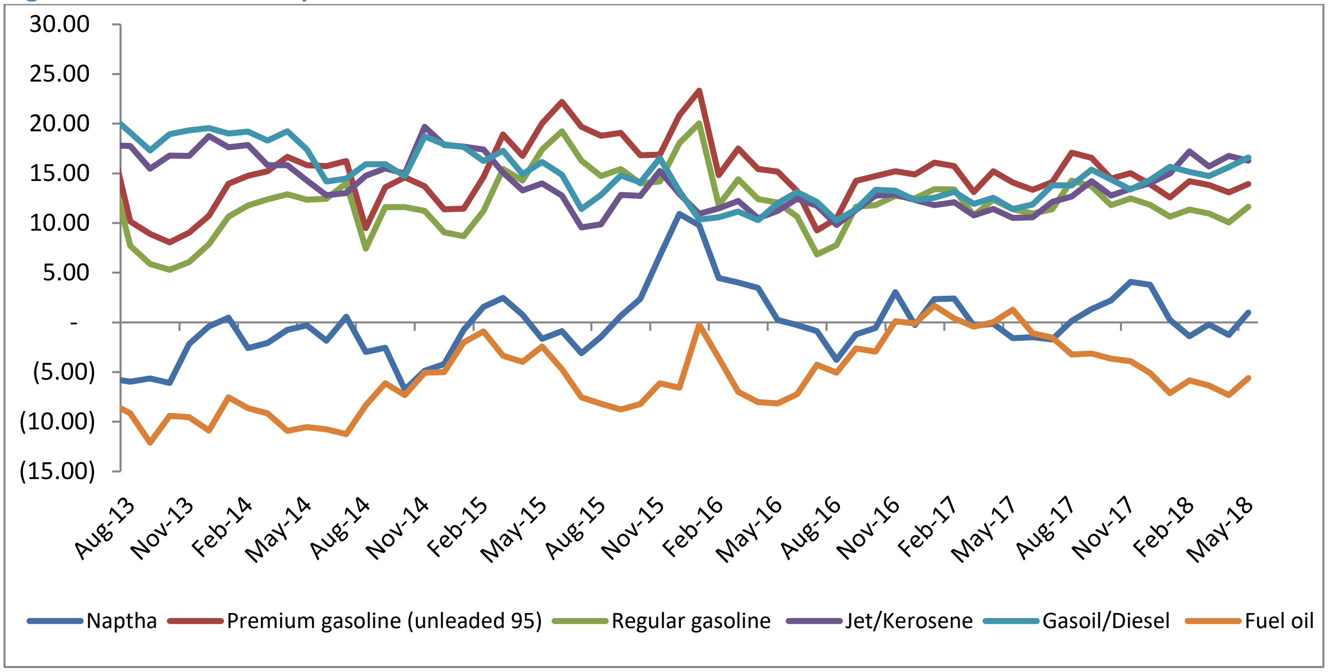


The Singapore light distillate naphtha crack spread returned to positive in May. Support stemmed from strong petrochemical demand. The new taxation system for oil product imports in China provided additional support as local petrochemical plants have shifted feedstock preference to naphtha, avoiding import consumer tax on imported LPG.

The Singapore fuel oil crack spread strengthened on the back of improved fundamentals and lower refinery output, amid a short market balance. An upswing in demand attributed to higher power generation demand for cooling from the Middle East provided support to the positive fuel oil performance in May.

Asian gasoil crack spreads strengthened slightly, supported by solid demand coupled with low inventories, which were reported to hit a three-year low.

Figure 4: Product crack spreads vs. Dubai crude



Source: OPEC, World Bank, FIPI

Table 3: Singapore FOB, refined product prices ($/bbl)

Products	Price ($/b) in May 2018	MoM (%) change	YoY (%) change
Naptha	74.66	11.2%	53.3%
Premium gasoline (unleaded 95)	87.60	7.5%	36.0%
Regular gasoline (unleaded 92)	85.29	8.7%	38.3%
Jet/Kerosene	89.93	5.6%	47.9%
Gasoil/Diesel (50 ppm)	90.27	7.4%	46.2%
Fuel oil (180 cst 2.0% S)	68.06	11.4%	32.0%
Fuel oil (380 cst 3.5% S)	56.56	-5.1%	22.9%

Source: OPEC

Petroleum products consumption in India

- With the push by government on promotion of LPG, its Consumption has steadily increased in India. In May, LPG consumption increased 14.4% and 9.4% on a YoY and MoM basis, respectively.
- Consumption of gasoline increased (2.3% YoY) driven by higher demand from transport segment.
- Demand for diesel also witnessed robust growth of 5.4% on a MoM basis in the month of May.

Table 4: Petroleum products consumption in India, May 2018

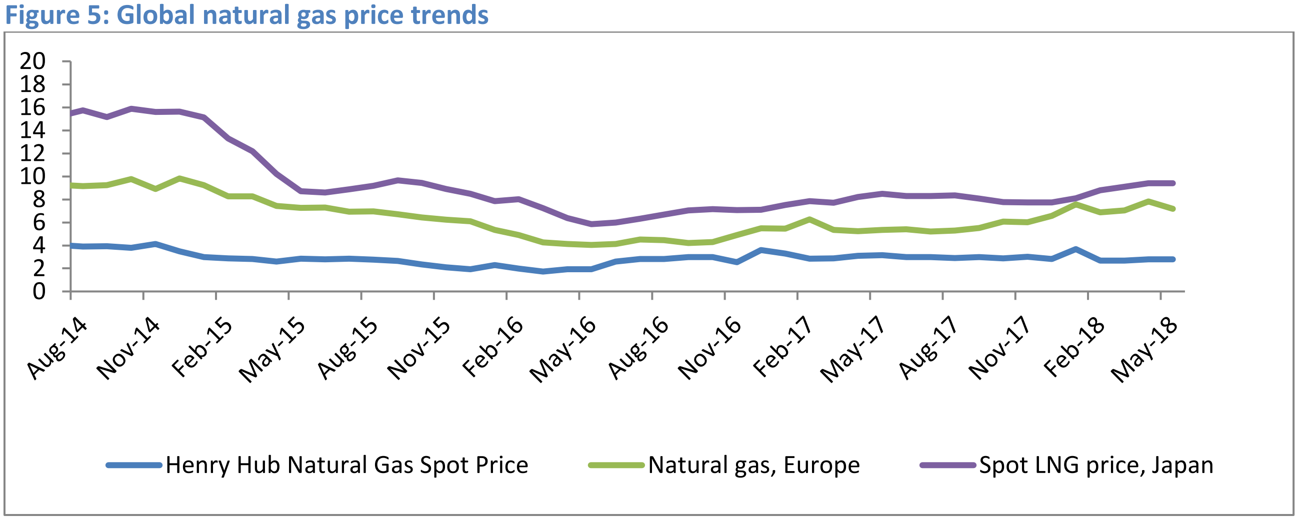
Petroleum products	Consumption in '000 MT May 2018	MoM (%) change	YoY (%) change
LPG	2,048	9.4%	14.4%
Naphtha	1,041	-2.0%	3.6%
MS	2,457	7.6%	2.3%
ATF	697	0.7%	11.1%
HSD	7,546	5.4%	0.3%
LDO	43	-23.0%	35.8%
Lubricants & Greases	319	12.2%	18.7%
FO & LSHS	544	-1.5%	-13.6%
Bitumen	708	6.1%	3.1%
Petroleum coke	2,415	10.9%	8.7%
Others	618	10.6%	10.7%
TOTAL	**18,717**	**5.9%**	**3.4%**

Source: PPAC

Natural Gas Price

Natural gas prices in US remained low due to higher US production. LNG prices saw an upswing over previous year due to higher natural gas demand.

Figure 5: Global natural gas price trends



Source: EIA, World Bank

Table 5: Gas price

Natural Gas	Price ($/MMBTU) in May 2018	MoM (%) change	YoY (%) change
India, Domestic gas price	3.06	0.0%	23.4%
India, Gas price ceiling – difficult areas	6.78	0.0%	21.9%
Henry Hub	2.80	0%	-11.1%
Natural Gas, Europe	7.19	-7.9%	34.4%

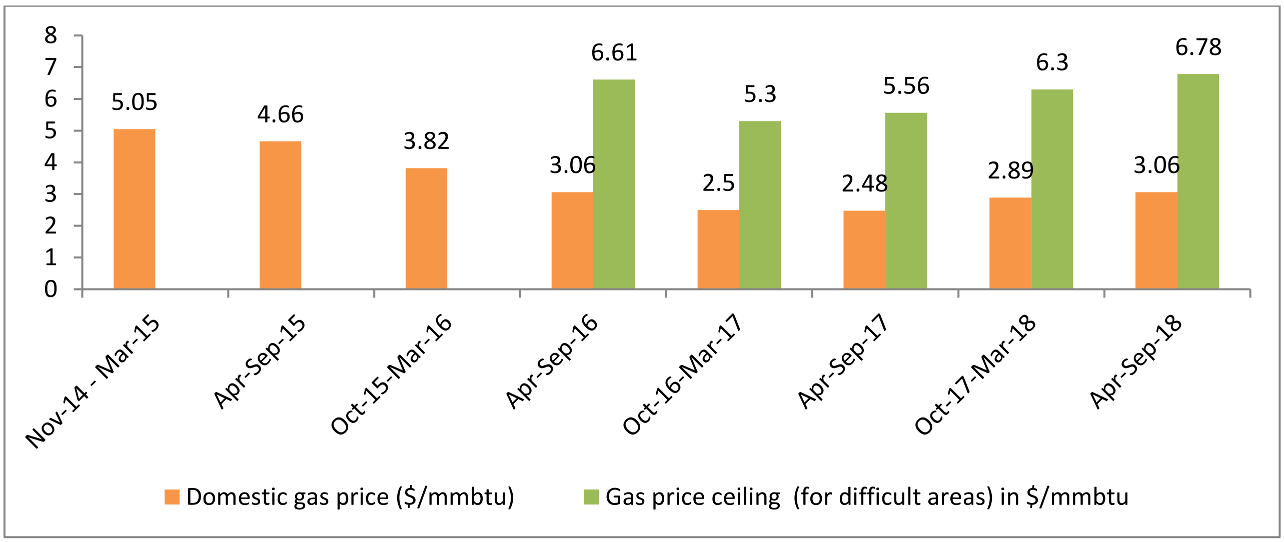
Natural Gas	Price ($/MMBTU) in May 2018	MoM (%) change	YoY (%) change
Liquefied Natural Gas, Japan	9.40	0.0%	10.6%

Source: EIA, World Bank, PPAC,

Domestic natural gas price which takes into account international benchmarks including Henry Hub, Alberta hub, Russia and UK National Balancing Point, has increased around 22% as compared to a year before, thus capturing the international gas price trends.

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 Apr-Sep-18 period, the price of gas from such areas was notified at $6.78 per MMBTU.

Figure 6: Domestic natural gas price

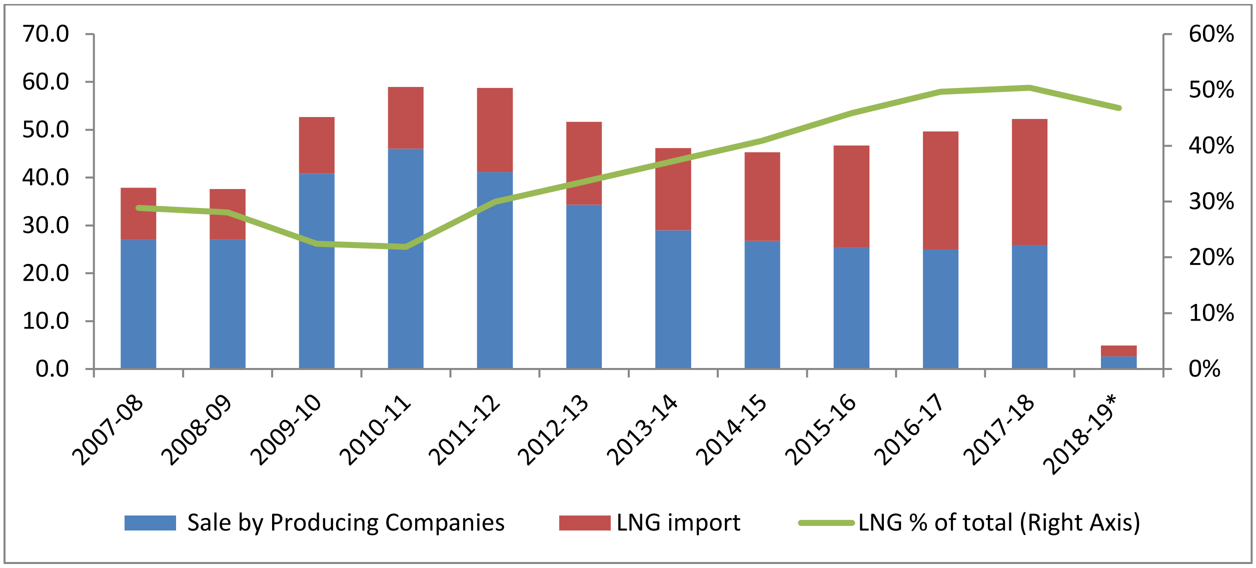


Source: PPAC

Natural gas production, consumption and import in India

- Natural gas constitutes for 6.5% 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 7: Domestic natural gas consumption, domestic production and LNG import in BCM



Source: PPAC

**Figures for 2018-19 are for the period of April only. Sale by producing companies includes internal consumption*

Key policy announcements in energy sector during the month

- **7th OPEC International seminar organized in Vienna on 19th & 20th June; Indian delegation led by Shri. Dharmendra Pradhan**

  The Minister of Petroleum & Natural Gas and Skill Development & Entrepreneurship, Shri Dharmendra Pradhan led an official delegation to participate in the 7th OPEC International Seminar organised by the Organisation of Petroleum Exporting Countries (OPEC) in Vienna, Austria from 19-20th June 2018. The Minister delivered a key note speech on the Topic "Sustainable Global Energy Future". He spoke about Prime Minister Modi's energy vision which has 4 pillars - Energy Access, Energy Efficiency, Energy Sustainability and Energy Security, where energy sustainability has to be seen in tandem with the other three pillars for a stable energy future. In his address he highlighted that India has demonstrated very strong commitment to the Paris Agreement and has taken the lead in promoting the International Solar Alliance while in the oil and gas sector have migrated to Euro IV norms, and have introduced Euro 6 norms in National capital Delhi and are preparing to migrate to Euro 6 by April 2020 in whole of India. Promoting biofuels, energy efficiency and moving to a gas based economy are also our priorities.

  Since the forum had ministers from oil producing and consuming countries, honorable minister also raised the issue of sustainable and responsible pricing. He stated that "The world has for too long seen prices on a roller coaster and interventions which are detached from market fundamentals. It is high time to move to responsible pricing, one that balances the interests of both the producer and consumer. We also need to move to transparent and flexible markets for both oil and gas. We often see global trade practices in the field of oil and gas which are not contributing to Energy Access and Affordability and become a hindrance to sustainability. Price of oil and gas have become subject to vagaries of geo-politics. Political conditions, sometimes internal and sometimes external, result in reduced output of some countries. We expect from OPEC and its members a commitment to step in more than fill the gap to ensure sustainable prices.

  Crude oil prices are creating stress throughout global economy, as it is giving pain to India. The global economic outlook already has threats from trade wars, geo political events and threat of instability coming back to the Euro Zone. The already fragile world economic growth will be at threat if oil prices persist at these levels. My fear is – this will lead to energy poverty in many parts of the World.

  While we are not in favour of prices as low as $30 per barrel we also do not support the prevailing high price which dent our fiscal balance and undermine our development process. They also cause undue hardships, particularly to those at the bottom of the pyramid in developing and least developed countries.

  If the world has to grow as a whole, there has to be a mutually supportive relationship between producers and consumers. It is in the interests of producers that other economies keep growing steadily and rapidly so as to ensure growing energy markets for themselves. This is the key to energy sustainability. OPEC as the predominant supplier has the responsibility to maintain supply equilibrium."

- **174th Meeting of OPEC concluded in Vienna, Austria; output to increase by 1 mbpd**

The 174th Meeting of the Conference of the Organization of the Petroleum Exporting Countries (OPEC) was held in Vienna, Austria, on Friday, 22 June 2018, under the Chairmanship of its President, HE Suhail Mohamed Al Mazrouei, Minister of Energy & Industry of the United Arab Emirates and Head of its Delegation.

OPEC in the meeting agreed on increasing the oil output by 1 mbpd, with Saudi Arabia and Iran coming to an agreement. According to OPEC member Iraq, the real increase will be around 770,000 bpd, because several countries that recently suffered production declines will struggle to reach full quotas. The United States, China and India had urged OPEC to release more supply to prevent an oil deficit that would hurt the global economy.

OPEC and its allies have since last year been participating in a pact to cut output by 1.8 million bpd. The measure has helped rebalance the market in the past 18 months and lifted oil to around $75 per barrel from as low as $27 in 2016. But unexpected outages in Venezuela, Libya and Angola have effectively brought supply cuts to around 2.8 million bpd in recent months.

- **Saudi ARAMCO and ADNOC sign MoU for participating in the Ratnagiri Refinery project in Maharashtra**

Saudi Aramco and ADNOC signed a MoU to jointly develop and build an integrated refinery and petrochemicals complex at Ratnagiri in Maharashtra. The project will be implemented by Ratnagiri Refinery & Petrochemicals Ltd. (RRPCL).

The MoU was signed between Saudi Aramco President and CEO, Amin H. Nasser and H.E.Dr. Sultan Ahmed Al Jaber, UAE Minister of State & ADNOC Group CEO. The signing was witnessed by His Highness Sheikh Abdullah bin Zayed bin Sultan Al Nahyan, UAE Minister of Foreign Affairs and International Cooperation, who is on an official visit to India, and Shri Dharmendra Pradhan, Minister of Petroleum and Natural Gas & Skill Development & Entrepreneurship, Government of India.

Earlier, Saudi Aramco had joined the project by signing a MoU with the Indian consortium on 11th April 2018 on the sidelines of the16 International Energy Forum Ministerial. Saudi Aramco also sought to include another strategic partner to co-invest in the project as an overseas investor. RRPCL which is promoted by a consortium of India PSUs consisting of IOCL, BPCL and HPCL will now have Saudi Aramco & ADNOC as overseas strategic partners. The project will be set up as a 50:50 joint partnership (50:50) between the consortium from India and Saudi Aramco and ADNOC. This will be single largest overseas investment in the Indian refining sector.

The strategic partnership brings together crude supply, resources, technologies, experience and expertise of these multiple oil companies with an established commercial presence around the world. The mega refinery will be capable of processing 1.2 million barrels of crude oil per day (60 million metric tonnes per annum). It will produce a range of refined petroleum products, including petrol and diesel meeting BS-VI fuel efficiency norms. The Refinery will also provide feedstock for the integrated petrochemicals complex, which will have the capacity of producing approx. 18 million tonnes per annum of petrochemical products. RRPCL will rank among the world’s largest refining & petrochemicals projects and will be designed to meet India’s fast-growing fuels and petrochemicals demand. The project cost is estimated at around Rs.3 lakh crore (USD 44 billion).

- **Indian Government has allowed companies to explore for oil & gas beyond block boundaries**

  In order to make it easier for E&P companies to find and produce more oil and gas, the Government has allowed companies to go beyond their allocated block boundaries if a discovery were to extend outside their contracted area. In a "Policy Framework for Streamlining the Operations, Relaxation of Timelines", the MoP&NG also delegated powers to upstream regulatory body, DGH for approval of excusable delays and excess cost recovery.

  Article 10.15 and article 11.2 of PSCs contain provisions of enlargement of development area in case commercial discovery extends beyond contract area. To remove the ambiguity as to whether the contractor can be permitted to conduct appraisal activity outside the contract area during appraisal phase, it has been decided to allow the contractor to carry on appraisal activities and grant Petroleum Exploration License (PEL) in the adjacent area outside the contract area, on the recommendation of Management committee to ascertain the extent of the commercial discovery and the area thereof provided such area is not of strategic importance, or such area has not been awarded to any other company by the government or is not held by any other party or is not on offer by government and no application for a license or lease or Expression of Interest in Hydrocarbon Exploration and Licensing Policy is pending with the government.

- **Cabinet Committee of Economic Affairs (CCEA) approved Mechanism for procurement of ethanol by Public Sector Oil Marketing Companies (OMCs) to carry out the Ethanol Blended Petrol (EBP) Programme**

  The Cabinet Committee on Economic Affairs chaired by Prime Minister Shri Narendra Modi has approved the Mechanism for procurement of ethanol by Public Sector Oil Marketing Companies (OMCs) to carry out the Ethanol Blended Petrol (EBP) Programme- Revision of ethanol price for supply to Public Sector OMCs.

  CCEA has approved the following for the forthcoming sugar season 2018-19 during ethanol supply period from 1st December 2018 to 30th November 2019:

    - To fix the ex-mill price of ethanol derived out of C heavy molasses to Rs.43.70 per litre (from prevailing price of Rs.40.85 per litre). Additionally, GST and transportation charges will also be payable.
    - To fix ex-mill price of ethanol derived from B-heavy molasses and sugarcane juice at Rs.47.49 per litre. Additionally, GST and transportation charges will also be payable.
    - As the price of ethanol is based on estimated FRP for sugar season 2018-19, it will be modified by MoP&NG as per actual Fair & Remunerative Price (FRP) declared by the Government.
    - For ethanol supply year 2019-20, ethanol prices will be modified by MoP&NG as per normative cost of molasses and sugar derived from FRP of sugarcane.

All distilleries will be able to take benefit of the scheme and large number of them is expected to supply ethanol for the EBP programme. Remunerative price to ethanol suppliers will help in reduction of cane farmer's arrears, in the process contributing to minimizing difficulty of sugarcane farmers.

Ethanol availability for EBP Programme is expected to increase significantly due to higher price for C heavy molasses based ethanol and enabling procurement of ethanol from B heavy molasses and sugarcane juice for first time. Increased ethanol blending in petrol has many benefits including reduction in import dependency, support to agricultural sector, more environmental friendly fuel, lesser pollution and additional income to farmers.

Government has notified administered price of ethanol since 2014. This decision has significantly improved the supply of ethanol during the past four years. The ethanol procured by Public Sector OMCs has increased from 38 crore litre in ethanol supply year 2013-14 to estimated 140 crore litre in 2017-18.

- **Union Cabinet approved establishment of additional 6.5MMT Strategic Petroleum Reserves at Chandikhol in Odisha and at Padur, Karnataka**

The Union Cabinet chaired by Prime Minister Shri Narendra Modi has approved establishment of additional 6.5 Million Metric Tonne (MMT) Strategic Petroleum Reserve (SPR) facilities at two locations, i.e. Chandikhol in Odisha and Padur in Karnataka, including construction of dedicated SPMs (Single Point Mooring) for the two SPRs. The SPR facilities at Chandikhol and Padur will be underground rock caverns and will have capacities of 4 MMT and 2.5 MMT respectively.
The in principle approval is to take up the project under PPP model to reduce budgetary support of Government of India. The terms and conditions of such participation would be determined by MoP&NG in consultation with Ministry of Finance after conducting road shows to elicit requirements of market, including prospective investors.

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