FIPI

Federation of Indian Petroleum Industry

POLICY & ECONOMIC REPORT

OIL & GAS MARKET

August 2022

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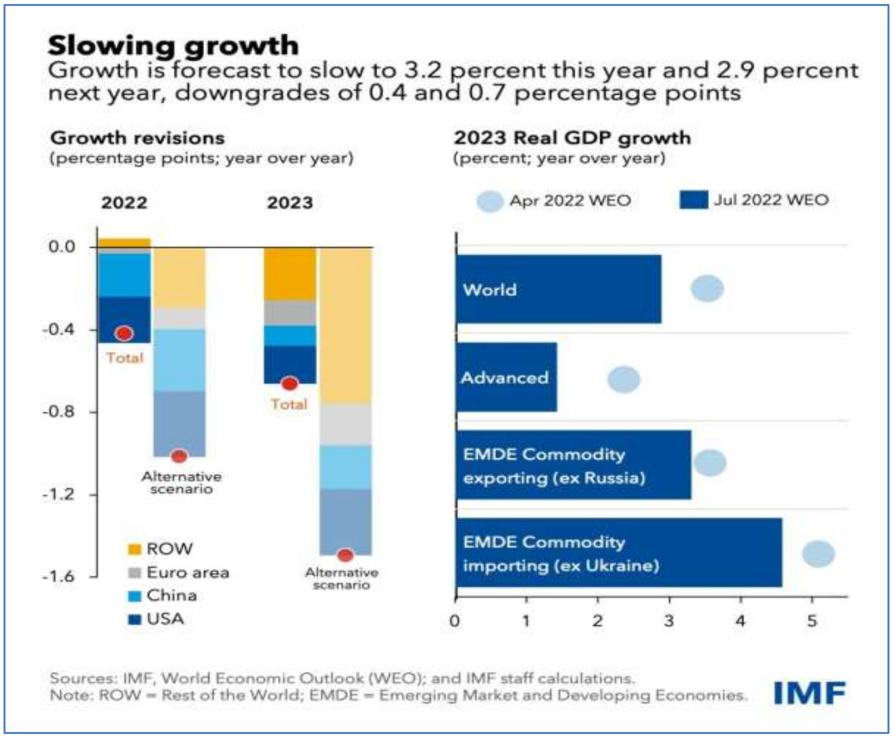
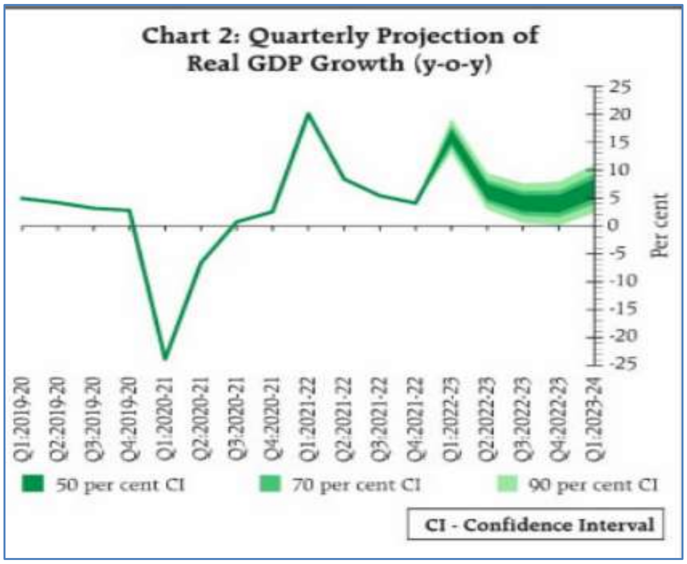
Executive Summary

In the latest World Economic Outlook report, the IMF lowered the global growth forecast to 3.2 per cent for 2022 from 6.1 per cent in 2021, with growth stalling in the world's largest economies. Inflation remains a worry worldwide as IMF raised the global inflation to 6.6 per cent in advanced economies and 9.5 per cent in emerging market and developing economies this year. Supply disruptions, restrained workforce participation, risks from new variants of the virus and the Russia-Ukraine war have emerged as the dampeners to global growth outlook, it said.



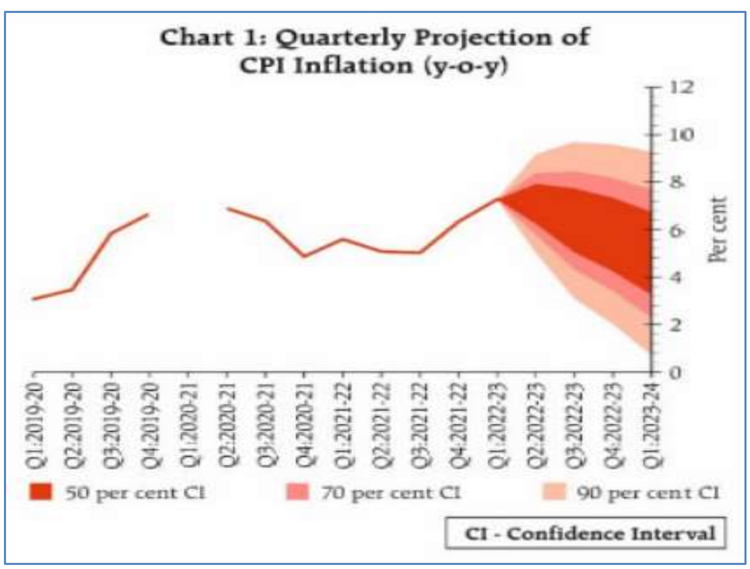
The International Monetary Fund (IMF) revised India's growth outlook for FY23 to 7.4 % from 8.2 % as projected in April 2022. The multilateral agency reduced 0.8 % points from India's forecast saying that this revision mainly reflects less favorable external conditions and more rapid policy tightening. The IMF expects India's economy to grow 6.1 % in FY24.

However, RBI announced that GDP projection for 2022-23 has been retained at 7.2 per cent, with Q1 being projected with a growth of 16.2 per cent, Q2 6.2 per cent, Q3 4.1 per cent, and Q4 4 per cent with risk broadly balanced. Real GDP growth projection for Q1 2023-24 has been projected at 6.7 per cent.



Source- RBI

The retail inflation in India as measured by the Consumer Price Index (CPI) eased to 6.71% in July from 7.01% in June. Food inflation has reported moderation due to softening of edible oil prices and deepening deflation in pulses and eggs. The softening inflation reflects a global fall in oil prices as well as the government's timely interventions in capping some essential exports and reducing import duties, especially of edible oils – 60 per cent of which the country gets from overseas. Reserve Bank of India (RBI) has projected inflation at 6.7 % for FY2022-23. Consumer price-based inflation (CPI) for Q1 2023-24, on the other hand, is projected at 5 %. Further inflation is projected at 7.1 % (Q2), 6.4 % (Q3) and 5.8 % (Q4) in FY23.



Source- RBI

Since the inflation is projected to remain above the tolerance level of 6 per cent in the first three quarters of 2022-23, RBI announced an increase in repo rate by 50 bps to 5.40 per cent, and withdrawing accommodative stance. Further, the bank rate and marginal remaining facility rate have both been revised to 5.65 percent, according to the RBI governor, bringing the SDF or standing bank facility to 5.1 percent.

The CMIE data for August suggest that the quantum of employment has deteriorated, as the unemployment rate has risen to 7.66% in the month of August 2022 with urban unemployment rate at 9.44 % and the rural unemployment rate is 6.82 % in August 2022.

According to IMF, the projected India's current account deficit (CAD) is expected to widen to 3.1 % of GDP in FY23 from 1.2 % of GDP in FY22. The IMF said the CAD is broadly consistent with India's level of per capita income, favorable growth prospects, and demographic trends.

The price of crude oil has surged this year, with Brent coming close to a record high of $147 in March 2022 as Russia's invasion of Ukraine exacerbated supply concerns. Rising fears over high interest rates, inflation and recession risks have since weighed on the market. Brent crude ranged on an average to $96.37 a barrel and WTI ranged to 91.36$ per barrel in the month of August. Despite uncertainty over the pace of rate hikes in the United States to tackle soaring inflation, the signs of improving fuel demand put both benchmark crude oil rates to an upswing.

According to IEA estimates, world oil supply hit a post-pandemic high of 100.5 mb/d in July as maintenance wound down in the North Sea, Canada and Kazakhstan. OPEC+ ramped up total oil production by 530 kb/d in line with higher targets and non-OPEC+ rose by 870 kb/d. World oil supply is set to rise by a further 1 mb/d by year-end. According to IEA estimates, world oil demand is expected to be rising by 2.1 mb/d in 2022 to 99.7 mb/d and by a further 2.1 mb/d next year, when it surpasses pre-Covid levels at 101.8 mb/d. IEA assesses the soaring oil use for power generation and gas-to-oil switching as the main reasons for boosting demand.

Natural gas spot prices at the U.S. Henry Hub benchmark averaged $7.28 per million British thermal units (MMBtu) in July 2022. Increased uncertainty about market conditions that affect natural gas supply and demand resulted in high price volatility.

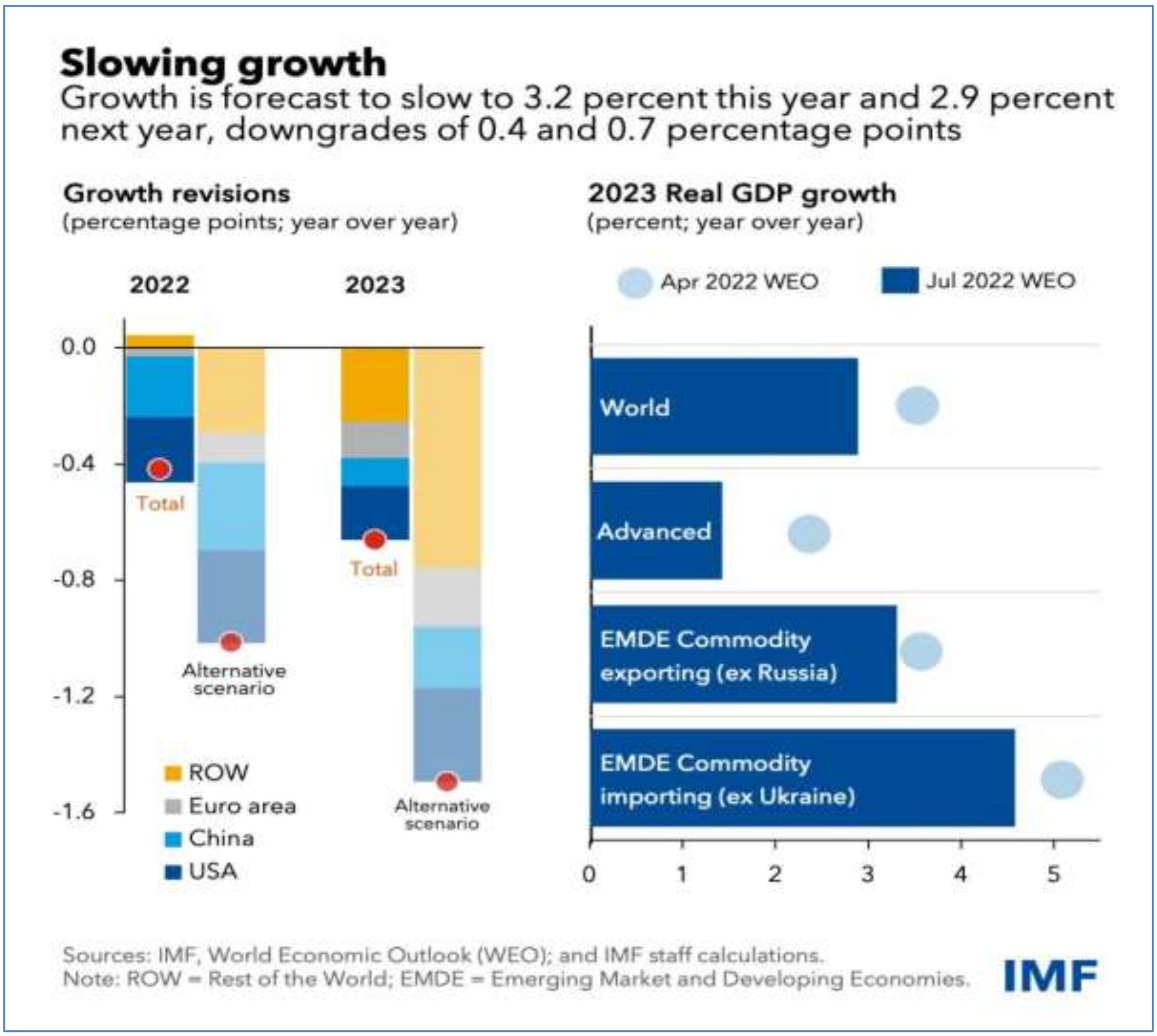
Economy in Focus

Global economic growth

- In the latest World Economic Outlook report, the IMF lowered the global growth forecast to 3.2 per cent for 2022 from 6.1 per cent in 2021, with growth stalling in the world's largest economies.

- Inflation remains a worry worldwide as IMF raised the global inflation to 6.6 per cent in advanced economies and 9.5 per cent in emerging market and developing economies this year.

- Supply disruptions, restrained workforce participation, risks from new variants of the virus and the Russia-Ukraine war have emerged as the dampeners to global growth outlook, it said.

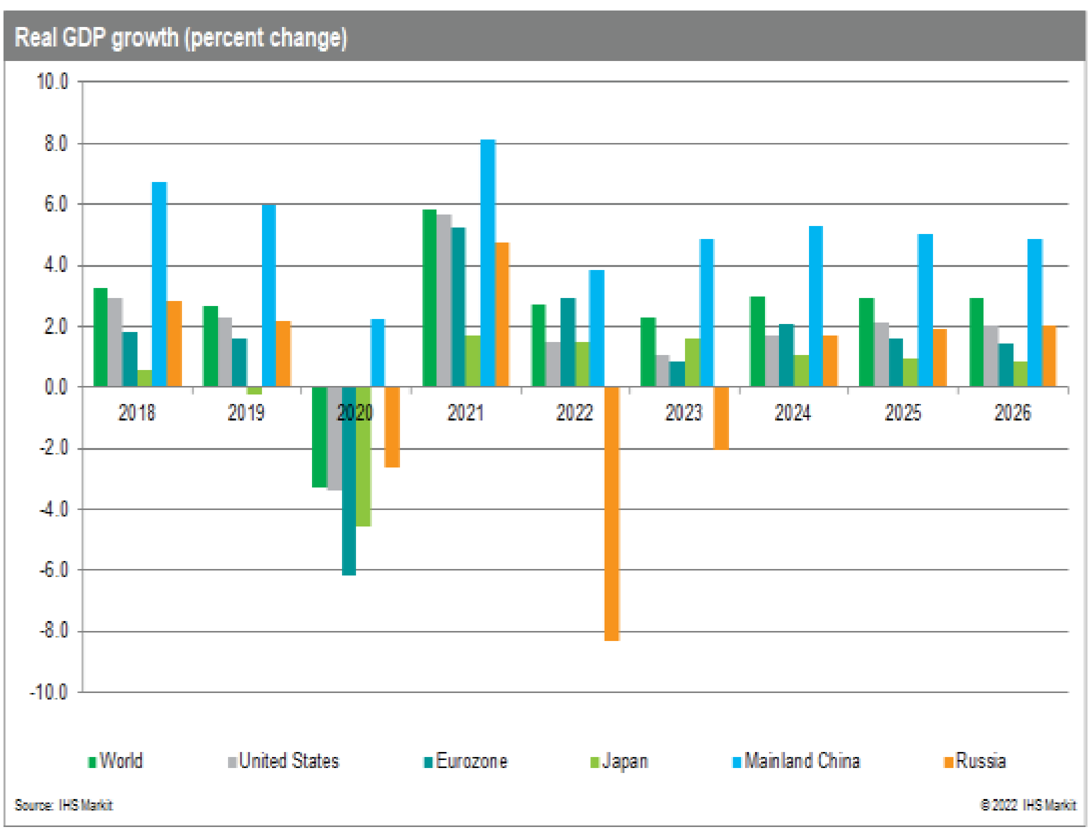


- The downward revisions are sharper for the advanced economies where growth will slip from 5.2% to 2.5% and then to 1.4% during the three years. The 2022 downgrade is attributable to the US economy's weaker first-half performance, while the 2023 downgrade reflects the widespread impacts of more restrictive financial conditions.

- In contrast, the growth in emerging market and developing economies (EMDEs) will first slow down from 6.8% to 3.6% and then recover marginally to 3.9% during the period. The emerging markets are witnessing currency depreciation and reserve losses, and elevated food and energy prices are leading to vulnerability of livelihood in these countries.

- IHS Markit predicts world real GDP growth is projected to slow from 5.8% in 2021 to 2.7% in 2022 and 2.3% in 2023.

    - Once inflation subsides and financial conditions improve, global growth is expected to revive to 3.0% in 2024.
    - High inflation continues to squeeze household budgets and undermine consumer confidence.
    - The post-pandemic resurgence in tourism and consumer services is beginning to fade. The lagged impacts of monetary policy tightening and rising interest rates will be felt throughout the year ahead, restraining investment and consumer durables spending.



Global inflation

- According to IMF, the main risk to inflation is sudden stop of Russian natural gas exports to Europe. In that case, inflation would rise and global growth would decelerate to 2.6 percent this year and 2.0 next year.

- In response to persistently high inflation and an upward drift in long-run inflation expectations, central banks are accelerating monetary policy tightening. Investors' flight to safety would likely mean continued strength in the US dollar and elevated risks for emerging markets that depend on capital inflows to finance trade and fiscal deficits.

- The Federal Reserve boosted the fed funds rate by 75 basis points for a second consecutive time to signal its determination to bring inflation back to its 2% target.

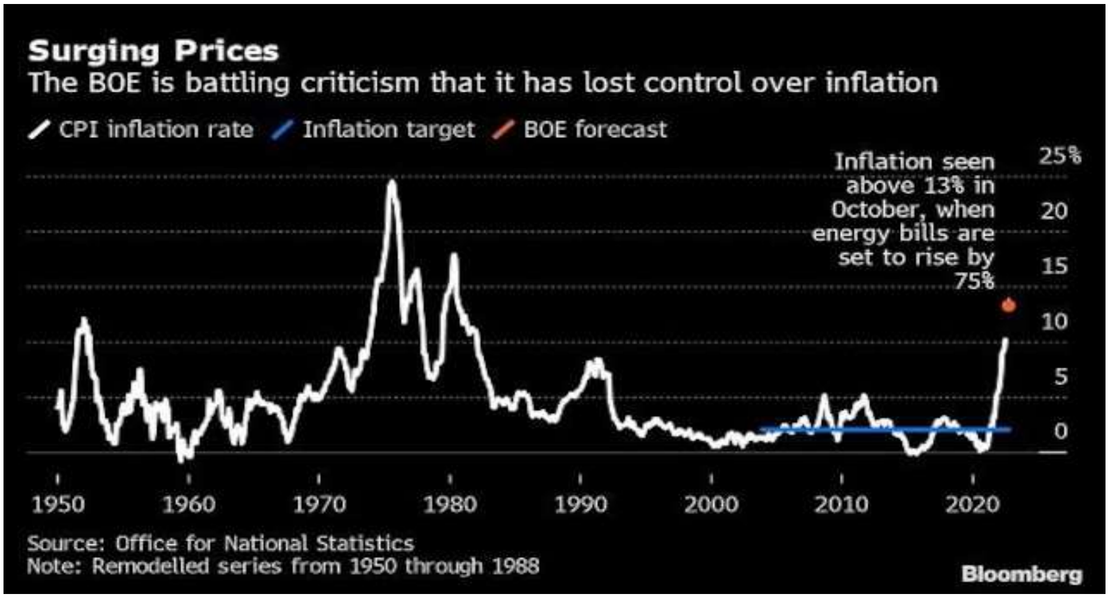
- The European Central Bank raised interest rates by 50 basis points at its July policy meeting to tackle eurozone inflation that has spiked to 8.9%. This move represents the first tightening since 2011.

- The Bank of England raised interest rates by half a percentage point in early August 2022 and has signalled that it expects inflation to peak at 13.3% in October.

UK inflation hit double digits for the first time in 40 years

British consumer price inflation jumped to 10.1% in July – the highest figure since February 1982 – rising from 9.4% on the year in June. The Bank of England raised interest rates by half a percentage point earlier this month and has signalled that it expects inflation to peak at 13.3% in October.

Prices rose by 0.6% in July from June on a non-seasonally adjusted basis, according to figures from the Office for National Statistics. The annual rate of retail price inflation hit 12.3%, its highest since March 1981.



Rising food prices made the biggest contribution to the increase, indicating inflationary pressures are spreading beyond energy. The figures add to a cost-of-living crisis, with wages falling further behind rising prices for goods and services of all kinds.

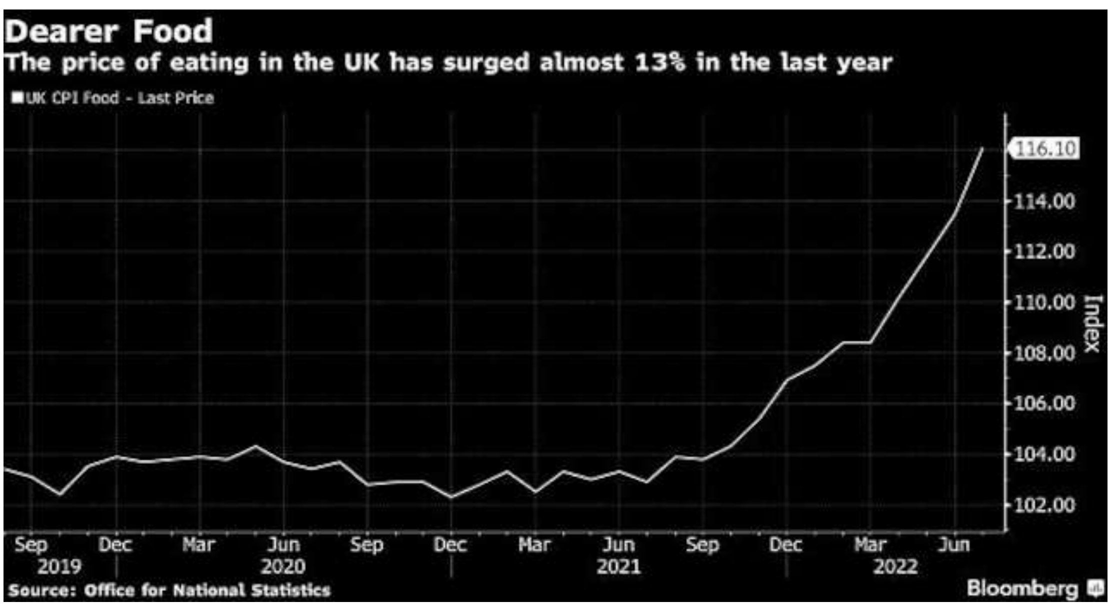
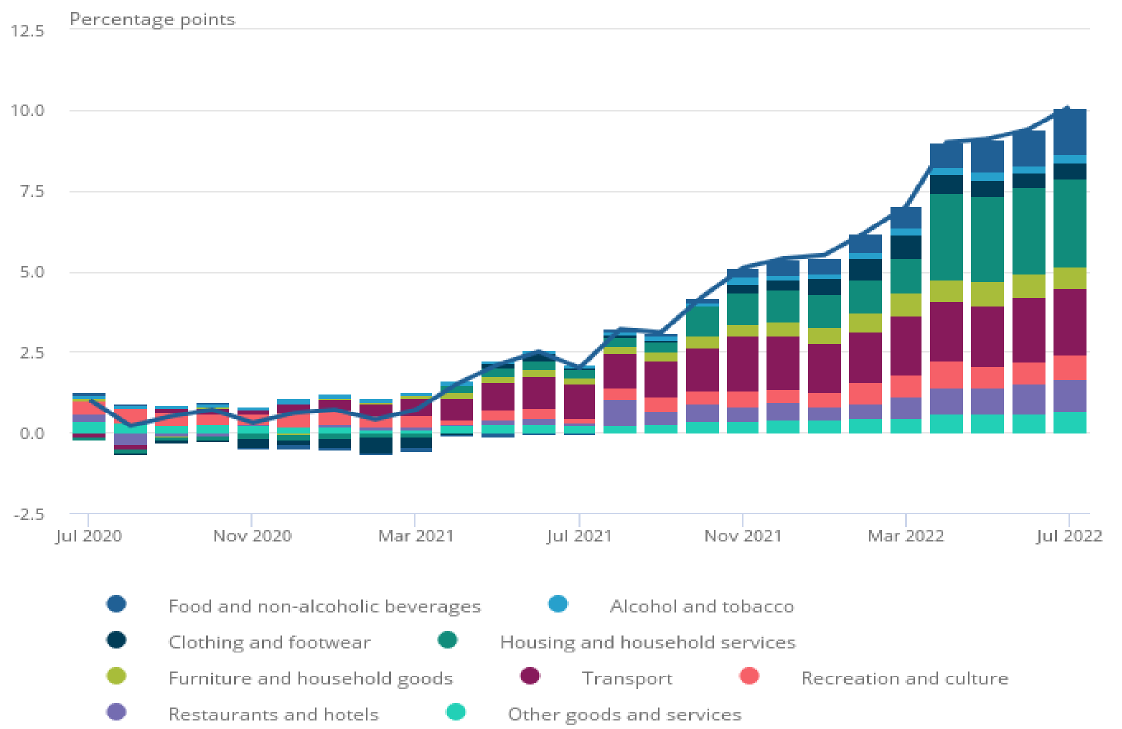


Figure 9: CPI inflation rate driven by housing and household services, transport and food

Contributions to the annual CPI inflation rate, UK, July 2020 to July 2022



Source: Office for National Statistics – Consumer price inflation

Economists blame Russia for choking off supplies of natural gas, raising the cost of electricity across Europe, for the jump in inflation. Gas futures embedded in the BOE's forecasts were almost double their level in May, and are expected to rise further in the coming months.

Real wages adjusted for inflation fell 3% in three months through June, the sharpest pace since records began in 2001. Employment increased by 160,000 in the second quarter, 46% less than the three months through May, and job vacancies fell for the first time since August 2020.

Singapore Joins Green-Bond Bonanza With $1.7 Billion Sale

Singapore is raising S$2.4 billion ($1.7 billion) via its first green bond, choosing a 50-year tenor as it joins countries from South Korea to Egypt looking to fund the battle against climate change. The debt is maturing in 2072 priced with a yield of 3.04%, according to the Monetary Authority of Singapore (MAS). That's an 11 basis-point tightening compared with the start of the marketing process.

"The extension of the sovereign yield curve to 50 years will further develop the Singapore dollar bond market and support longer-tenor corporate issuances," according to MAS Deputy Managing Director Leong Sing Chiong.

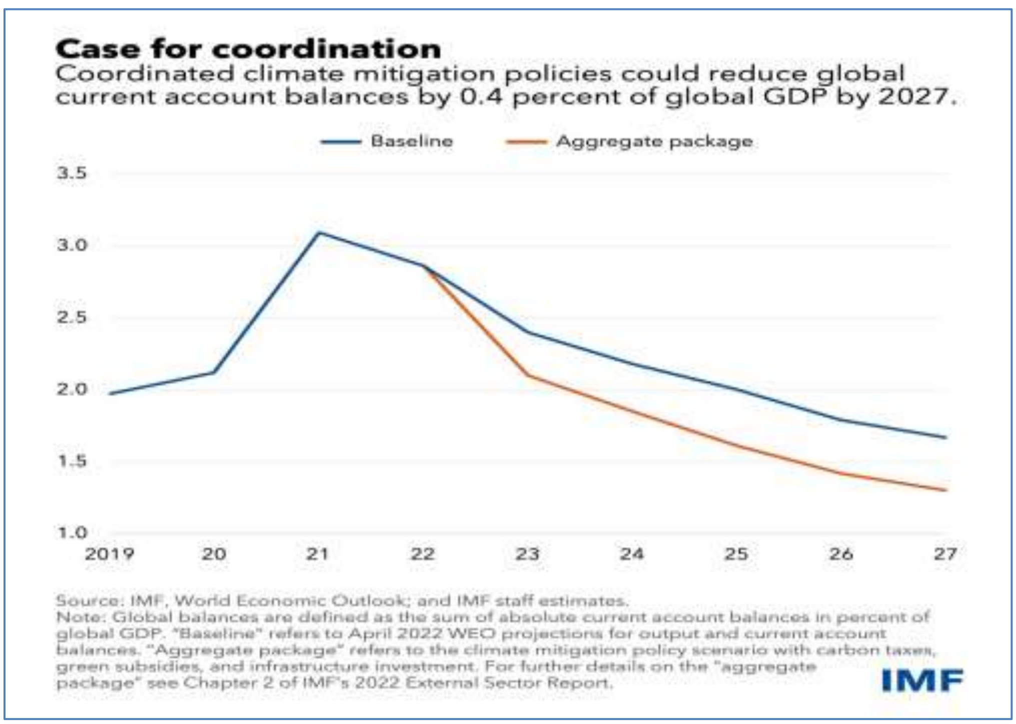
The country is a relative latecomer to the booming global market for sustainable debt. Europe is the dominant region for issuance, and fellow Asian financial hub Hong Kong raised HK$20 billion ($2.5 billion) via its first green bond for retail investors earlier this year.

Singapore's debut green issuance will fund the expansion of its electric rail network. It is part of the government's plan to raise as much as S$35 billion of environment-focused financing by 2030. Officials have already set out standards for sustainable investments, defining what actually qualifies as a green.

Climate Change Mitigation Will Cause Large Adjustments in Current Account Balances- IMF

A climate mitigation policy mix of carbon taxes, green subsidies, and infrastructure investment could reduce global balances by a quarter by 2027. IMF estimated that this is possible only if countries coordinate their response.

The below chart shows the impact a globally coordinated mitigation policy package could have on current account balances.



According to IMF's model-based scenario analysis, the carbon tax has the biggest effect. By discouraging energy usage, economic activity will likely shift toward more labor-intensive, low-carbon sectors as a result.

Global interest rates are also likely to fall in the longer term because of the decline in investment in fossil fuels, following an initial infrastructure investment-induced rise.

The precise effects will be different for every country, however. Unlike greener economies, current account balances in more fossil-fuel-dependent economies may increase because of the sharp fall in investment in carbon-intensive sectors. This would likely cause global capital flows to shift toward greener advanced economies, putting a disproportionate burden of economic adjustment on lower-income fossil-fuel-exporting developing countries, which historically have contributed little to carbon emissions.

Increased burden sharing in climate change mitigation efforts could help limit the shift in capital flows. This would mean higher carbon taxes and emission cuts for advanced economies. Accelerating investment in green energy and renewables in developing countries could also contribute, including through increased financing and technology transfers from advanced countries.

Clearly, both advanced and developing countries will need to play their part in reducing emissions. To succeed, policy coordination and burden-sharing arrangements will be key.

India

India economic growth

The International Monetary Fund (IMF) revised India's growth outlook for FY23 to 7.4 % from 8.2 % as projected in April 2022. The multilateral agency reduced 0.8 % points from India's forecast saying that this revision mainly reflects less favorable external conditions and more rapid policy tightening. The IMF expects India's economy to grow 6.1 % in FY24.

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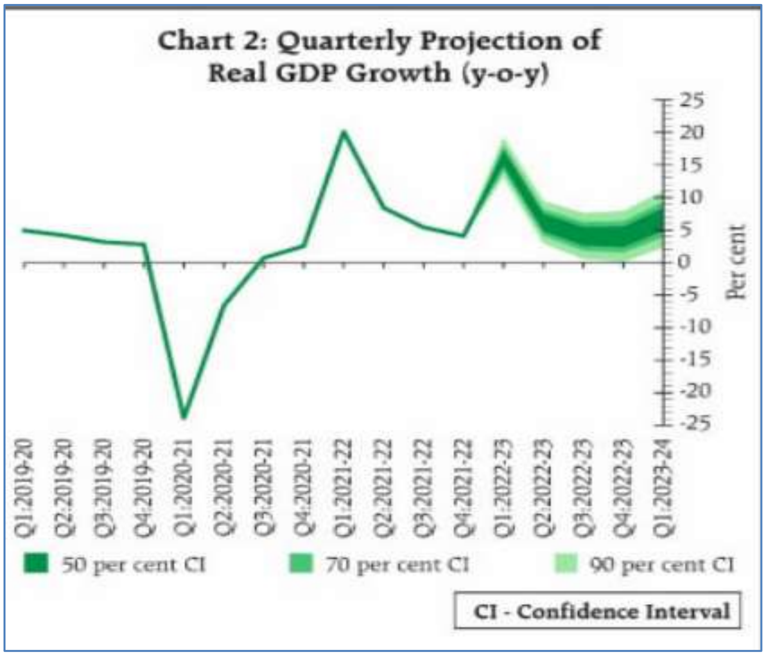
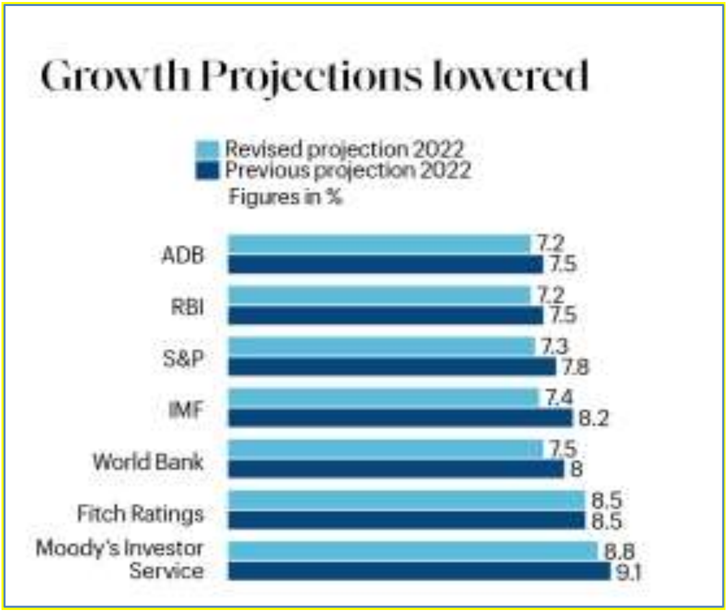


Source- RBI

The following factors affect the economic growth: -

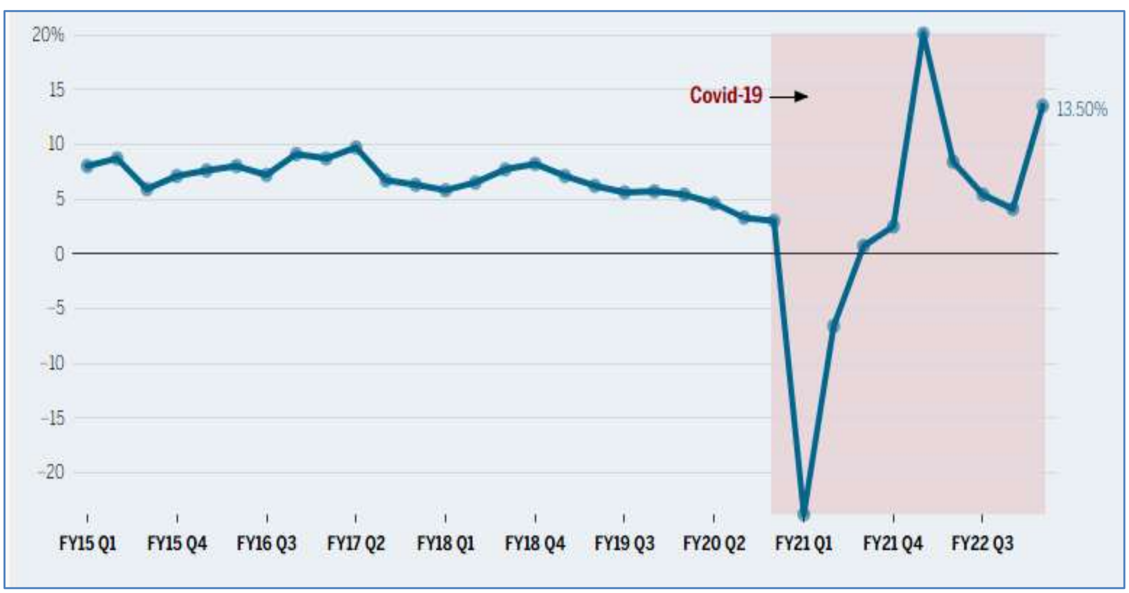
- The demand for contact-intensive services and the improvement in business and consumer sentiment should bolster discretionary spending and urban consumption.
- Investment activity is expected to get support from the government's capex push, improving bank credit and rising capacity utilization.
- The indications of improvement in urban demand include the production of durable goods for consumers, domestic air passenger traffic, and the sale of passenger cars.
- Further RBI said that the demand for exports of services, mainly I.T. services, remained strong in Q1. On a year-over-year basis, exports of transportation and travel services also increased in Q1:2022-23.
- Also, according to RBI, from the standpoint of external financing, net foreign direct investment (FDI), which totaled $13.6 billion in the first quarter of 2022–2023 compared to $11.6 billion in the same period last year, was also strong.
- Further, RBI expects the growth outlook is impacted by risks from geopolitical tensions, upsurge in global financial market volatility and tightening of global financial conditions.
- Many international agencies have lowered the GDP forecast for India with risks emanating from geopolitical tensions, rising inflation and tight monetary conditions.



Source- Finance Ministry, MoSPI

India Q1 – FY 23 GDP performance

According to the latest data released by the National Statistical Office (NSO), India's gross domestic product (GDP) rose 13.5 per cent in the June 2022 quarter (Q1FY23) as compared with the 20.1 per cent growth registered in Q1 2021-22. It is the fastest growth in a year, as the country's GDP had grown at 4.1 per cent in the previous quarter (Q4FY22), 5.4 per cent in the December 2021 quarter of FY22, and 8.4 per cent in September 2021 quarter.



Source- Ministry of Statistics and Programme Implementation

The broad indicators reflecting GDP growth performance are listed below: -

- Gross Value Added (GVA) grew by 12.7 per cent to Rs 34.41 lakh crore in April-June this year
- GVA growth in the farm sector is 4.5 per cent in the first quarter compared to 2.2 % a year ago.
- GVA growth in the manufacturing sector decelerated sharply to 4.8 per cent during the quarter
- Investment growth rose to 20.1% y-o-y compared with a 15.9% increase in the previous quarter
- Growth in consumer spending slowed to 2.6% y-o-y in the April-June quarter from 12.3% in the previous quarter
- GVA growth in mining is 6.5 per cent in the quarter compared to 18 per cent
- GVA in the construction sector also decelerated to 16.8 per cent in the quarter from 71.3 per cent
- Electricity, gas, water supply and other utility services segment grew by 14.7 per cent
- GVA growth in the services sector -- trade, hotel, transport, communication and services related to broadcasting -- was 25.7 per cent
- Financial, real estate and professional services grew by 9.2 per cent in the first quarter
- Public administration, defence and other services posted 26.3 per cent growth
- The NSO stated that the Nominal GDP or GDP at Current Prices in Q1 2022-23 is estimated at Rs 64.95 lakh crore.
- On the expenditure side, India spent about 1.10 lakh crore rupees on major subsidies such as food, fertilizers and petroleum.
- India's fiscal deficit for the fourth months through June touched 3.41 trillion rupees ($42.91 billion) or 20.5% of annual estimates against 21.3 per cent a year ago, reflecting improvement in public finance.

Q1FY23 GDP REVIEW

Sectoral Breakdown

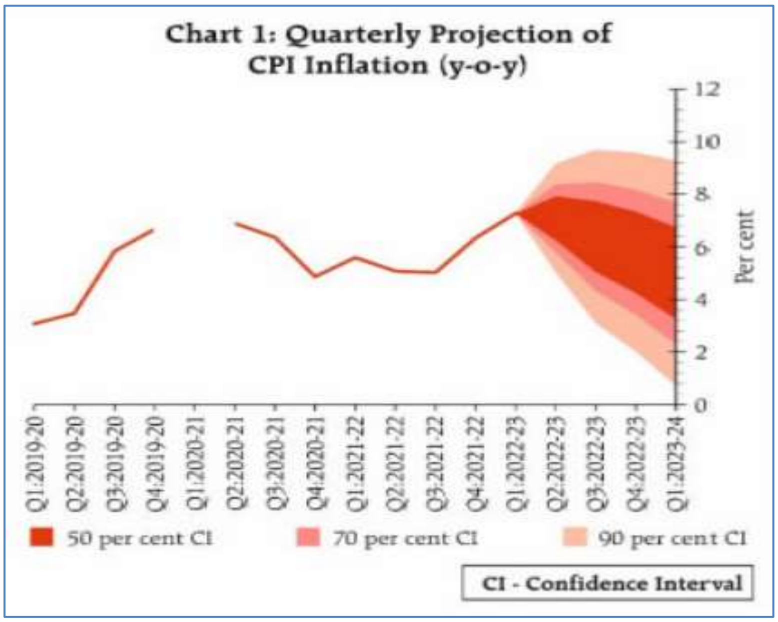
SECTORS	Q1FY23	Q1FY22
Agriculture, forestry & fishing	4.5%	2.2%
Mining & Quarrying	6.5%	18.0%
Manufacturing	4.8%	49.0%
Elec, Gas, Water & others	14.7%	13.8%
Construction	16.8%	71.3%
Trade, Hotels, Trans, etc	25.7%	34.3%
Fin, Realty & Prof services	9.2%	2.3%
Public admin., Def & others	26.3%	6.2%
GVA at basic price	**12.7%**	**18.1%**

At constant prices
Source: MOSPI

ET

India inflation

- The retail inflation as measured by the Consumer Price Index (CPI) eased to 6.71% in July from 7.01% in June.
- Food inflation has reported moderation due to softening of edible oil prices and deepening deflation in pulses and eggs.
- The softening inflation reflects a global fall in oil prices as well as the government's timely interventions in capping some essential exports and reducing import duties, especially of edible oils – 60 per cent of which the country gets from overseas.
- Reserve Bank of India (RBI) has projected inflation at 6.7 % for FY2022-23. Consumer price-based inflation (CPI) for Q1 2023-24, on the other hand, is projected at 5 %.

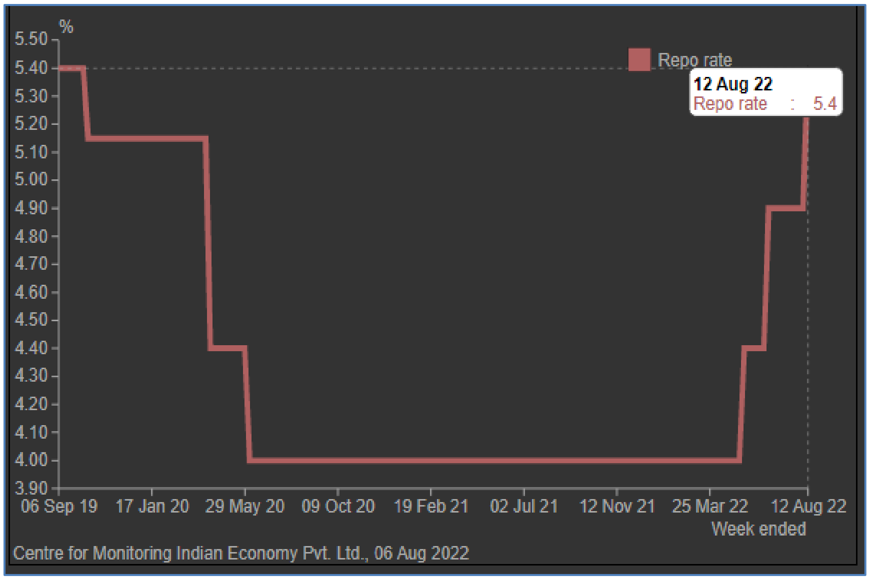


Source- RBI

- Further inflation is projected at 7.1 % (Q2), 6.4 % (Q3) and 5.8 % (Q4) in FY23.
- Inflation projection for FY23 has been retained at 6.7 per cent on assumption of normal monsoon and crude oil at $105 per barrel

RBI stance on inflation

- Since the inflation is projected to remain above the tolerance level of 6 per cent in the first three quarters of 2022-23, RBI announced an increase in repo rate by 50 bps to 5.40 per cent, and withdrawing accommodative stance.



- Further, the bank rate and marginal remaining facility rate have both been revised to 5.65 percent, according to the RBI governor, bringing the SDF or standing bank facility to 5.1 percent.

India Unemployment

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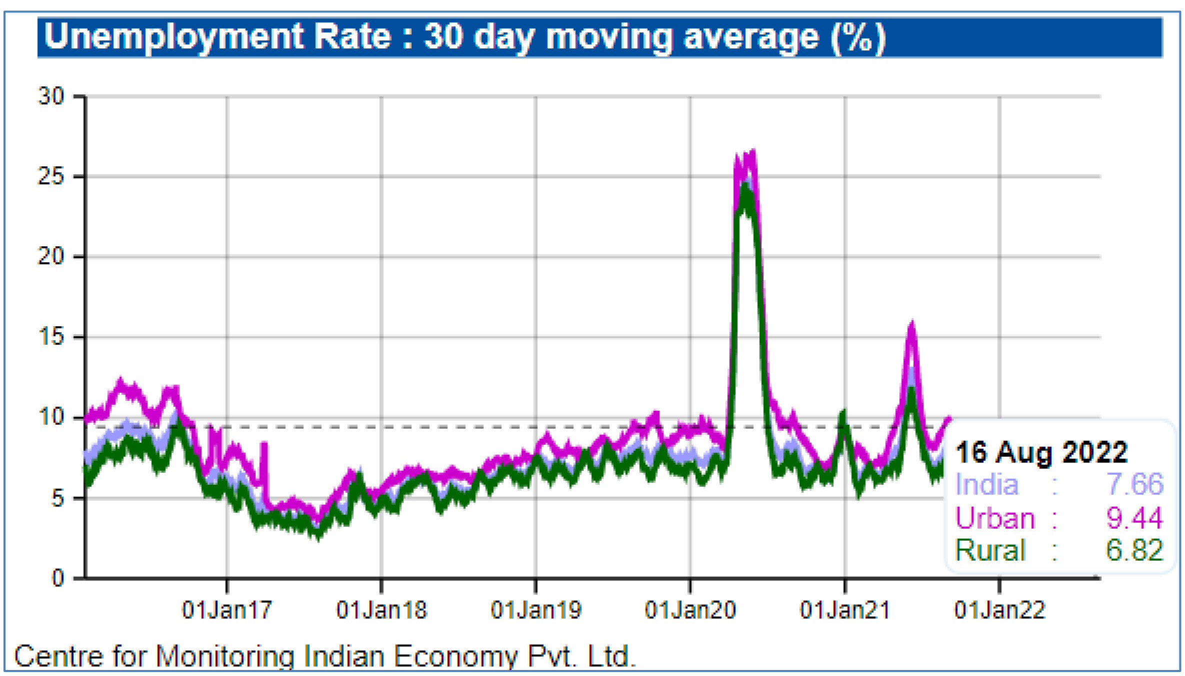
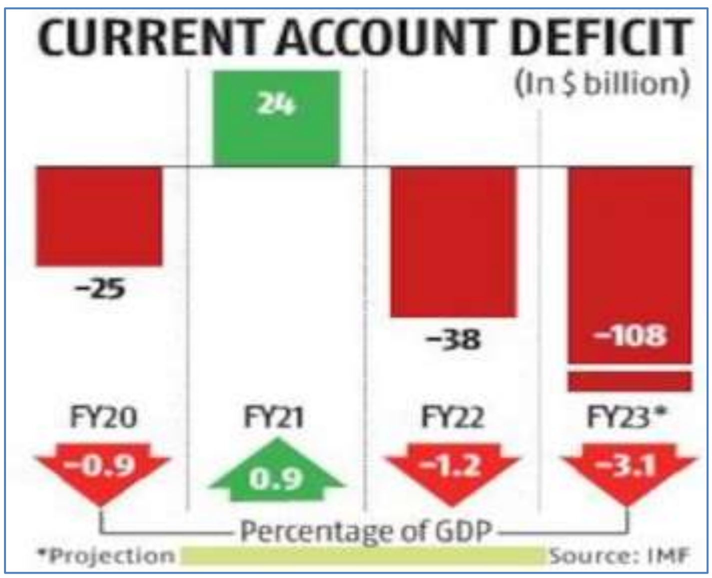


India's external position

- According to IMF, the projected India's current account deficit (CAD) is expected to widen to 3.1 % of GDP in FY23 from 1.2 % of GDP in FY22.
- The IMF said the CAD is broadly consistent with India's level of per capita income, favorable growth prospects, and demographic trends.
- As of the end of 2021, IMF said India's net international investment position (NIIP), which is the difference of the country's external financial assets and liabilities, had improved to –11.1 per cent of GDP from –13.5 per cent of GDP at the end of 2020. This reflected a relatively low CAD (amid the Covid-19 pandemic) and the accumulation of reserve assets. Gross foreign assets and liabilities were 30.5 per cent of GDP and 41.7 per cent of GDP, respectively. The bulk of assets were in the form of official reserves and (outward) FDI, whereas liabilities included mostly FDI and other investments.



- The IMF said an unusual period of current account surpluses in 2020 and early 2021 allowed the Reserve Bank of India to replenish official forex reserves, which reached a record high of about $638.5 billion at the end of 2021. The reserves decreased in subsequent months but remained at a comfortable level of about eight months of import coverage.
- To maintain external sector balance at a comfortable level over the medium term, the International Monetary Fund (IMF) has recommended that India should gradually withdraw its fiscal and monetary policy stimulus, develop export infrastructure, and negotiate free-trade agreements with key trading partners to provide a sustainable boost to exports.

India's bank credit growth accelerates

- On August 25, 2022, the RBI releases its quarterly statistics on deposits and credit of SCBs for June 2022. The data shows that the loans extended by the scheduled commercial banks jumped to 14.2 percent in the June 2022 quarter, compared with 6 percent in the year-ago quarter and 10.8 percent a quarter ago.
- The share of current account and savings account (CASA) deposits in total deposits has been increasing over the last three years (42.0 percent, 43.8 percent, and 44.5 percent in June 2020, 2021, and 2022, respectively), the RBI report showed.
- As credit growth has outpaced deposit growth in recent periods, the credit-deposit (C-D) ratio has been on the rise. In June 2022, the C-D ratio stood at 73.5 percent at the all-India level (70.5 percent a year ago) and 86.2 percent for metropolitan branches of banks (84.3 percent a year ago).

Five agencies cut India's GDP growth forecast even as RBI retains forecast at 7.2%

- India has retained its GDP growth for FY 2022-23 at 7.2%, as announced in its recent Monetary policy Committee meeting held in August.
- However, raising fears of global recession have forced global financial institutions to cut growth forecasts of emerging markets like India.

Institution	GDP forecast cut FY23	Earlier projection
International Monetary Fund (IMF)	7.4%	8.2%
Nomura	4.7%	5.4%
FICCI	7%	7.4%
Asian Development Bank	7.2%	7.5%
CRISIL	7.3%	7.8%

Source- Industry news

- The IMF has warned of a possible global recession and said that the outlook significantly 'darkened' since April. These changes will have an adverse effect on emerging markets like India as well.
- According to Nomura, while near-term growth momentum seems to be robust, the rising medium-term growth headwinds from higher inflation, monetary policy tightening, dormant private capex growth and, the global growth slowdown is foresighted that has led to a projection of 4.7% for FY 2023.
- While ADB, Crisil, FICCI have cut their growth forecasts for India, their growth rates are in line with RBI's prediction that India will grow a tad above 7%.

S&P retains India's GDP growth projection at 7.3% for FY23

- S&P Global Ratings has kept India's real GDP growth forecast for 2022-23 unchanged at 7.3 per cent.
- Economic growth is expected to moderate to 6.5 per cent in 2023-24 and then pick up again in 2024-25 to 6.7 per cent.
- The rating agency further stated that India has a strong external balance sheet and limited external debt besides ample forex reserves to withstand pressure on the country's credit worthiness.
- It expects country's forex reserves to recover to USD 600 billion by this year-end. Forex reserves stood at USD 570.7 billion as of 12 August 2022.
- Inflation measured by consumer price index (CPI) is estimated at 6.8 per cent for 2022-23. S&P does not see it coming within the Reserve Bank of India (RBI)'s target band of two to four per cent even by 2024-25.
- It expects inflation to ease to five per cent by 2023-24 and slow further to 4.5 per cent in 2024-25.

Net-zero target can boost India's GDP by 7.3% till 2032, says report

Should India ramp up its ambition to achieve net zero emissions by 2050, it could boost GDP by 7.3 per cent ($470 billion) and create almost 20 million additional jobs by 2032, a new research show.
Achieving net zero emissions by 2070 could boost India's economy by as much as 4.7 per cent above the projected baseline growth in GDP terms by 2036 worth a total of $371 billion, illustrates modelling and research commissioned by the High-level Policy Commission on Getting Asia to Net Zero.

Launched in May, the commission has four members -- former Australian prime minister Kevin Rudd, former United Nations secretary general Ban Ki-Moon, former vice chairman of Niti Aayog Arvind Panagariya, and global head and director of Climate Business, International Finance Corporation, Vivek Pathak.

The commission launched the "Getting India to Net Zero" report, which said India achieving net zero by 2070 would boost annual GDP by up to 4.7 per cent by 2036.

Net zero will also bring notable benefits for Indians. The transition will see a net increase in employment opportunities, creating 15 million jobs beyond a baseline scenario by 2047. Households could save as much as $9.7 billion in energy costs by 2060, it said.

Achieving net zero emissions will require India to grapple with a series of challenges, the foremost being finance: according to the modelling, India will need around $10.1 trillion in cumulative economy-wide investment to meet its 2070 target.

The report comes ahead of a pivotal moment for Asian and Indian leadership especially, with India assuming the G20 presidency in 2023 and the Asia Pacific Group hosting COP28.

At the 26th Conference of Parties to the United Nations Framework Convention on Climate Change in Glasgow last year, Prime Minister Narendra Modi announced that India will achieve net zero emissions by 2070. The commission said policies, especially to boost renewables and electrification, could make net zero possible by mid-century. "Ending new coal as soon as possible by 2023 and transitioning from unabated coal power by 2040 would be particularly impactful for reaching net zero emissions closer to mid-century," it said.

India diversifying its oil import sources: S&P

India is looking at pockets of opportunities for oil overseas and its decision to invest $1.6 billion in an oil project in Brazil part of that scheme, said credit rating agency S&P. In a report, S&P, citing sectoral experts, said India is keen to explore such opportunities in other Latin American countries.

India is looking at diversifying the sources of crude oil for its needs. Prime Minister Narendra Modi's cabinet in late-July approved a proposal to invest $1.6 billion to develop an oil block in Brazil in an attempt to procure equity oil overseas.

The investment will be through Bharat Petro Resources Ltd. or BPRL, which holds 40 per cent stake in the BM-SEAL-11 project, while the remainder is held by Brazil's state-run Petrobras, the operator of the block.

India, the world's third-largest crude importer and consumer, sources 65 per cent of its crude requirements from the Middle East. India has been stepping up cheap Russian oil purchases in recent months despite sanctions from the West to oil trade with Russia after the conflict in Ukraine. The move to deepen energy relations with Brazil comes shortly after India made its intentions clear to explore opportunities for term crude deals with Brazil.

Lesson from Economics

Purchasing Power Parity

Purchasing Power Parity (PPP) is a theory which suggests that two currencies are in equilibrium—known as the currencies being at par—when a basket of goods is priced the same in both countries, taking into account the exchange rates. The Purchasing Power Parity indicator can be used to compare economies regarding their GDP, labor productivity and actual individual consumption.

Calculating Purchasing Power Parity (PPP)

The relative version of PPP is calculated with the following formula:

S=P2/P1

where:

S= Exchange rate of currency 1 to currency 2

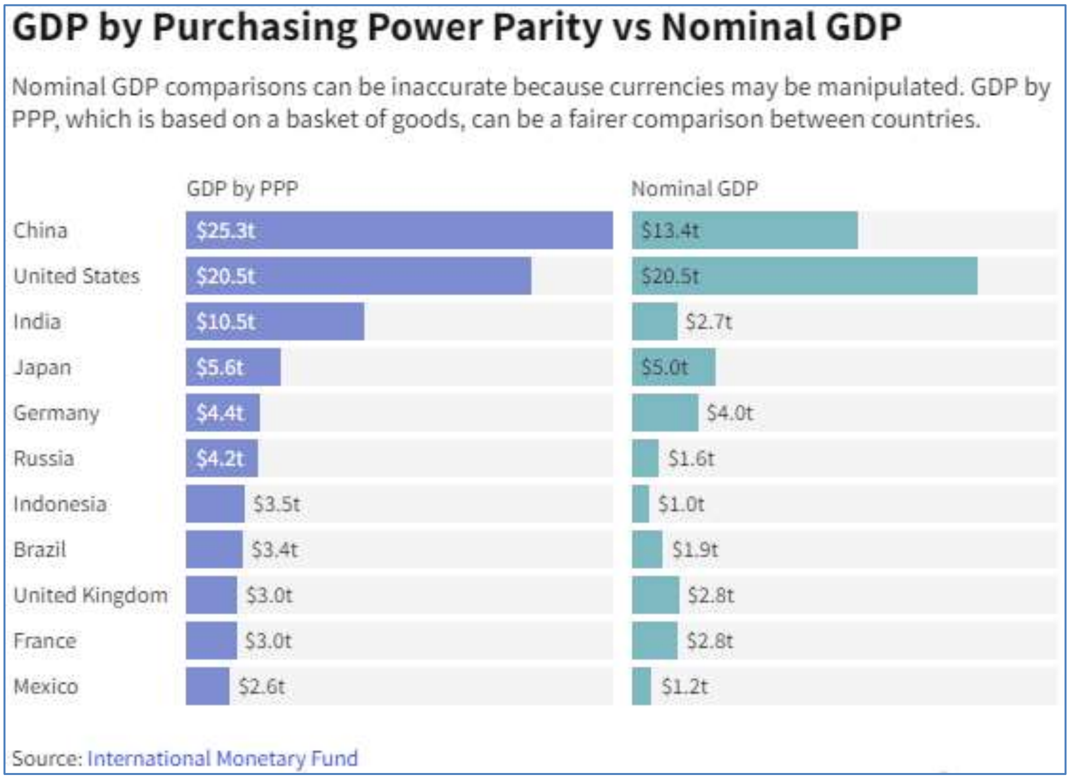
P1= Cost of good X in currency 1

P2= Cost of good X in currency 2

The World Bank releases a report that compares the productivity and growth of various countries in terms of PPP and U.S. dollars. Both the International Monetary Fund (IMF) and the Organization for Economic Cooperation and Development (OECD) use weights based on PPP metrics to make predictions and recommend economic policy. The recommended economic policies can have an immediate short-term impact on financial markets.

Pairing Purchasing Power Parity with Gross Domestic Product

In contemporary macroeconomics, gross domestic product (GDP) refers to the total monetary value of the goods and services produced within one country. Nominal GDP calculates the monetary value in current, absolute terms. Real GDP adjusts the nominal gross domestic product for inflation.



Drawbacks of Purchasing Power Parity

- The PPP exchange-rate calculation is controversial because of the difficulties of finding comparable baskets of goods to compare purchasing power across countries.
- Goods that are unavailable locally must be imported, resulting in transport costs. These costs include not only fuel but import duties as well. Imported goods will consequently sell at a relatively higher price than do identical locally sourced goods.
- Government sales taxes such as the value-added tax (VAT) can spike prices in one country, relative to another.
- Tariffs can dramatically augment the price of imported goods, where the same products in other countries will be comparatively cheaper.

Oil Market

Crude oil price – Monthly Review

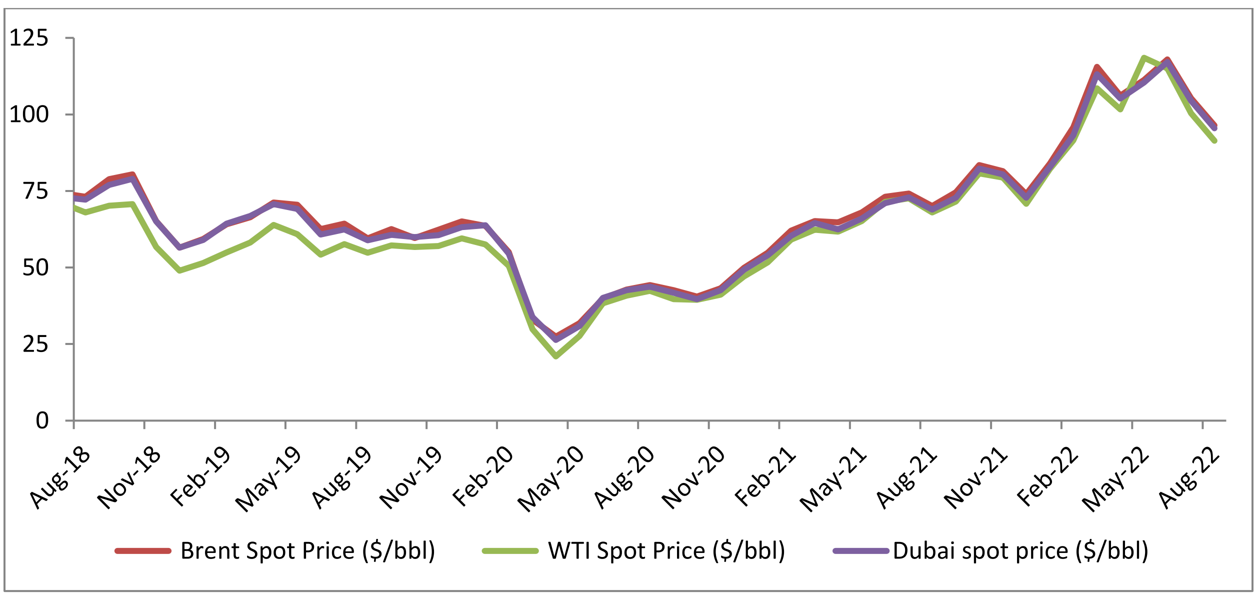
The price of crude oil has surged this year, with Brent coming close to a record high of $147 in March 2022 as Russia's invasion of Ukraine exacerbated supply concerns. Rising fears over high interest rates, inflation and recession risks have since weighed on the market.

Brent crude ranged on an average to $96.37 a barrel and WTI ranged to 91.36$ per barrel in the month of August. Despite uncertainty over the pace of rate hikes in the United States to tackle soaring inflation, the signs of improving fuel demand put both benchmark crude oil rates to an upswing.

It is expected that in case sanctions are lifted against Iran, it would need around a year and a half to reach its full capacity of 4 million barrels per day, up 1.4 million bpd from its current output.

However, the Organization of Petroleum Exporting Countries (OPEC) would consider curbing output to offset any increase from Iran. Saudi Arabia, top producer in the Organization of the Petroleum Exporting Countries (OPEC), has raised the possibility of production cuts, which could coincide with a boost in supply from Iran should it clinch a nuclear deal with the West.

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



Source: WORLD BANK

- Brent crude price averaged $ 96.37 per bbl in August 2022, down by 8.5% on a month on month (MoM) and up by 37.5% on year on year (YoY) basis, respectively.
- WTI crude price averaged $ 91.36 per bbl in August 2022, down by 9.0% on a month on month (MoM) and up by 34.3% on year on year (YoY) basis, respectively.

- Dubai crude price averaged $ 95.52 per bbl in August 2022, down by 8.5% on a month on month (MoM) and up by 38.6% on year on year (YoY) basis, respectively.

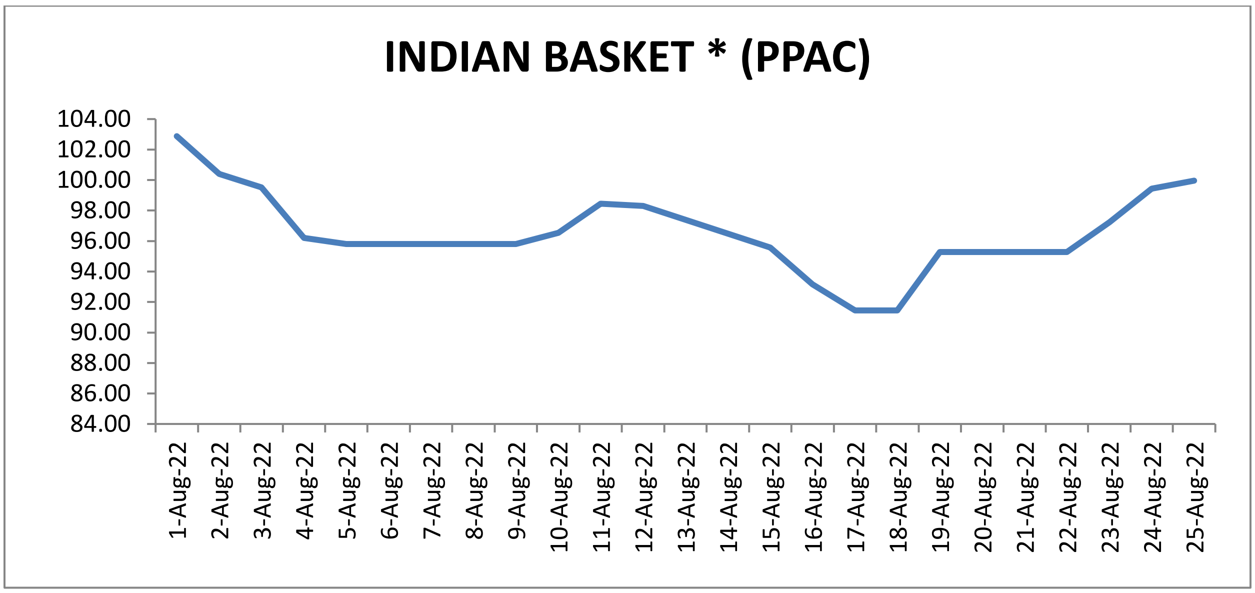
Table 1: Crude oil price in August, 2022

Crude oil	Price ($/bbl)	MoM (%) change	YoY (%) change
Brent	96.37	-8.5%	37.5%
WTI	91.36	-9.0%	34.3%
Dubai	95.52	-8.5%	38.6%

Source: WORLD BANK

Indian Basket Crude oil price

Figure 2: Indian crude oil basket price in $ per bbl



Source: Petroleum Planning & Analysis Cell

- Indian crude basket price averaged $ 96.77 per barrel in August 2022, down by 8.4% on Month on Month (M-o-M) and up by 38.6% on a year on year (Y-o-Y) basis, respectively.

Oil production situation

- According to IEA estimates, world oil supply hit a post-pandemic high of 100.5 mb/d in July as maintenance wound down in the North Sea, Canada and Kazakhstan. OPEC+ ramped up total oil production by 530 kb/d in line with higher targets and non-OPEC+ rose by 870 kb/d. World oil supply is set to rise by a further 1 mb/d by year-end.

- OPEC+ agreed in early August to raise its supply target by just 100 kb/d for September, significantly lower than the July and August scheduled increases of 648 kb/d.

- OPEC, which has 13 members, raised production by 162,000 barrels in July to a to a total of 28.8 million bpd, with most of the output coming from Saudi Arabia, the United Arab Emirates and Kuwait, according to its monthly report.

- The global inventories are now projected at around 900 kb/d during the rest of this year and 500 kb/d over the first half of 2023.

(Figures in mb/d)

Non-OPEC liquids production	2021	1Q22	2Q22	3Q22	4Q22	2022
Americas	25.22	25.86	26.30	26.87	27.31	26.59
of which US	*17.82*	*18.27*	*18.88*	*19.19*	*19.52*	*18.97*
Europe	3.76	3.73	3.44	3.76	4.00	3.73
Asia Pacific	0.51	0.49	0.52	0.55	0.54	0.53
Total OECD	**29.49**	**30.08**	**30.26**	**31.18**	**31.85**	**30.85**
China	4.31	4.49	4.49	4.42	4.43	4.46
India	0.77	0.77	0.77	0.80	0.82	0.79
Other Asia	2.41	2.37	2.32	2.36	2.35	2.35
Latin America	5.95	6.14	6.13	6.30	6.43	6.25
Middle East	3.24	3.29	3.33	3.38	3.38	3.34
Africa	1.35	1.33	1.31	1.33	1.32	1.32
Russia	10.80	11.33	10.62	10.90	10.70	10.88
Other Eurasia	2.93	3.06	2.81	3.09	3.22	3.05
Other Europe	0.11	0.11	0.11	0.10	0.10	0.11
Total Non-OECD	**31.87**	**32.89**	**31.89**	**32.68**	**32.75**	**32.55**
Total Non-OPEC production	61.37	62.97	62.15	63.86	64.60	63.40
Processing gains	2.29	2.40	2.40	2.40	2.40	2.40
Total Non-OPEC liquids production	**63.65**	**65.37**	**64.55**	**66.26**	**67.00**	**65.80**
Previous estimate	63.59	65.36	64.94	65.74	66.88	65.73
Revision	0.07	0.01	-0.40	0.52	0.12	0.06

Source- OPEC

- OPEC NGLs and non-conventional liquids production in 2022 is forecasted (as per OPEC monthly report) to grow by 0.1 mb/d to average 5.39 mb/d.
- The global oil supply in July increased by 1.7 mb/d m-o-m to average 100.6 mb/d, up by 4.7 mb/d y-o-y.

Oil demand situation

- According to IEA estimates, world oil demand is expected to be rising by 2.1 mb/d in 2022 to 99.7 mb/d and by a further 2.1 mb/d next year, when it surpasses pre-Covid levels at 101.8 mb/d.

- IEA assesses the soaring oil use for power generation and gas-to-oil switching as the main reasons for boosting demand.

- In 2023, expectations for healthy global economic growth amidst improvements in geopolitical developments, combined with expected improvements in the containment of COVID-19 in China, are expected to boost consumption of oil.

Table 2: World Oil demand in mbpd	2021	1Q2022	2Q2022	3Q2022	4Q2022	2022	Growth	%
Total OECD	**44.77**	**45.86**	**45.42**	**46.70**	**47.57**	**46.39**	**1.62**	**3.63**
~ of which US	*19.93*	*20.38*	*20.37*	*20.74*	*20.91*	*20.60*	*0.67*	*3.39*
Total Non-OECD	**52.15**	**53.50**	**53.14**	**53.23**	**54.66**	**53.63**	**1.48**	**2.84**
~ of which India#	*4.77*	*5.18*	*5.16*	*4.91*	*5.32*	*5.14*	*0.37*	*7.73*
~ of which China	14.94	14.67	14.81	15.25	15.75	15.12	0.18	1.23
Total world	**96.92**	**99.36**	**98.56**	**99.93**	**102.22**	**100.03**	**3.10**	**3.20**

Source: OPEC monthly report, August 2022

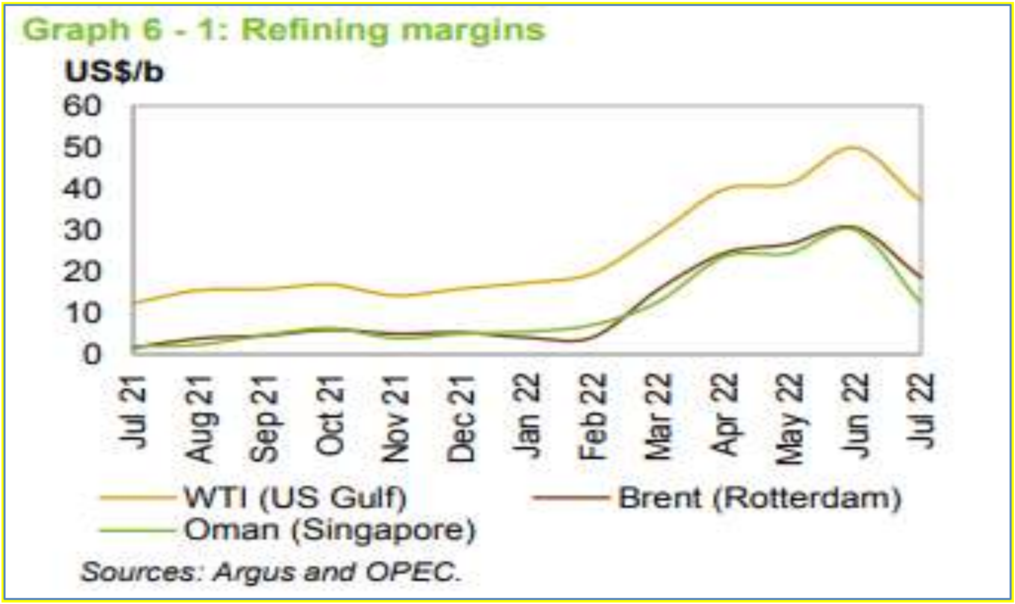
 # During 2022 rising oil demand will be supported by increasing requirements in all main petroleum product categories, however, some downside risks pertain relating to rising COVID-19 cases, new variants and their associated containment measures, as well as fuel substitution.

*Note: *2021=Estimation and 2022 = Forecast. Totals may not add up due to independent rounding*

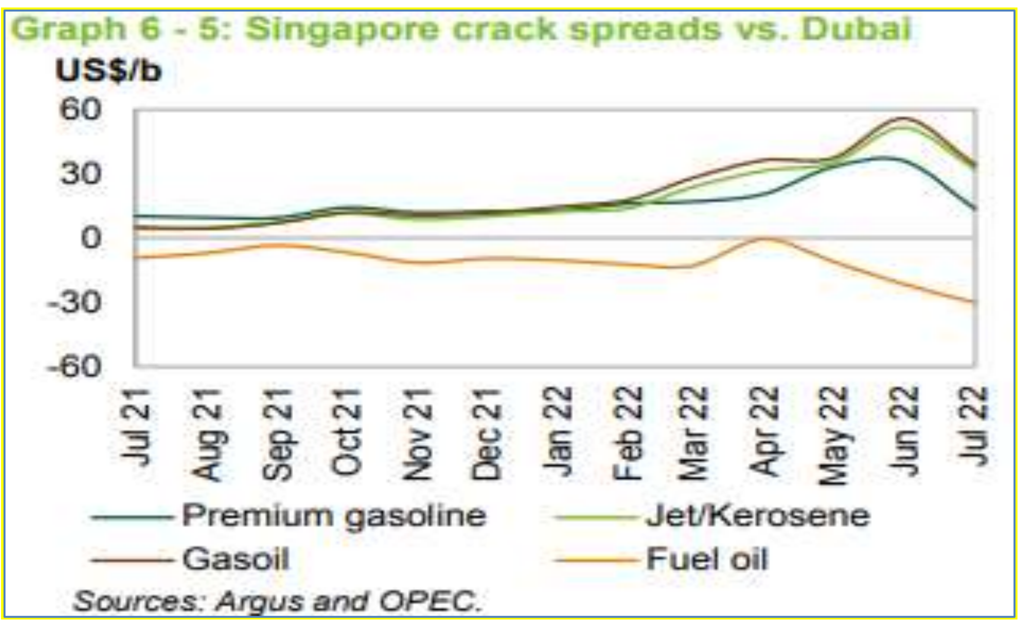
Global petroleum product prices

US Gulf Coast (USGC) refining margins against WTI fell as product stock levels showed recovery, signalling a slow-down in demand. Across the barrel, gasoline showed the largest declines, as their crack spreads fell by $26.94/b, from the record breaking high registered in June, to average $45.66/b in July. In addition, jet fuel stocks also ended slightly higher at the end of July compared to the same time in the previous month. Consequently, US products, similarly, underwent a trend reversal with prices falling considerably in July, lower on average by $26.82/b m-o-m. This downward trend in product prices weighed on product crack spreads and on US refining economics.

Refinery margins in Rotterdam against Brent decreased to show solid losses, pressurised by a rise in refinery product output and a lengthening product balance. Product inventory levels in the Amsterdam - Rotterdam-Antwerp storage hub rose, reflecting strong product supplies. In addition, a slow-down in gasoline trans-Atlantic exports as well as weaker deliveries to West Africa further weighed on the regional product market.



The Asian gasoline 92 crack spread decreased mainly impacted by supply-side dynamics and growing gasoline availability in the region. The Singapore gasoline crack spread against Oman in July averaged $13.48/b, down by $22.49 m-o-m but up by $3.23 y-o-y.



The Singapore gasoil crack spread stepped down from the record-breaking high witnessed in the previous month reflective of stronger regional supplies. The Singapore gasoil crack spread against Oman averaged $18.69/b, down by $23.52 m-o-m and up by $6.38 y-o-y.

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

Singapore product prices	Price ($/b) in July 2022	MoM (%) change	YoY (%) change
Naptha	82.70	-3.5%	9.4%
Premium gasoline (unleaded 95)	121.56	-21.6%	42.8%
Regular gasoline (unleaded 92)	116.35	-21.8%	40.0%
Jet/Kerosene	134.90	-17.9%	74.6%
Gasoil/Diesel (50 ppm)	144.76	-18.0%	81.9%
Fuel oil (180 cst 2.0% S)	136.22	-19.2%	75.3%
Fuel oil (380 cst 3.5% S)	72.69	-20.3%	14.4%

Source: OPEC

Petroleum products consumption in India

Monthly Review:

- Overall consumption of all petroleum products in July 2022 with a volume of 17.6 MMT registered a growth of 4.70% on volume of 16.8 MMT in July 2021.
- MS (Petrol) consumption during the month of July 2022 with a volume of 2.8 MMT recorded a growth of 6.77% on volume of 2.63 MMT in July 2021.
- HSD (Diesel) consumption during the month of July 2022 with a volume of 6.64 MMT recorded a growth of to 8.08% on volume of 6.14 MMT in the month of July 2021.
- LPG consumption during the month of July 2022 with a volume of 2.41 MMT registered a growth of 1.81% over the volume of 2.37 MMT in the month of July 2021
- ATF consumption during July 2022 with a volume of 0.581 MMT registered a growth of 83.42% over the volume of 0.317 MMT in July 2021.
- Bitumen consumption during July 2022 with a volume of 0.441 MMT registered a growth 8.53% over volume of 0.406 MMT in the month of July 2021.
- Kerosene consumption registered a de-growth of 82.10% during the month of July 2022 as compared to July 2021.

Table 4: Petroleum products consumption in India, July 2022

CONSUMPTION OF PETROLEUM PRODUCTS (P)	Consumption in '000 MT	MoM (%) change	YoY (%) change
LPG	2,410	8.0%	1.8%
Naphtha	1,140	9.6%	-6.1%
MS	2,808	-5.4%	6.8%
ATF	581	-1.6%	83.4%
SKO	23	-48.6%	-82.1%
HSD	6,637	-13.5%	8.1%
LDO	61	6.0%	-18.1%
Lubricants & Greases	344	-7.1%	17.4%
FO & LSHS	562	4.7%	17.1%
Bitumen	441	-36.9%	8.5%
Petroleum coke	1,345	10.0%	-22.5%
Others	1,264	2.6%	21.9%
TOTAL	**17,616**	**-5.7%**	**4.7%**

Source: PPAC

Natural Gas Market

Natural Gas Price – Monthly Review

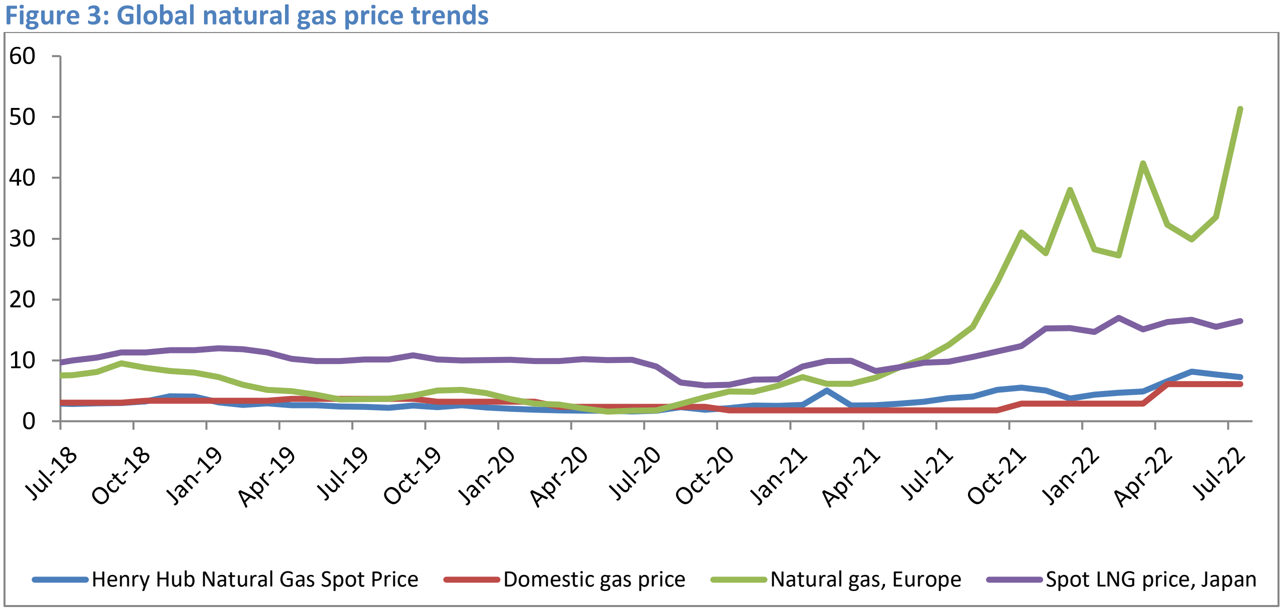
- Natural gas spot prices at the U.S. Henry Hub benchmark averaged $7.28 per million British thermal units (MMBtu) in July 2022. Increased uncertainty about market conditions that affect natural gas supply and demand resulted in high price volatility.

- In Europe, Spot gas prices have soared to record highs as country moves away from dependence on Russian energy. The natural gas spot price at the Title Transfer Facility (TTF) in the Netherlands in Europe has been trading at averaged $51.33 per MMBtu

- Japan Liquefied Natural Gas Import Price is averaging at $ 16.44 per MMBtu for July 2022, up from $ 15.53 per MMBtu last month. The rise in prices is a result of persistent cold weather conditions in Japan that results in increase in natural gas heating expenditures during winter.

- The price of domestically produced natural gas is $6.10 per million British thermal unit (MMBtu) from April1, 2022 to September 30, 2022. The price of domestic gas price has been hiked by 110 percent from the previous revision which was $2.90 per MMBtu for October 1, 2021, to March 31, 2022. The domestic gas price increase was driven by the significant run-up in the prices of gas at global gas hubs. Further, the maximum sale price allowed to natural gas production from deep-water, ultra-deep-water, high pressure and high-temperature discoveries was increased from $6.13 per MMBtu to $9.92 per MMBtu.

Figure 3: Global natural gas price trends



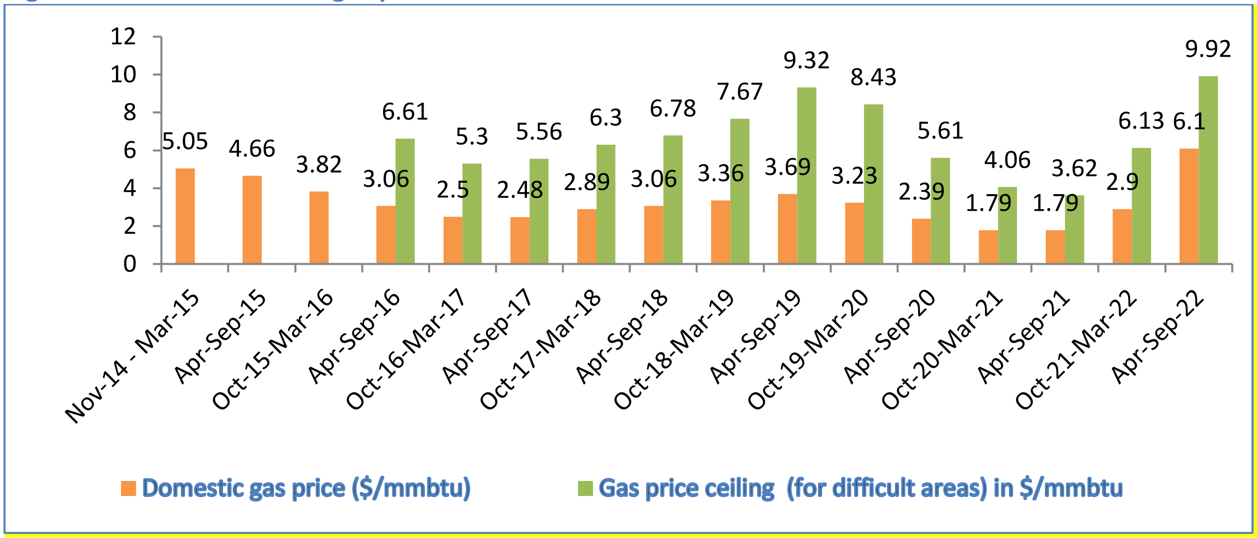
Source: EIA, WORLD BANK

Table 5: Gas price

Natural Gas	Price ($/MMBTU) in July 2022	MoM (%) change	YoY (%) change
India, Domestic gas price	6.10	0.0%	240.8%
India, Gas price ceiling – difficult areas	9.92	0.0%	174.03%
Henry Hub	7.28	-5.4%	138.4%
Natural Gas, Europe	51.33	12.4%	225.8%
Liquefied Natural Gas, Japan	16.44	-6.9%	61.4%

Source: EIA, PPAC, World Bank

Figure 4: Domestic natural gas price



Source: PPAC

Indian Gas Market

- Gross production of natural gas for the month of July, 2022 was 2883 MMSCM (decrease of 0.4% over the corresponding month of the previous year).
- Total imports of LNG (provisional) during the month of July 2022 were 2571 MMSCM (decrease of 2.7 % over the corresponding month of the previous year).
- Natural gas available for sale during July 2022 was 4903 MMSCM (decrease of 1.6 % over the corresponding month of the previous year).
- Total consumption during July 2022 was 5118 MMSCM (provisional). Major consumers were fertilizer (33%), City Gas Distribution (CGD) (21%), Power (13%), Refinery (7%) and Petrochemicals (4%)

Monthly Report on Natural gas production, imports and consumption – July 2022

1. Domestic Natural Gas Gross Production:

Domestic natural gas gross production for the month of July, 2022 was 2883 MMSCM (decrease of 0.4% over the corresponding month of the previous year).

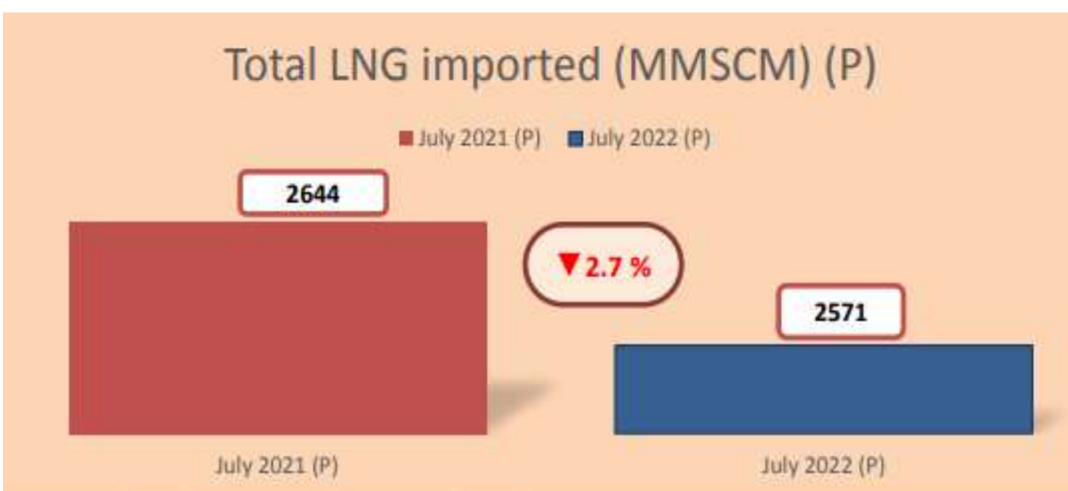
Table 10: Domestic natural gas Gross production (Qty in MMSCM)

Source: PPAC

2. LNG imports:

Total imports of LNG (provisional) during the month of July 2022 were 2571 MMSCM (decrease of 2.7 % over the corresponding month of the previous year 2644 (MMSCM).

Table 11: LNG imports (Qty in MMSCM)

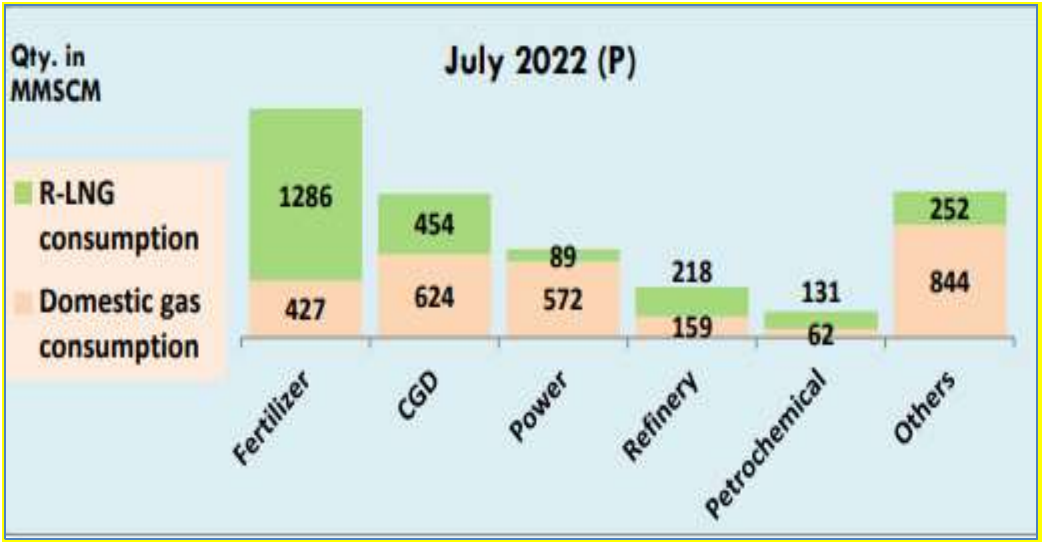


Source: PPAC

3. Sectoral Consumption of Natural Gas:

Major consumers were fertilizer, CGD, power, refinery, others and petrochemicals.

Figure 12: Sectoral Consumption of Natural Gas (Qty in MMSCM) in July 2022



Source: PPAC

Key developments in Oil & Gas sector during July 2022

- **Monthly Production Report for July, 2022**

1. Production of Crude Oil

Indigenous crude oil and condensate production during July 2022 was down by 3.8 % than that of July 2021 as compared to a de-growth of 1.7 % during June 2022. OIL registered a growth of 4.1 % and ONGC registered a de-growth of 1.7 % during July 2022 as compared to July 2021. PSC registered de-growth of 12.3 % during July 2022 as compared to July 2021. Degrowth of 0.5 % was registered in the total crude oil and condensate production during April - July 2022 over the corresponding period of the previous year.

2. Production of Natural Gas

Gross production of natural gas for the month of July 2022 was 2883 MMSCM which was lower by 0.4% compared with the corresponding month of the previous year. The cumulative gross production of natural gas of 11436 MMSCM for the current financial year till July 2022 was higher by 3.4% compared with the corresponding period of the previous year.

3. **Crude Oil Processed (Crude Throughput)**

Crude oil processed during July 2022 was 21.4 MMT, which was 10.5 % higher than July 2021. Growth of 13.8 % was registered in the total crude oil processing during April- July 2022 over the corresponding period of the previous year

4. **Production of Petroleum Products**

Production of petroleum products saw a growth of 6.2 % during July 2022 over July 2021. Growth of 11.7 % was registered in the total POL production during April- July 2022 over the corresponding period of the previous year.

Key Policy developments in Energy sector

- **Government notifies Battery Waste Management Rules, 2022**

Ministry of Environment, Forest and Climate Change, Government of India published the Battery Waste Management Rules, 2022 on 24th August, 2022 to ensure environmentally sound management of waste batteries.

Notification of these rules is a transformative step towards implementation of the announcement made by Prime Minister Shri Narendra Modi in his address to the Nation on Independence Day on 15th August, 2021 to promote Circular Economy in full earnest.

New rules will replace Batteries (Management and Handling) Rules, 2001. The rules cover all types of batteries, viz. Electric Vehicle batteries, portable batteries, automotive batteries and industrial batteries.

The rules’ function based on the concept of Extended Producer Responsibility (EPR) where the producers (including importers) of batteries are responsible for collection and recycling/refurbishment of waste batteries and use of recovered materials from wastes into new batteries.

EPR mandates that all waste batteries to be collected and sent for recycling/refurbishment, and it prohibits disposal in landfills and incineration. To meet the EPR obligations, producers may engage themselves or authorise any other entity for collection, recycling or refurbishment of waste batteries.

The rules will enable setting up a mechanism and centralized online portal for exchange of EPR certificates between producers and recyclers/refurbishes to fulfil the obligations of producers.

The rules promote setting up of new industries and entrepreneurship in collection and recycling/refurbishment of waste batteries.

Mandating the minimum percentage of recovery of materials from waste batteries under the rules will bring new technologies and investment in recycling and refurbishment industry and create new business opportunities.

Prescribing the use of certain number of recycled materials in making of new batteries will reduce the dependency on new raw materials and save natural resources.

Online registration & reporting, auditing, and committee for monitoring the implementation of rules and to take measures required for removal of difficulties are salient features of rules for ensuring effective implementation and compliance.

On the principle of Polluter Pays Principle, environmental compensation will be imposed for non-fulfilment of Extended Producer Responsibility targets, responsibilities and obligations set out in the rules. The funds collected under environmental compensation shall be utilised in collection and refurbishing or recycling of uncollected and non-recycled waste batteries.

- **Centre increase windfall tax to Rs 13,300, hikes duty on diesel and ATF**

The Centre has increased the windfall tax on domestic crude oil to Rs 13,300 per tonne from earlier Rs 13,000 per tonne. It has also revised the cess on export of aviation turbine fuel (ATF) to Rs 9 per litre from Rs 2 per litre and increased additional excise duty on export of diesel has been increased to Rs 12 per litre from Rs 6 per litre.

The revision comes into effect from 1 September, 2022. This is the fourth revision of windfall tax since its implementation on July 1. In its last revision on August 19, the government reduced the windfall tax on petroleum crude to Rs 13,000 per tonne from Rs 17,750 per tonne after crude oil prices reached 6 months low. On July 1, Centre imposed an export duty of Rs 6 per litre on petrol and ATF and a Rs13 a litre duty on export of diesel. Also, a windfall tax of Rs 23,250 per tonne was imposed on the sale of domestic crude.

- **Cabinet approves India's Updated Nationally Determined Contribution to be communicated to the United Nations Framework Convention on Climate Change**

The Union Cabinet chaired by the Prime Minister Shri Narendra Modi, has approved India's updated Nationally Determined Contribution (NDC) to be communicated to the United Nations Framework Convention on Climate Change (UNFCCC).

The updated NDC seeks to enhance India's contributions towards achievement of the strengthening of global response to the threat of climate change, as agreed under the Paris Agreement. Such action will also help India usher in low emissions growth pathways. It would protect the interests of the country and safeguard its future development needs based on the principles and provisions of the UNFCCC.

Earlier, India submitted its Intended Nationally Determined Contribution (NDC) to UNFCCC on October 2, 2015. The 2015 NDC comprised eight goals; three of these have quantitative targets upto 2030 namely, cumulative electric power installed capacity from non-fossil sources to reach 40%; reduce the emissions intensity of GDP by 33 to 35 percent compared to 2005 levels and creation of additional carbon sink of 2.5 to 3 billion tonnes of CO_2 equivalent through additional forest and tree cover.

As per the updated NDC, India now stands committed to reduce Emissions Intensity of its GDP by 45 percent by 2030, from 2005 level and achieve about 50 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030.

India dropped its target of establishing 500 GW of renewable energy capacity by 2030, giving itself the flexibility of 50% power from non-fossil fuel sources by then in its commitments to the United Nations Framework Convention on Climate Change (UNFCCC). This keeps India's options open for new coal-based power plants in the projected 820 GW total capacity, if excess demand cannot be met from green fuels.

- **Allocation for city gas operators has been increased- Oil Ministry**

The Oil Ministry has ordered the diversion of natural gas from industries to the city gas distribution sector to cool CNG and piped cooking gas prices that have shot up by 70% on the use of imported fuel.

Less than three months after it ordered the use of costlier imported LNG to meet incremental demand for automobile fuel CNG and household kitchen gas PNG, the Ministry on August 10 reverted to an old policy of primarily supplying domestically produced gas for city gas operations.

The allocation for city gas operators like Indraprastha Gas Ltd. in Delhi and Mahanagar Gas Ltd. of Mumbai has been increased from 17.5 million standard cubic meters per day to 20.78 mmscmd, officials said. The increased allocation will meet 94% of the demand for CNG to automobiles and piped cooking gas to household kitchens in the country.

Previously, about 83-84% of the demand was met and the remaining was met through the import of LNG by GAIL, they said. Use of domestic gas instead of imported fuel will bring down the cost of raw material and ease CNG and PNG rates, officials said.

The move follows a massive jump in CNG and PNG prices in the country in the last one year as operators used costlier imported LNG. CNG prices in Delhi went up by a massive 74% (from ₹43.40 per kg in July 2021 to ₹75.61 per kg now) while PNG prices rose by 70% (from ₹29.66 per standard cubic meter to ₹50.59 per scm).

- **Lok Sabha passes bill to promote non-fossil fuels**

A bill seeking to mandate the use of non-fossil energy sources such as biomass, ethanol and green hydrogen was passed by the Lok Sabha. Piloting the Energy Conservation (Amendment) Bill, 2022, Power Minister R K Singh said "this is the bill for the future," and urged the members to approve it.

The Bill provides for penalties for violations by industrial units or vessels, and on manufacturers if a vehicle fails to comply with fuel consumption norms.

"With the passage of time, and in the context of the energy transition with special focus on the promotion of new and renewable energy and National Green Hydrogen Mission, a need has arisen to further amend the said Act to facilitate the achievement of 'Panchamrit' as five nectar elements presented by India in Conference of Parties 26 in Glasgow last year," the Statement of Objects and Reasons of the Bill said.

The amendments also seek to promote renewable energy and the development of a domestic carbon market to battle climate change.

It also seeks to introduce new concepts such as carbon trading and mandate the use of non-fossil sources to ensure faster decarbonization of the Indian economy and help achieve sustainable development goals in line with the Paris Agreement.

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