

FIPI



Federation of Indian Petroleum Industry



POLICY & ECONOMIC REPORT

OIL & GAS MARKET

March 2023

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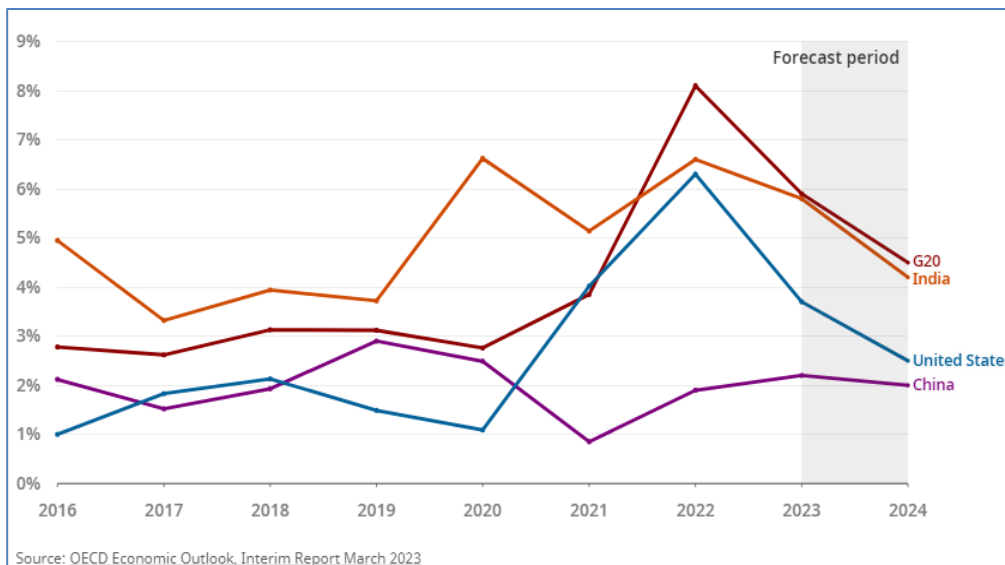
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Executive Summary

According to OECD, global economy is projected to grow by 2.6% in FY 2023-24 and by 2.9% in FY 2024-25. The positive sentiment exists with improvement in business and consumer confidence, decline in food and energy prices, and the economic recovery in China. In the US, the annual GDP growth is projected at 1.5% in 2023 and 0.9% in 2024 as monetary policy moderates demand pressures. In the euro area, growth is projected to be 0.8% in 2023, and rise to 1.5% in 2024 as the effects of high energy prices fade. The emerging-market economies in Asia are likely to be less affected by the global slowdown, helped by the rebound in China and moderate inflation pressures. Growth in China is expected to rebound to 5.3% this year and 4.9% in 2024. According to OECD, India's growth is projected to moderate to around 6% in FY 2023-24, amidst tighter financial conditions, and then recovering to around 7% in FY 2024-25.

In case of global inflation, according to OECD, headline inflation in the G20 economies is expected to decline to 4.5% in 2024 from 8.1% in 2022. Core inflation in the G20 advanced economies is projected to average 4.0% in 2023 and 2.5% in 2024. Headline inflation has begun to decline mainly due to the easing of energy and food prices. The decline in energy prices is due to the impact of a warm winter in Europe, which helped to preserve gas storage levels, as well as lower energy consumption in many countries.

Figure- Headline inflation



Source- OECD Economic Outlook March 2023

For India, according to the second advance estimates (SAE) of national income released by the National Statistical Office (NSO) on February 28, 2023, India's per capita GDP grew by 14.7 % in nominal terms and by 5.9 % in real terms in 2022-23. Over the last decade, these growth rates were 9.5 % and 4.5 %, respectively, implying significant improvements in economic activity and consumer confidence.

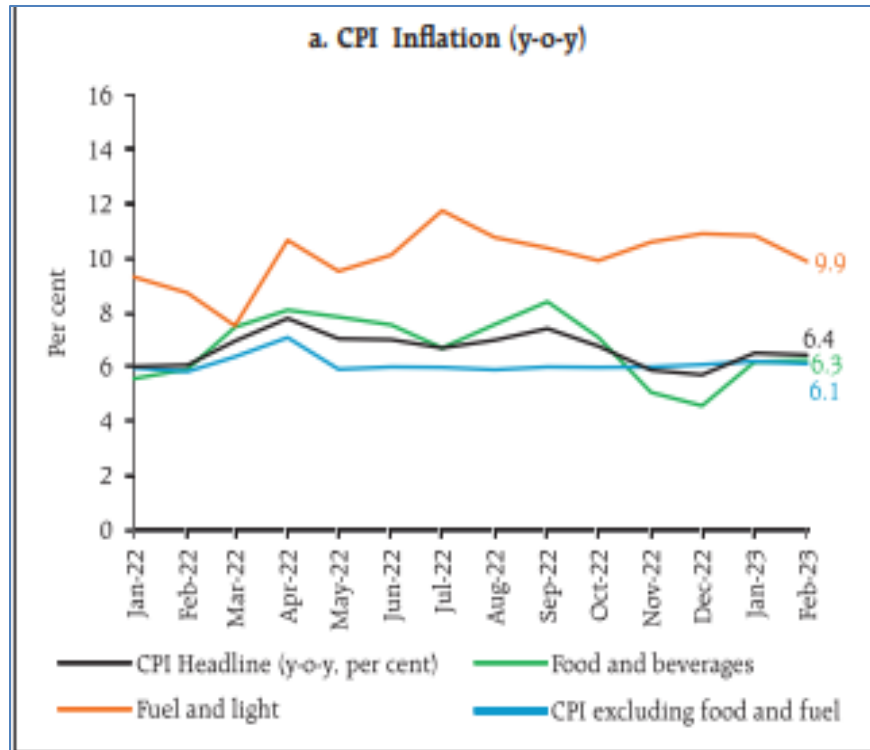
While on the demand side, the key drivers have been buoyant private consumption supported by rebound in government consumption and the pickup in export growth, on the supply side, the improvement was more broad-based, led by services and followed by industry. According to NSO, the real GDP growth is estimated at 7.0 % for 2022-23 while during Q3:2022-23, the Indian economy grew at 4.4 %. For Q4:2022-23, real GDP is projected at 5.3%.

Figure- GDP forecast for March'2023



Source- NSO, RBI estimates

India’s retail inflation for February slows down to 6.44 % as against 6.52 % in January 2023, according to data published by the Ministry of Statistics and Programme Implementation. Food price inflation eased marginally to 5.9 % in February, 2023 compared to 6 % in January, 2023. Inflation in the fuel and light group declined to 9.9 % in February from 10.8 % in January, mainly owing to a softening in inflation in respect of kerosene and firewood.



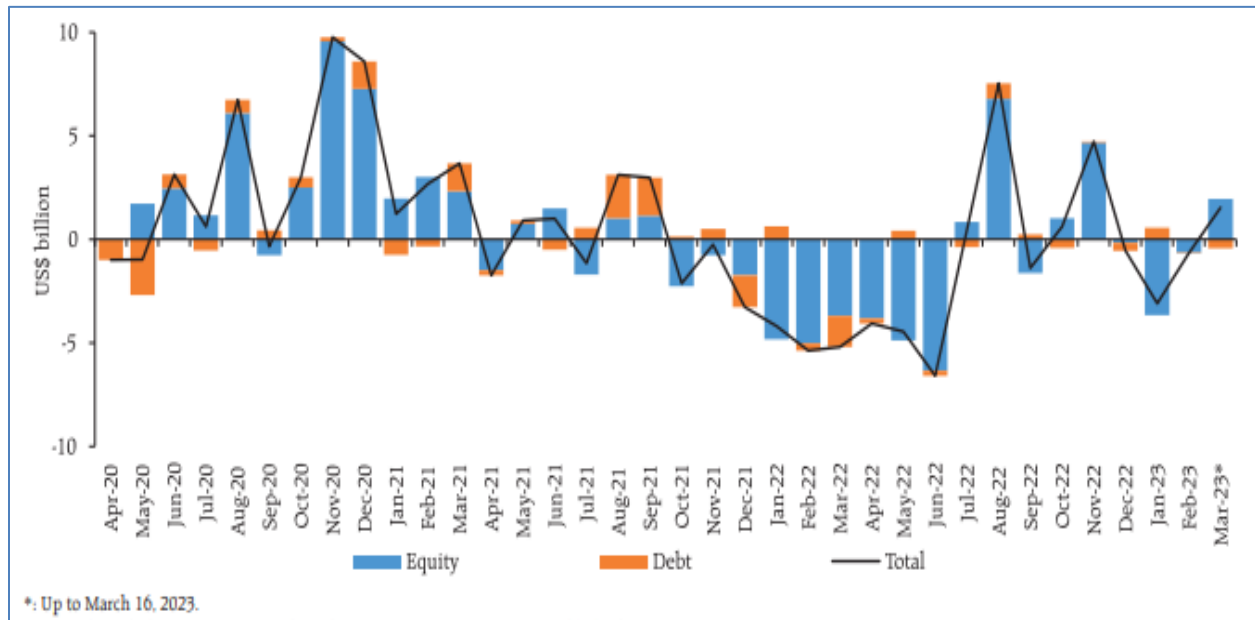
Source- NSO

The Monetary Policy Committee has decided to increase the policy repo rate under the liquidity adjustment facility (LAF) by 25 basis points to 6.50 %. The rate has been hiked by 250 bps since May 2022. Consequently, the standing deposit facility (SDF) rate stands adjusted to 6.25 % and the marginal standing facility (MSF) rate and the Bank Rate to 6.75 %.

The CMIE data for March, 2023 suggest that the unemployment rate has been at 7.80% in the month of March, 2023 which rose from 7.45% in February 2023. The urban unemployment rate stood at 8.51 % in March 2023, up from 7.93% in February 2023 and the rural unemployment rate stood at 7.47 % in March, 2023, up from 7.23% in February 2023. According to CMIE, the biggest loss of employment happened in the construction industry where employment fell by 9.58 million in March 2023. The next biggest loss of employment was in the retail trade industry where employment fell from 75.75 million in February 2023 to 67.65 million in March 2023.

In March 2023 (up to March 16), foreign portfolio investments (FPIs) turned positive after three months since November 2022 and recorded inflows of US\$ 1.5 billion. Most of the outflows in February 2023 were from the equity segment. Among major sectors, automobiles consumer durables and financial services were the leading recipient sectors of FPI in equities during 2022-23 (April-February), whereas information technology, oil, gas and consumable fuels, and metals and mining sectors recorded the highest outflows.

Figure- Foreign Portfolio Investments since April 2020



Source- National Securities Depository Limited

As of February 2023, India held the fifth largest foreign exchange reserves in the world. India’s foreign exchange reserves recorded a decline of US\$ 11.7 billion in February 2023 and stood at US\$ 560.0 billion as on March 10, 2023.

Russian oil production remained near pre-war levels in February, Russia’s exports to world markets fell by over 500 kb/d to 7.5 mb/d. Over the past year, 4.5 mb/d of Russian oil previously going to the EU, North America and OECD Asia Oceania has had to find alternative outlets. Russia accounted for ~40% and 20% of Indian and Chinese crude imports, respectively, in February. Both the countries combined over 70% of Russia’s crude exports last month.

With Russian crude oil shipments heading to Asia, large number of buyers for products backed out as the EU is emerging. In February, Russian product exports to the EU and its G7 allies slumped by nearly 2 mb/d versus pre-war levels. Simultaneously, exports to Asia grew by less than 300 kb/d. Shipments to Africa, Turkey and the Middle East increased by 300 kb/d, 240 kb/d and 175 kb/d, respectively, while Latin America received roughly the same as before the war. The lack of buyers saw oil pile up on the water and product exports drop by 650 kb/d y-o-y.

Natural gas spot prices at the U.S. Henry Hub benchmark averaged \$2.38 per million British thermal units (MMBtu) in February 2023 as compared to \$3.27 per million British thermal units (MMBtu) in January 2023. Natural gas prices started to decrease as natural gas is available in ample quantity to meet the demand of the consumers plus production is also running at a higher level as compared to the last year.

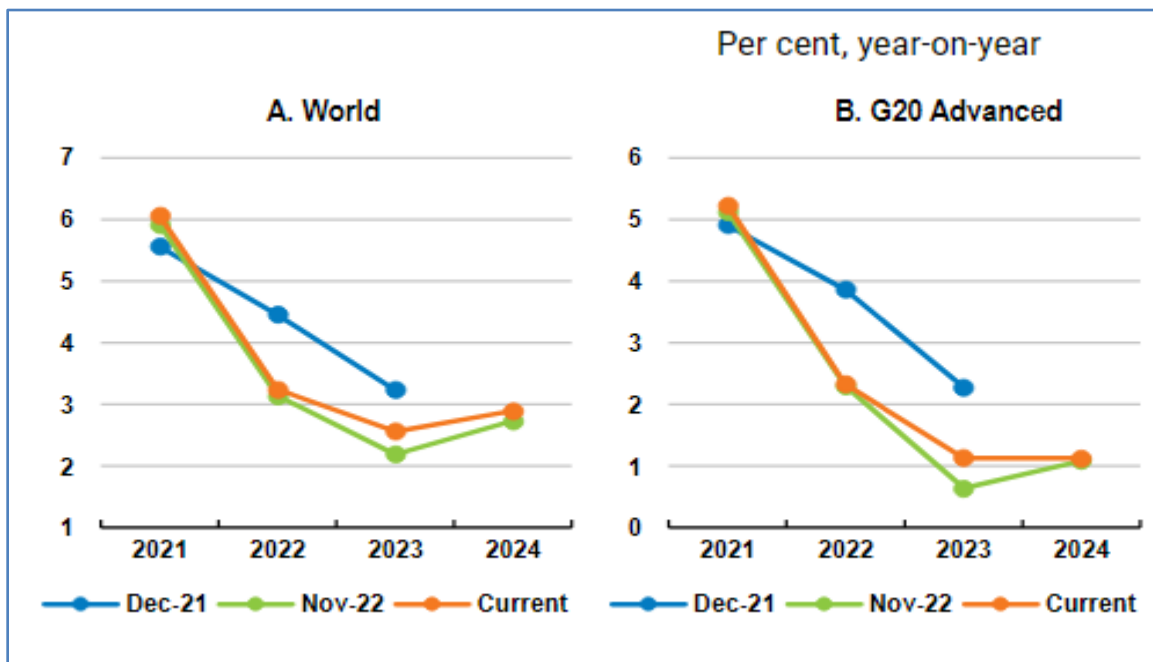
Economy in Focus

1. A snapshot of the global economy

Global economic growth

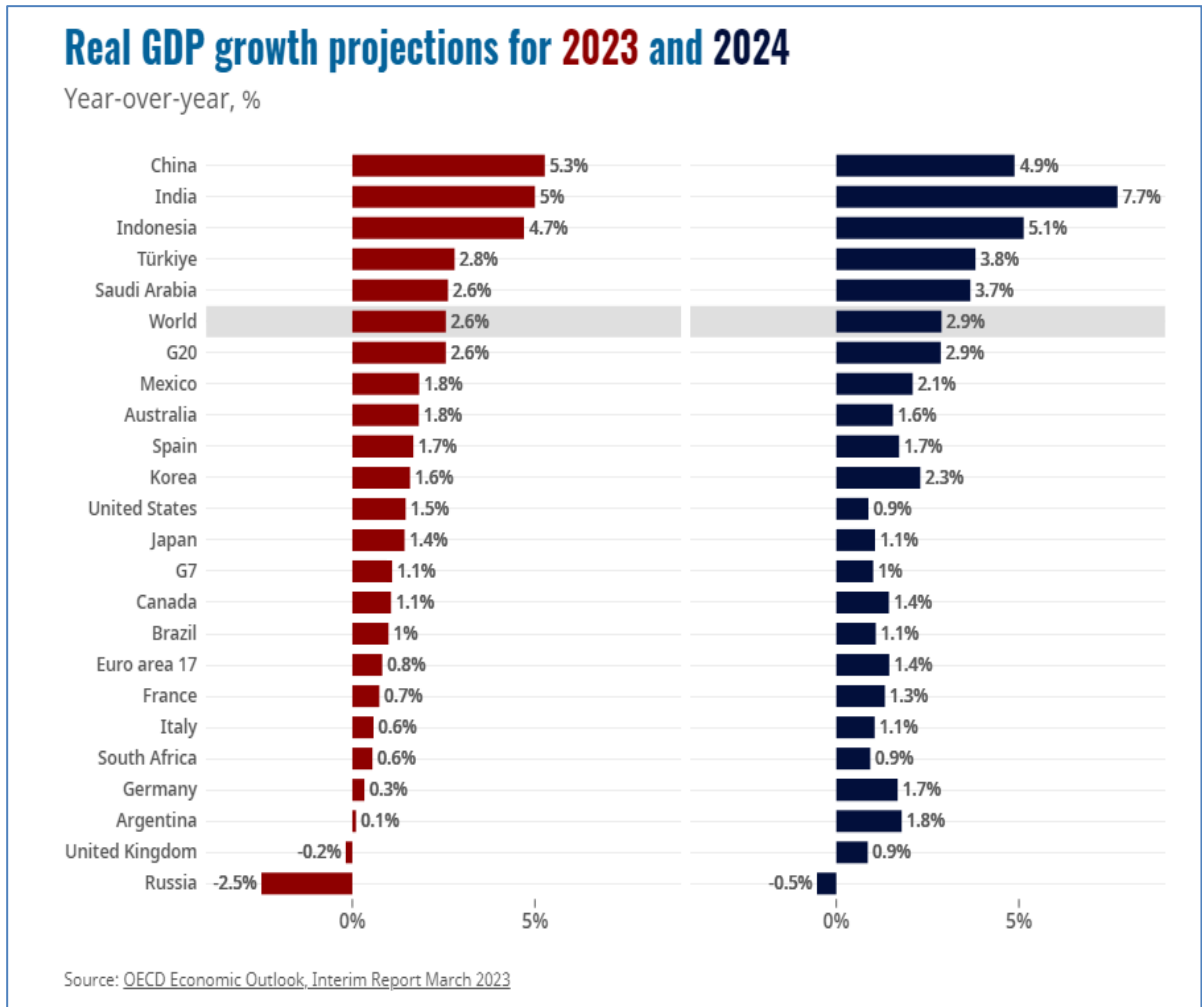
- According to OECD, global economy is projected to grow by 2.6% in FY 2023-24 and by 2.9% in FY 2024-25. The positive sentiment exists with improvement in business and consumer confidence, decline in food and energy prices, and the economic recovery in China.
- In the US, the annual GDP growth is projected at 1.5% in 2023 and 0.9% in 2024 as monetary policy moderates demand pressures. In the euro area, growth is projected to be 0.8% in 2023, and rise to 1.5% in 2024 as the effects of high energy prices fade.
- Growth in emerging-market economies in Asia are led by a rebound in China and moderate inflation pressures. Growth in China is expected to rebound to 5.3% this year and 4.9% in 2024. According to OECD, India's growth is projected to moderate to around 6% in FY 2023-24, amidst tighter financial conditions, and then recovering to around 7% in FY 2024-25.

Figure- Global GDP growth



Source- OECD Economic Outlook March 2023

Figure- Real GDP growth projections for FY 2023-24 & 2024-25

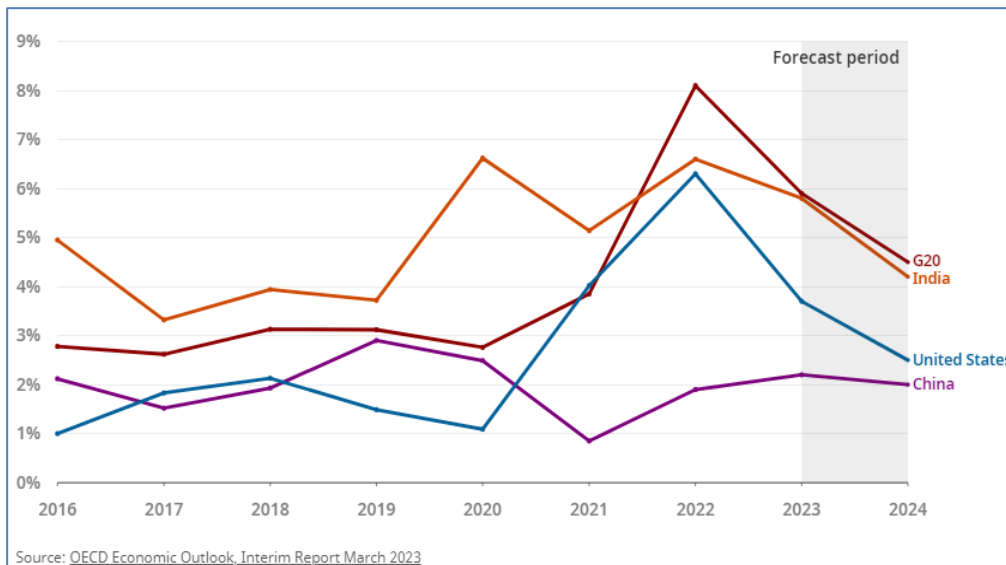


Source- OECD Economic Outlook March 2023

Global inflation

- According to OECD, headline inflation in the G20 economies is expected to decline to 4.5% in 2024. Core inflation in the G20 advanced economies is projected to average 4.0% in 2023 and 2.5% in 2024.
- While in US, core inflation is projected to average around 4% in 2023 and 2.5 % in 2024, in Japan, headline inflation is projected to be below 2% by the end of 2023 and to average 1.8% in 2024, mainly due to easing of food and energy prices.
- Headline inflation has begun to decline mainly due to the easing of energy and food prices. The decline in energy prices is due to the impact of a warm winter in Europe, which helped to preserve gas storage levels, as well as lower energy consumption in many countries.

Figure- Headline inflation



Source- OECD Economic Outlook March 2023

- Further, the recent decline in energy and food prices have also led to an improvement in global economic activity. The Brent oil prices have declined drastically from 130 \$ per barrel in June 2022 to 80 \$ per barrel in March 2023.

Figure- Energy prices

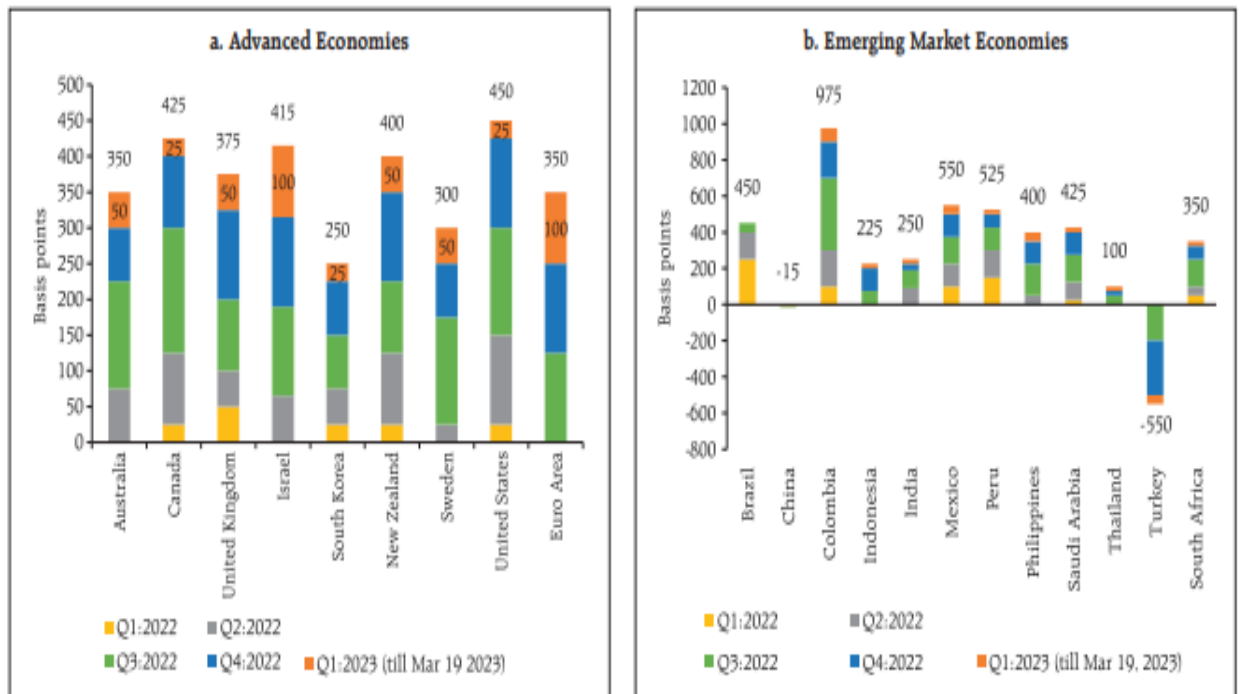


Source- OECD Economic Outlook March 2023

Central Banks stance to tame inflation

- Some of the Central banks have tightened monetary policy and have announced a pause to assess the economic impact of the cumulative increase in policy rates, including the Bank of Canada and the Central Bank of Brazil.
- The US Federal Reserve raised its benchmark interest rate by 25 bps in February, 2023 whereas other central banks, including in the UK, Euro area, New Zealand, and Israel, increased their policy rates by 50 bps each.
- The Euro area and Australia increased its key rates by 50 bps and 25 bps, respectively, in March 2023 while South Korea and Canada halted their rate hikes in February and March, respectively.
- Japan, however, continued to diverge by maintaining an accommodative stance.

Figure- Change in key policy rate



Source- Bloomberg

- Most EME central banks have paused, including Peru, Brazil, Chile, and Malaysia. In contrast, China continued with monetary accommodation and Turkey cut its policy rate by 50 bps in February to support its economy battered by the catastrophic earthquake.
- According to OECD, policy interest rates in the advanced economies are projected to peak at 5.5 % in the United States, 4.25 % in the euro area and the United Kingdom, and 4.1% in Australia in 2023. In Japan, where underlying price pressures remain relatively modest, an accommodative policy stance is assumed to be maintained.

Global Purchasers Managers Index

Many business firms have reported rising output in all major economies, with substantial jumps in the United States, the euro area, China, and the United Kingdom. The improvement in activity and sentiment in the advanced economies in early 2023 is due to the decline in global energy and food prices which boosts purchasing power, as well as the expected positive impact of China’s reopening on global activity.

Figure- Global output PMI



Source- S&P Global; OECD Economic Outlook March 2023

The global composite purchasing managers’ index (PMI) increased to 52.1 in February 2023, reflecting a broad-based pick-up across geographies, and marking the first expansion in six months.

2. World Bank warns of slowest decadal economic growth in 30 years

- According to the World Bank, the average global growth rate between 2022 and 2030 is expected to decline by roughly a third from the rate that prevailed in the first decade of this century i.e., to 2.2 % a year.
- In case of developing economies, the World bank projected the decline to be steep from 6 % a year between 2000 and 2010 to 4 % a year over the remainder of this decade. These estimates are arrived at the backdrop of Covid 19 crisis as well as the Russia-Ukraine war crisis.
- The World Bank projected potential GDP growth can be boosted by as much as 0.7 % points to an annual average rate of 2.9 % if countries adopt sustainable, growth-oriented policies.

3. US Fed raises rates by quarter point to fight inflation

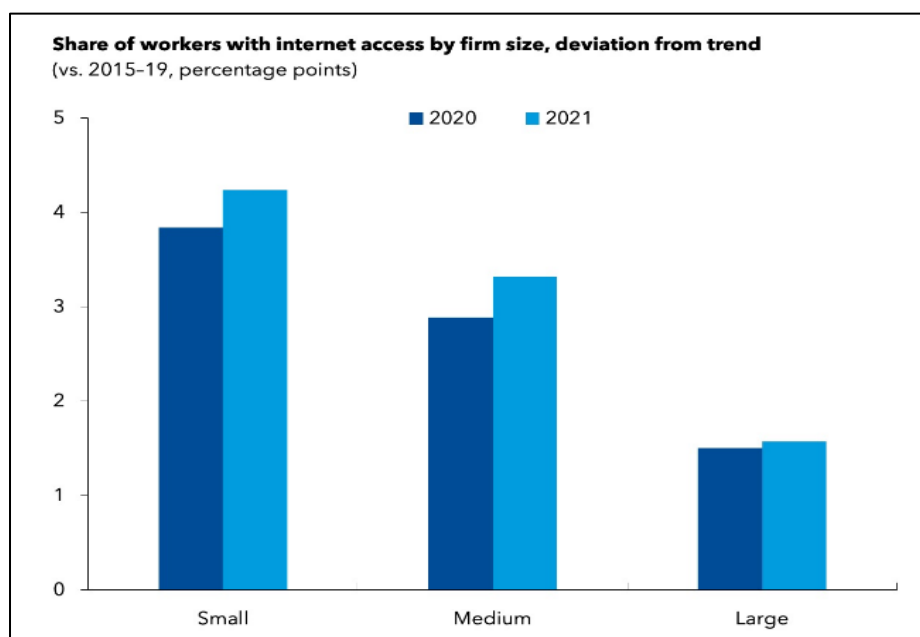
- The US Federal Reserve on March 22, 2023 announced a quarter point-hike in interest rates in order to control the rising inflation in the country.
- The Fed increased its funds target rate to a range of 4.75-5 %, a level last seen prior to the 2007-08 global financial crisis.
- Fed policymakers projected that policy rates will be around 5.1 % in FY 2023, unchanged from their median estimate from the last round of forecasts in December. The median 2024 projection rose to 4.3 % from 4.1 %.
- The policymakers remain firmly focused on bringing down inflation to their 2 % goal.

4. How Pandemic Accelerated Digital Transformation in Advanced Economies – IMF

As the world does its best to move on from the pandemic, one of the main features for many advanced economies has been greater adoption of digital technologies. Digitalization has far-reaching and long-lasting implications for productivity and labor markets.

According to IMF, across advanced economies, digitalization increased by an average of 6 % points. The results underscore how the pandemic accelerated digitalization, especially in economies or industries that had been lagging.

Digitalization has historically been lower in contact-intensive sectors, while small businesses tend to lag larger counterparts. Small firms, which have historically been less digitalized, enjoyed the biggest gains. Similarly, sectors that are least digitalized invested more in digitalization.



Source- IMF

The surge in digitalization saved many firms during the pandemic, helping them adapt to lockdowns through remote work and online operations. The possible gains of digitalization using two different productivity gauges include: labor productivity, which measures output per hours worked, and total factor productivity, which tracks output relative to the total inputs used in its production.

Labor force participation has already surpassed pre-crisis levels in the Netherlands, where over 20% of workers usually work from home. Working from home can generate significant welfare gains by reducing commutes and increasing time management flexibility. Working from home can boost attachment to the labor market and the labor supply, while supporting the environment by reducing commuting.

The pandemic accelerated adoption of digital technologies and shielded productivity. However, with persistent gaps across countries and sectors, policymakers must seize the moment and take steps to continue closing the digitalization gap and ensure that the gains from digitalization are broadly shared. Some of the measures include- promoting policies that maintain healthy competition in digital markets and adapting labor laws and regulations to facilitate remote work.

5. Global trade slows, but ‘green goods’ grow- UNCTAD

Global trade was worth a record \$32 trillion in 2022, but amid deteriorating economic conditions and rising uncertainties, growth turned negative in the last half of the year and is set to stagnate in the first half of 2023.

The silver lining was the strong performance of trade in “green goods” whose growth held strong throughout the year, according to UNCTAD’s latest Global Trade Update.

Among green goods that performed especially well were electric and hybrid vehicles (+25%), non-plastic packaging (+20%) and wind turbines (+10%). UNCTAD expects green industries to boom as countries scale up efforts to fight climate change and cut emissions. The organization, in its recent Technology and Innovation Report 2023, projected the global market for electric cars, solar and wind energy, green hydrogen and a dozen other green technologies to reach \$2.1 trillion by 2030 – four times more than their value at present.

Further, UNCTAD forecasts for the first quarter of 2023 show global trade in goods will increase by about 1% in terms of value. Meanwhile, trade in services is set to jump by about 3%, as demand continues to grow for information and communication technology services, and travel and tourism sectors recover further.



Source- UNCTAD

6. Indian Economy

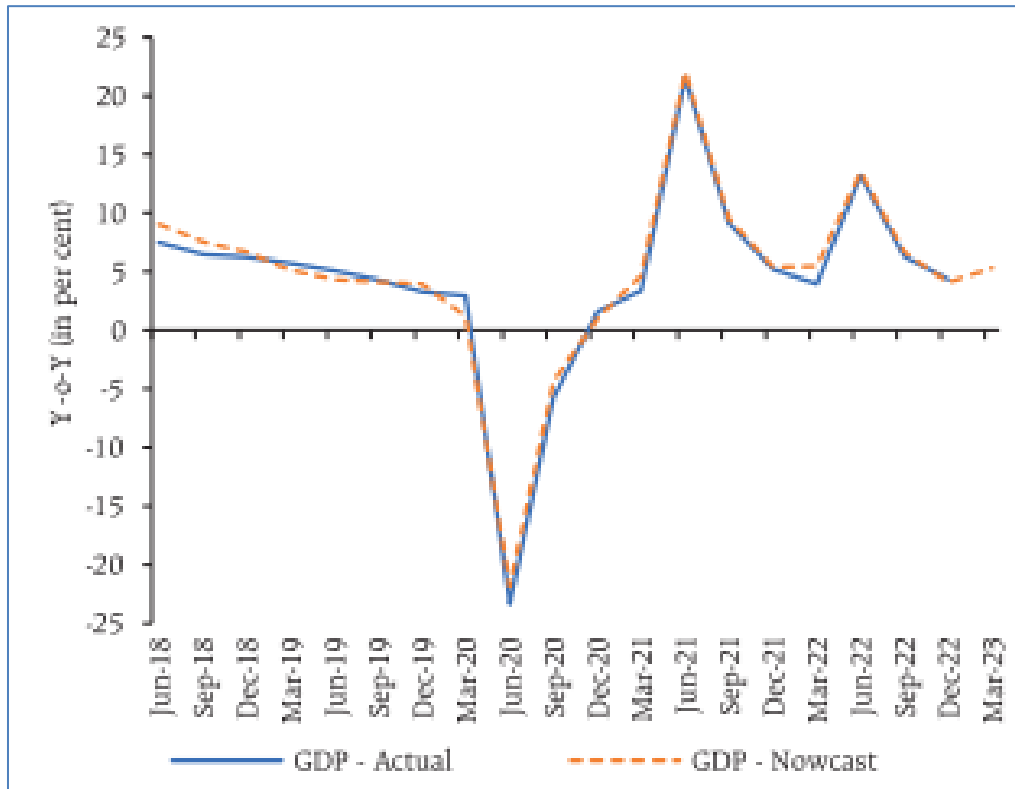
India's economic growth

According to the second advance estimates (SAE) of national income released by the National Statistical Office (NSO) on February 28, 2023, India's per capita GDP grew by 14.7 % in nominal terms and by 5.9 % in real terms in 2022-23. Over the last decade, these growth rates were 9.5 % and 4.5 %, respectively, implying significant improvements in economic activity and consumer confidence.

While on the demand side, the key drivers have been buoyant private consumption supported by rebound in government consumption and the pickup in export growth, on the supply side, the improvement was more broad-based, led by services and followed by industry.

According to NSO, the real GDP growth is estimated at 7.0 % for 2022-23 while during Q3:2022-23, the Indian economy grew at 4.4 %. For Q4:2022-23, real GDP is projected at 5.3%.

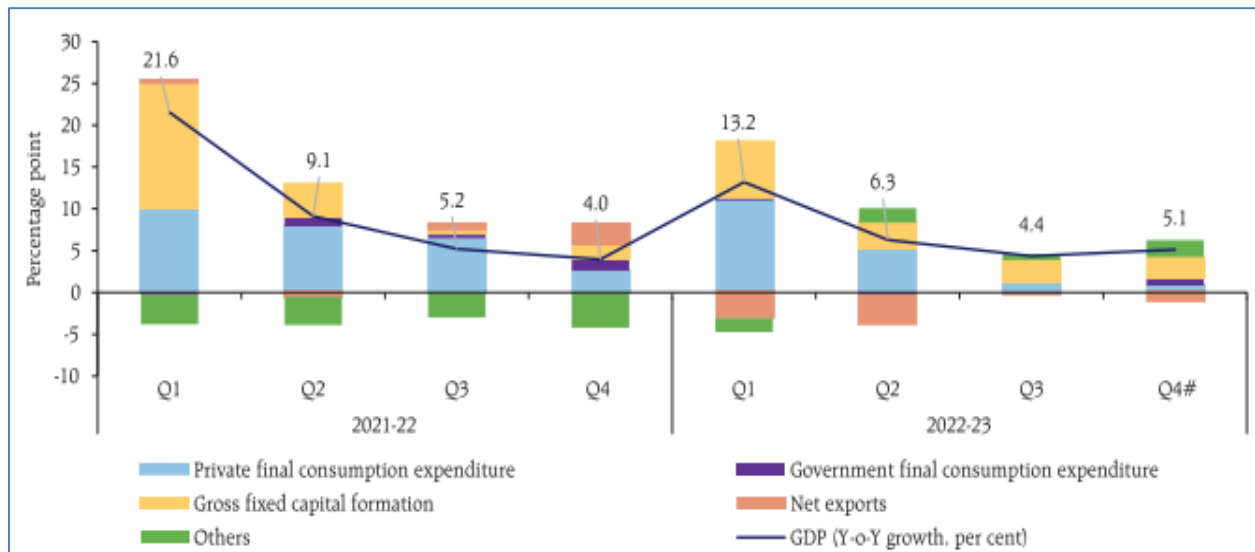
Figure- GDP forecast for March'2023



Source- NSO, RBI estimates

While gross fixed capital formation (GFCF) recorded a growth of 8.3 %, drawing strength from the Government’s thrust on infrastructure, the government final consumption expenditure (GFCE) eased in Q3:2022-23 in relation to the previous quarter, continuing to reflect the effects of fiscal consolidation. Lead indicators point towards sustained momentum in economic activity. E-way bill volumes and toll collections remained high. Electricity generation recorded strong growth in February 2023 as peak demand increased due to a rise in the mean temperature.

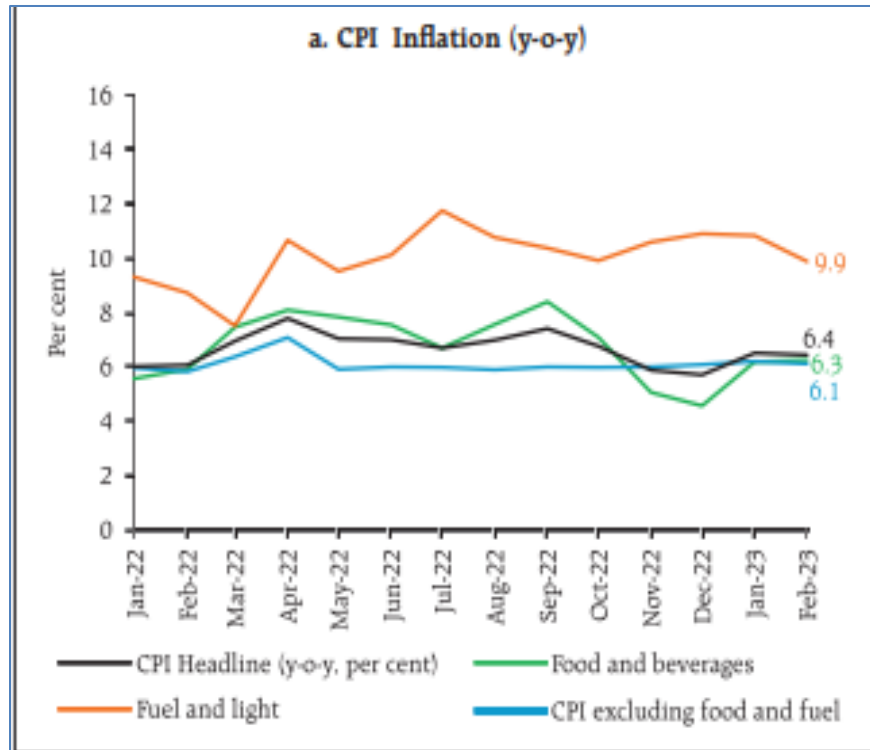
Figure-Weighted contributions to GDP Growth



Source- NSO, RBI estimates

Inflation in India

- India’s retail inflation for February slows down to 6.44 % as against 6.52 % in January 2023, according to data published by the Ministry of Statistics and Programme Implementation.
- Food price inflation eased marginally to 5.9 % in February, 2023 compared to 6 % in January, 2023.
- Inflation in the fuel and light group declined to 9.9 % in February from 10.8 % in January, mainly owing to a softening in inflation in respect of kerosene and firewood.
- The rural inflation inched lower to 6.72 % in February from 6.85 % a month ago, also it continued to remain above urban inflation, which rose to 6.10 % from 6 %.
- The annual rate of inflation based on all India Wholesale Price Index (WPI) number is 3.85% (Provisional) for the month of February, 2023 against 4.73% recorded in January, 2023. This is the ninth consecutive month of cooling in WPI inflation after a multi-decadal high of 16.63 % in May 2022. Decline in the rate of inflation in February, 2023 is primarily contributed by fall in prices of crude petroleum & natural gas, non-food articles, food products, minerals, computer, electronic & optical products, etc.

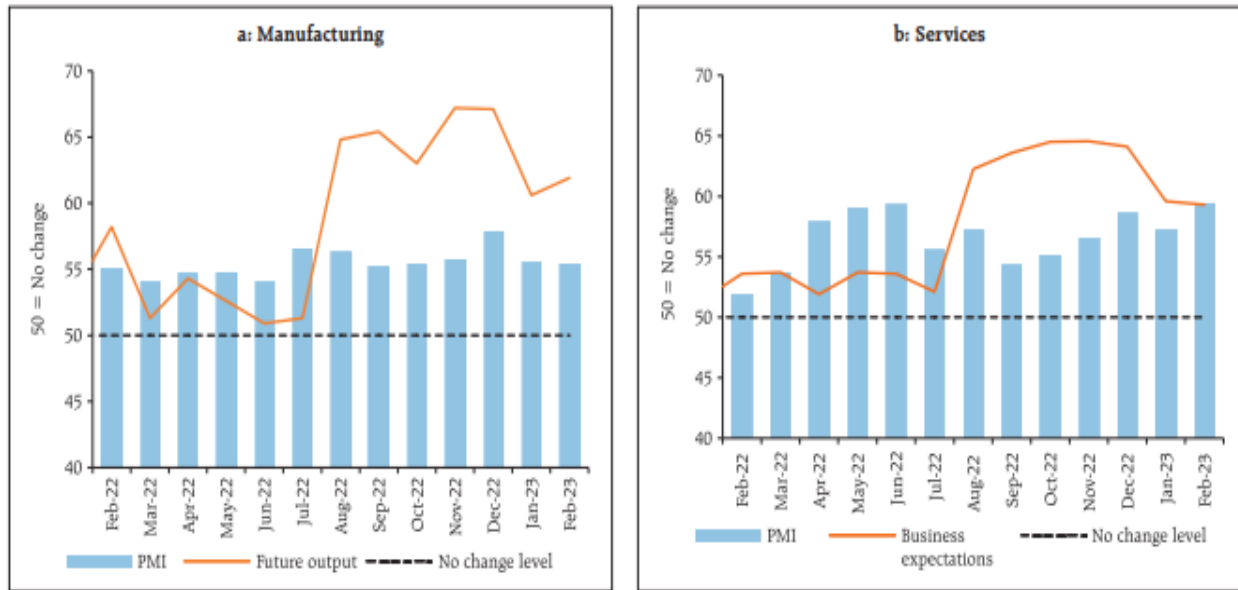


Source- NSO

- The Monetary Policy Committee has decided to increase the policy repo rate under the liquidity adjustment facility (LAF) by 25 basis points to 6.50 %. The rate has been hiked by 250 bps since May 2022.
- Consequently, the standing deposit facility (SDF) rate stands adjusted to 6.25 % and the marginal standing facility (MSF) rate and the Bank Rate to 6.75 %.

India PMI

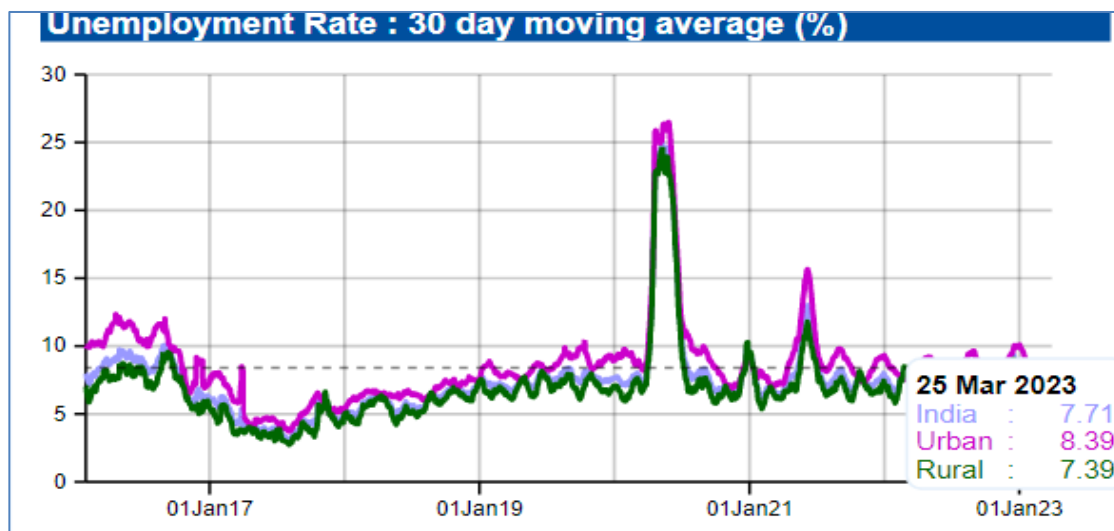
The headline PMI for manufacturing and services, stood at 55.3 and 59.4, respectively, and thus remained strongly in expansionary mode during February 2023. Domestic business growth fueled the expansion in the manufacturing sector with robust growth in output and new orders. Output in the service sector expanded at the strongest rate in 12 years, aided by a moderation in cost pressures and favorable demand conditions.



Source- S&P Global

Unemployment in India

The CMIE data for March, 2023 suggest that the unemployment rate has been at 7.80% in the month of March, 2023 which rose from 7.45% in February 2023. The urban unemployment rate stood at 8.51 %, up from 7.93% in February 2023 and the rural unemployment rate stood at 7.47 % in March, 2023, up from 7.23% in February 2023. According to CMIE, the biggest loss of employment happened in the construction industry where employment fell by 9.58 million in March 2023. The next biggest loss of employment was in the retail trade industry where employment fell from 75.75 million in February 2023 to 67.65 million in March 2023.



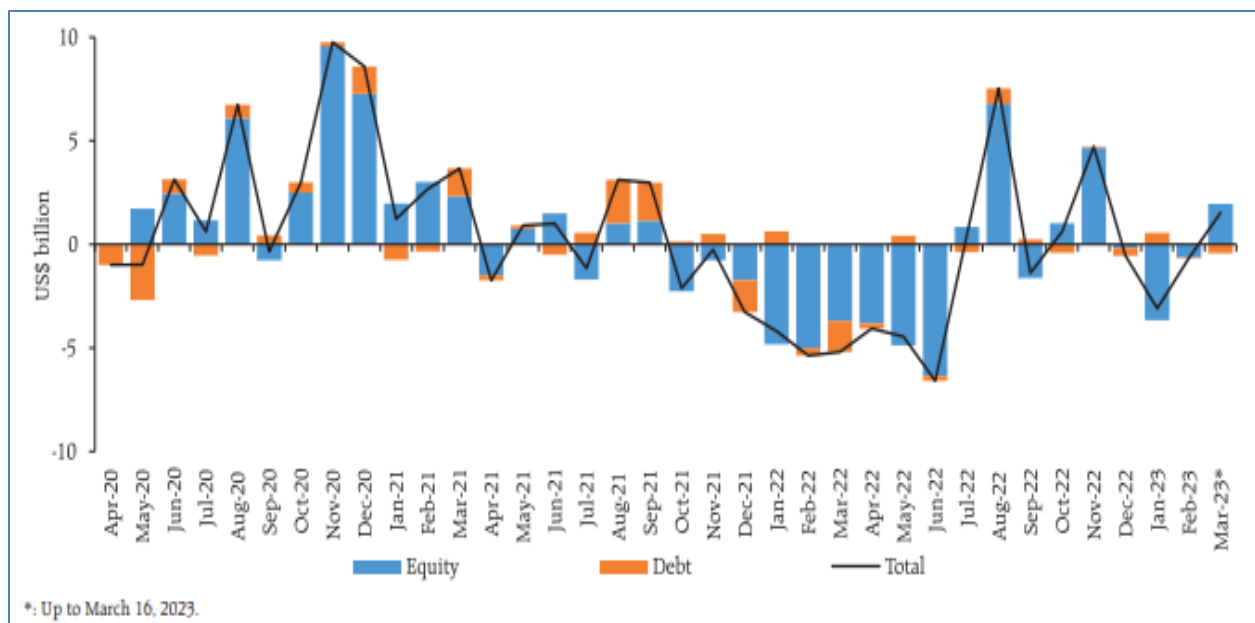
Source- CMIE

India's external position

India's FPI position

In March 2023 (up to March 16), foreign portfolio investments (FPIs) turned positive after three months since November 2022 and recorded inflows of US\$ 1.5 billion. Most of the outflows in February 2023 were from the equity segment. Among major sectors, automobiles consumer durables and financial services were the leading recipient sectors of FPI in equities during 2022-23 (April-February), whereas information technology, oil, gas and consumable fuels, and metals and mining sectors recorded the highest outflows.

Figure- Foreign Portfolio Investments since April 2020

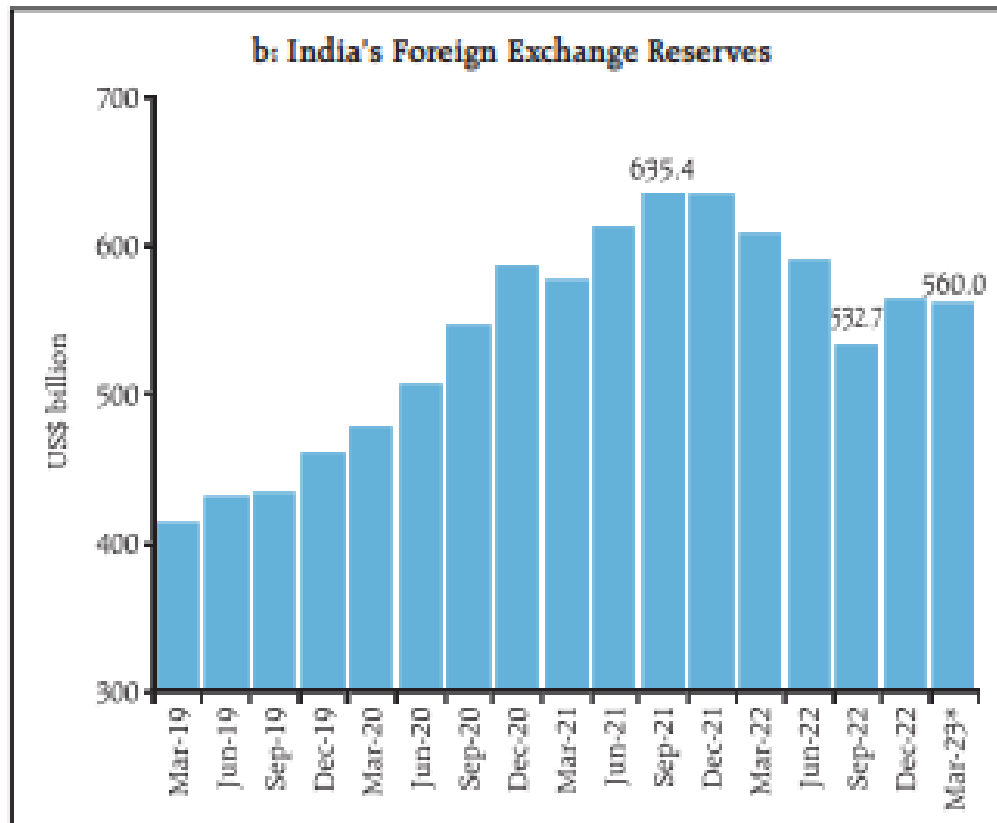


Source- National Securities Depository Limited

India's forex position

As of February 2023, India held the fifth largest foreign exchange reserves in the world. India's foreign exchange reserves recorded a decline of US\$ 11.7 billion in February 2023 and stood at US\$ 560.0 billion as on March 10, 2023, covering more than nine months of imports projected for 2022-23.

Figure- India's Foreign Exchange reserves



Source- RBI

In the foreign exchange market, the Indian rupee (INR) depreciated vis-à-vis the US dollar (m-o-m) in February 2023. The performance of the rupee was in line with many other EMEs.

India's foreign trade position

- According to provisional data released by the Ministry of Commerce, India's overall exports (Merchandise and Services combined) in February 2023 are estimated to be USD 63.02 Billion, exhibiting a growth of 7.81 % over the same period last year. Overall imports in February 2023 are estimated to be USD 65.85 Billion, exhibiting a negative growth of (-) 4.38 % over the same period last year.

Figure- Overall Trade during February 2023



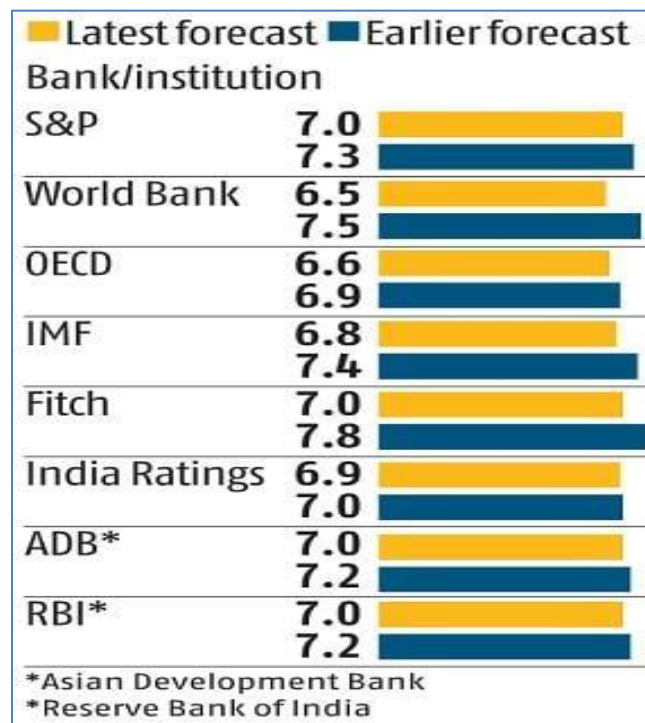
Source- Ministry of Commerce & Industry

- India’s merchandise exports have been on a declining trend since its peak in March 2022. Exports have fallen from USD 44.5 billion in March 2022 to USD 33.9 billion in February 2023. The decline in exports for February was on account of a fall in POL as well as non-POL exports. POL exports declined by 36 % to USD 4.9 billion in February 2023. Cooling global crude oil prices has led to a drop in the unit-realization of POL exports. In January 2023, global prices of crude oil declined by 4.1 % and further by 14.1 % in February. This adversely impacts earnings from POL exports.
- India’s imports of merchandise goods at USD 51.3 billion in February 2023 was 8.2 % lower than its level a year ago. Imports had fallen sharply by 1.4 % in February. Much of the decline in imports during February can be explained by the fall in petroleum and lubricants. POL imports declined by 5.5 % in February.
- For the April-February, 2022, India’s overall exports (Merchandise and Services combined) is estimated to exhibit a growth of 16.18 % over the same period last year (April-February 2021-22). As India’s domestic demand has remained steady amidst the global slump, overall imports in April-February 2022-23 is estimated to exhibit a growth of 19.93 % over the same period last year.

International agencies forecast India's GDP growth

S&P retains India's GDP growth forecast for 2023-24 at 6%

S&P Global Ratings has retained India's real GDP growth projection for 2023-24 at 6 % and projected GDP growth to rise at 6.9 % in 2024-25. For 2022-23, the economy is expected to grow by around 7 %. On inflation, S&P stated that retail inflation would ease to 5 % in 2023-24 from 6.8 % estimated for 2022-23. According to S&P, India's economy has been driven by domestic demand, and has become more responsive to the global economic cycle due to the increased exports of commodities.



Moody's raises GDP growth forecast for India to 5.5% in 2023

Global rating firm Moody's Investors Services on Wednesday raised India's growth projection to 5.5 % in 2023, up from the earlier projection of 4.8 % in November 2022, and to 6.5 % in 2024. India's growth rate in 2023 is the highest among G20 countries, according to Moody's projection. It is followed by China with 5 % growth and Indonesia 4.8 %. The US is expected to grow by 0.9 %, the Euro area by 0.5 %, Japan 1.5 % and the UK by -0.4 %.

According to Moody, the upward growth revisions are primarily due to the sharp increase in capital expenditure budget allocation to Rs 10 lakh crore (3.3 % of GDP) for fiscal year 2023-24, up from Rs 7.5 lakh crore for the fiscal year ending in March 2023.

Foreign Trade Policy 2023 unveiled-Commerce Ministry

Foreign Trade Policy (FTP), Commerce Ministry unveiled the Foreign Trade Policy 2023 on 31st March, 2023. The FTP benefits have been extended to e-commerce exports, which are estimated to grow to USD 200-300 billion by 2030. The value limit for exports through courier service is being increased from Rs 5 lakh to Rs 10 lakh per consignment.

The top takeaways from the policy:

FTP to provide the policy continuity and a responsive framework

- Approach of FTP: From Incentive to Remission
- Introduces scheme for remission of duties, taxes and govt levies on export goods
- Digitization of applications pertaining to FTP
- Automatic system-based approval of FTP applications
- Pilot introduced for cutting processing of applications related to advance authorization to 1 day
- Norms for recognition as Star Trading Houses eased
- Promotes trade in Indian Rupee
- Introduces provisions for merchanting trade
- Dairy sector to be exempted from maintaining average export obligation * Battery electric vehicles; vertical farming equipment & green hydrogen eligible for reduced obligation under Export Promotion Capital Goods (EPCG) scheme
- Special advance authorization scheme extended for apparel & clothing sector
- Extends all FTP benefits to e-commerce exports
- Value limit for exports through courier service increased from Rs 5 lakh to Rs 10 lakh per consignment
- Focus on engaging with states & districts through Districts as Export Hubs initiative
- Aims at streamlining export of dual use items under SCOMET policy
- Introduces amnesty scheme for one-time settlement of default in export obligation by advance authorization and EPCG authorization holders
- FTP to be dynamic and responsive to the emerging trade scenario
- Restructuring of Department of Commerce on the anvil to make it future-ready

India's new policy will also automate some trade approvals and cut charges for medium-sized and small businesses to secure some government-backed benefits. The current foreign trade policy (2015-20) is in force till March 31, 2022. The term of the previous five-year policy had ended in March 2020. However, it has been extended repeatedly in wake of Covid outbreak and resulting lockdowns. The last extension was given in September 2022 till March 31, 2023.

India's Exports Hit Record High of US\$750 Billion Despite Global Recession

According to India's Commerce Minister, Piyush Goyal, the country's exports had reached a historic high of US\$750 billion – a phenomenal 35 % increase from US\$500 billion recorded in financial year (FY) 2020–2021. India's Commerce Minister, Piyush Goyal, recently announced that the country's exports had reached a historic high of US\$750 billion – a phenomenal 35 % increase from US\$500 billion recorded in financial year (FY) 2020–2021. The new **Foreign Trade Policy (FTP) 2023** released on March 31 hopes to facilitate India's export ambitions.

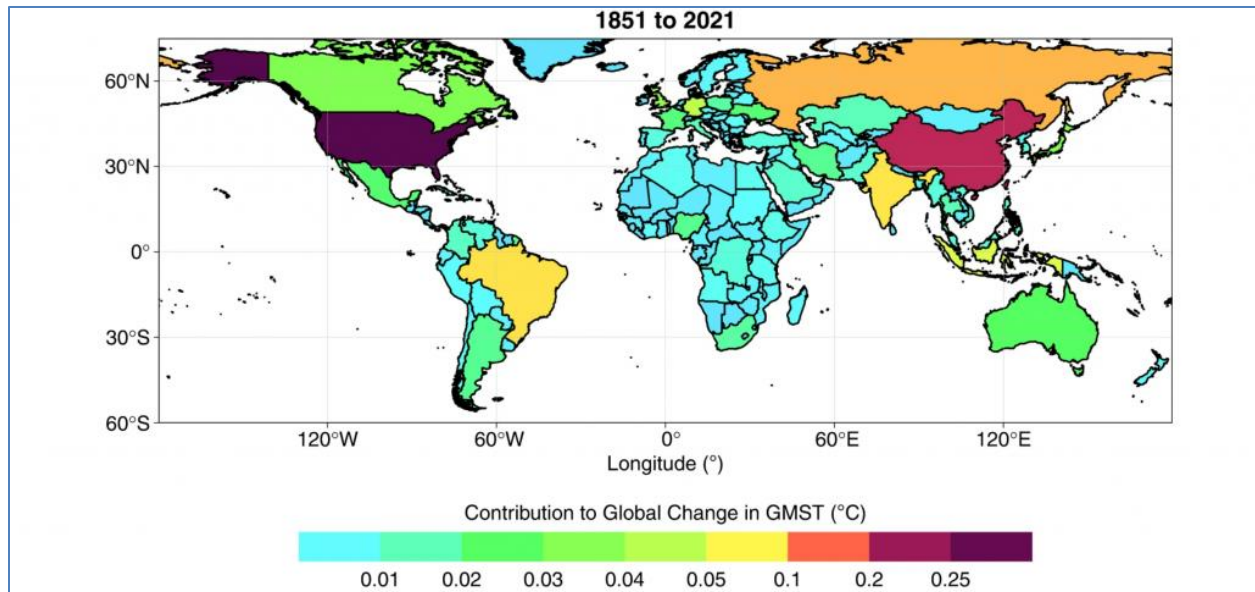
According to Commerce Minister, India has witnessed steady growth in its domestic market over the last decade, leading to a rise in foreign direct investment (FDI) and prioritizing the establishment of the fundamental blocks necessary for long-term and viable economic development. Additionally, India has improved its rankings in the global innovation index and the ease of doing business index, indicating a positive outlook for further economic expansion. Further, India is making significant strides in the renewable energy sector, positioning itself to become a global leader in this field. With the potential to become a major player in green ammonia and hydrogen production, the country can significantly, attract more foreign investment and trade.

According to A. Sakthivel, the President of the Federation of Indian Export Organizations (FIEO), exports are expected to reach US\$770-780 billion by the end of FY 2023, representing a high growth rate in the range of 15-16 %.

India ranks fifth in national contribution to warming: Study

- India is responsible for 0.08 degrees Celsius of warming from the 1850s through 2021, a new study estimated.
- India's emissions of carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) from 1851-2021 have resulted in 0.04°C, 0.03°C and 0.006°C of global warming over pre-industrial levels, respectively.
- Overall, the country ranks fifth among the top 10 contributors to warming, the research published in *Scientific Data* found.
- Researchers from Europe and the United States calculated national contributions to warming due to greenhouse gases such as CO₂, CH₄ and N₂O since the 1850s. Their analysis showed that CO₂ is responsible for 1.11°C of warming compared to methane's 0.41°C and nitrous oxide's 0.08°C.
- Further, the United States topped the list of countries, with a contribution of 0.28°C (17.3 %) of rise in temperature.
- China stood second with 0.20°C (12.3 %) of warming, followed by Russia's 0.10°C (6.1 %), Brazil's 0.08°C (4.9 %) and India's 0.08°C (4.8 %). Indonesia, Germany, the United Kingdom, Japan and Canada each contributed 0.03-0.05°C of warming.

Figure- National contributions to change in global mean surface temperature from historical emissions during three time periods



Tracking national contributions to climate change, can help understand the burden of responsibility carried by each country. It can also further inform the design of international policies that pursue equitable decarbonization pathways.

Lessons from Economics

Consumer Price Index (CPI)

The Consumer Price Index (CPI) is a measure of the aggregate price level in an economy. The CPI consists of a bundle of commonly purchased goods and services. The CPI measures the changes in the purchasing power of a country's currency, and the price level of a basket of goods and services. The CPI is usually computed monthly or quarterly.

Calculation of CPI

The Consumer Price Index or CPI assesses the changes in the price of a common basket of goods and services by comparing with the prices that are prevalent during the same period in a previous year.

The formula for calculating CPI is

$$\text{CPI} = (\text{Cost of market basket in a given year} / \text{Cost of market basket in base year}) \times 100$$

Importance of CPI

CPI is a widely used measure for determining inflation in an economy. Rising inflation results in the diminishing standard of living for the residents of a nation. Over a period, it will result in an increase in the cost of living.

A high inflation rate will result in increase in prices of goods and as a result there will be less manufacturing, which will result in loss of jobs.

Uses of the Consumer Price Index

- **To serve as an economic indicator:** The Consumer Price Index is a measure of the inflation faced by the end user. It can determine the purchasing power of the currency. It is also a proxy for the effectiveness of a government's economic policy.
- **To adjust other economic indicators for price changes:** For example, components of national income could be adjusted using CPI.

Types of CPI

- **CPI for Industrial Workers (CPI-IW)**- It tries to measure the prices of a fixed basket of goods and services utilised by Industrial Workers.
- **CPI for Agricultural Labourers (CPI-AL)**- The Labour Bureau compiles this data to revise minimum wages for agricultural labour in different States.
- **CPI for Rural Labourer (CPI-RL)**- The Labour Bureau compiles this data to revise minimum wages for rural labour.
- **CPI (Urban Non-Manual Employees) (CPI-UNME)** – The Labour Bureau publishes the CPI number of urban non-manual employees and captures the monthly measure of the average change over time in the prices paid by consumers for a market basket of consumer goods and services.

CPI in India

- Inflation in India declined to 6.4% in February, 2023 from January's 6.5%, 2023.
- RBI expects average inflation at 5.6% in Q4 of 2022-23. The RBI has hiked the policy repo rate by 25 bps to 6.50% in February 2023.
- According to RBI, retail inflation was mainly driven by higher food inflation as food inflation ranged between 4.2% and 8.6% during April and December 2022.
- Further, with declining international crude oil prices which are the principal drivers of inflation this financial year, the core inflation has returned to normal levels.
- For FY 2023-24, RBI has projected CPI inflation for the Q1 of FY24 at 5.0% and for Q2 of FY24 at 5.4% on the assumption of a normal monsoon.

Oil Market

Crude oil price – Monthly Review

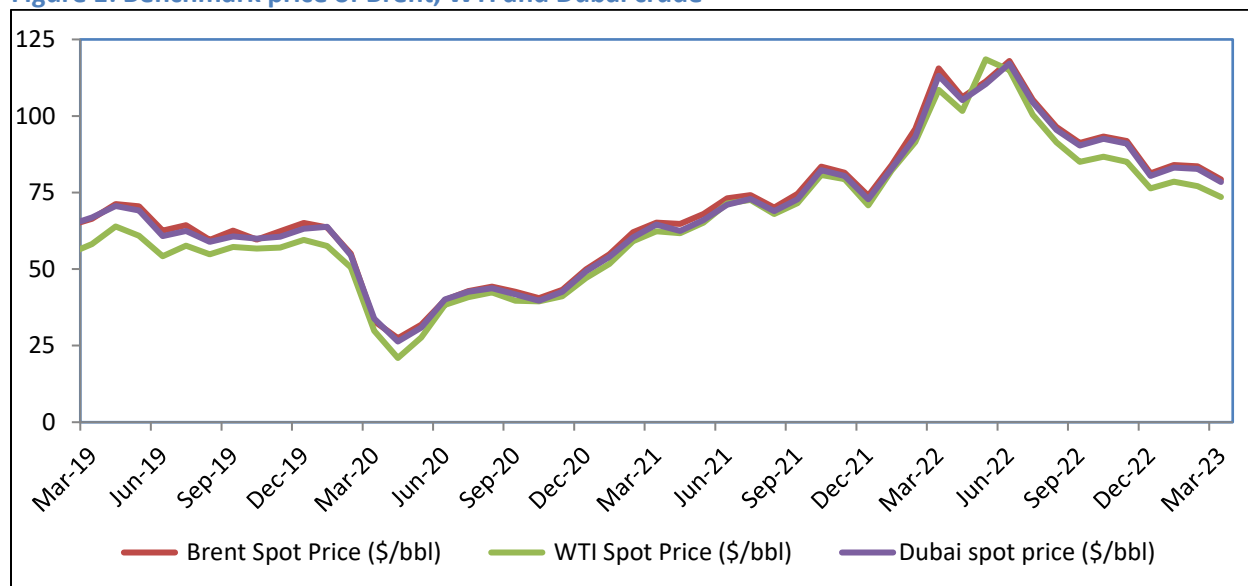
The worldwide scenario is caught in the cross-currents of supply outstripping still-lackluster demand, with stocks building to levels not seen in the previous months. Most of the supply overhang reflects ample Russian barrels racing to re-route to new destinations under the full force of EU embargoes. Despite the increasing dislocation in global trade, the rising stock cover has held the Brent crude oil futures in a relatively narrow \$80-85/bbl range since the start of the year.

Russian oil production remained near pre-war levels in February, Russia's exports to world markets fell by over 500 kb/d to 7.5 mb/d. Shipments to the EU plunged by 760 kb/d to just 580 kb/d. Over the past year, 4.5 mb/d of Russian oil previously going to the EU, North America and OECD Asia Oceania has had to find alternative outlets. Prospective buyers in Asia, namely India and, to a lesser extent, China, have snapped up discounted crude oil cargoes, but increasing volumes on the water suggest the share of Russian oil in their import mix may be getting too big for comfort. Russia accounted for ~40% and 20% of Indian and Chinese crude imports, respectively, in February. Both the countries combined over 70% of Russia's crude exports last month.

With Russian crude oil shipments heading to Asia, large number of buyers for products backed out as the EU is emerging. In February, Russian product exports to the EU and its G7 allies slumped by nearly 2 mb/d versus pre-war levels. Simultaneously, exports to Asia grew by less than 300 kb/d. Shipments to Africa, Turkey and the Middle East increased by 300 kb/d, 240 kb/d and 175 kb/d, respectively, while Latin America received roughly the same as before the war. The lack of buyers saw oil pile up on the water and product exports drop by 650 kb/d y-o-y.

Brent crude ranged an average to \$79.27 a barrel and WTI ranged to \$73.49 per barrel in the month of March.

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



Source: World Bank

- Brent crude price averaged \$79.27 per bbl in March 2023, down by 5.1% on a month on month (MoM) and 31.4% on year on year (YoY) basis, respectively.
- WTI crude price averaged \$73.49 per bbl in March 2023, down by 4.6% on a month on month (MoM) and 32.3% on year on year (YoY) basis, respectively.
- Dubai crude price averaged \$78.41 per bbl in March 2023, up down by 5.2% on a month on month (MoM) and 30.7% on year on year (YoY) basis, respectively.

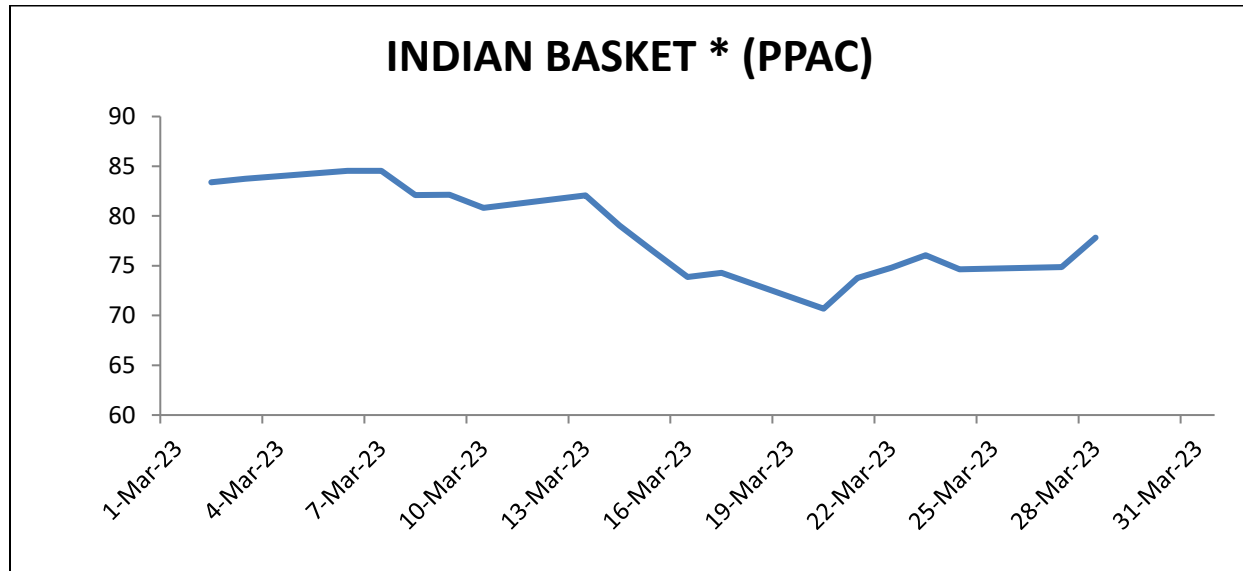
Table 1: Crude oil price in March, 2023

Crude oil	Price (\$/bbl)	MoM (%) change	YoY (%) change
Brent	79.27	-5.1%	-31.4%
WTI	73.49	-4.6%	-32.3%
Dubai	78.41	-5.2%	-30.7%

Source: World Bank

Indian Basket Crude oil price

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



Source: PPAC

- Indian crude basket price averaged \$78.54 per barrel in March 2023, down by 4.9% on Month on Month (M-o-M) and 31.3% on a year on year (Y-o-Y) basis, respectively.

Oil production situation

- World oil supply jumped 830 kb/d in February to 101.5 mb/d as the US and Canada rebounded strongly from winter storms and other outages. IEA expects non-OPEC+ to drive global output growth of 1.6 mb/d this year, enough to meet demand in 1H23 but falling short in the second half when seasonal trends and China's recovery are set to boost demand to record levels.
- Russian oil exports fell by 500 kb/d to 7.5 mb/d in February as the EU embargo on refined oil products came into force. Shipments to the EU fell by 800 kb/d to 600 kb/d, compared with more than 4 mb/d at the start of 2022. Sailings to China and India also fell, while cargoes without a destination surged by 600 kb/d to 800 kb/d. Export revenues plunged another \$2.7 bn to \$11.6 bn, down 42% on a year-ago.

Table 2: Non-OPEC liquids production in 2023, mb/d

Non-OPEC liquids production	2022	1Q23	2Q23	3Q23	4Q23	2023
Americas	26.84	27.44	27.89	28.25	28.62	28.06
of which US	19.21	19.67	20.26	20.45	20.68	20.27
Europe	3.58	3.74	3.74	3.80	3.93	3.80
Asia Pacific	0.48	0.49	0.47	0.49	0.48	0.48
Total OECD	30.90	31.67	32.11	32.55	33.03	32.34
China	4.48	4.52	4.52	4.49	4.49	4.50
India	0.77	0.78	0.79	0.78	0.78	0.78
Other Asia	2.31	2.38	2.37	2.34	2.36	2.36
Latin America	6.34	6.62	6.62	6.67	6.73	6.66
Middle East	3.29	3.27	3.31	3.34	3.34	3.32
Africa	1.32	1.32	1.33	1.35	1.34	1.34
Russia	11.03	10.90	10.00	10.10	10.15	10.28
Other Eurasia	2.83	3.04	3.05	3.01	3.05	3.04
Other Europe	0.11	0.10	0.10	0.10	0.10	0.10
Total Non-OECD	32.47	32.93	32.10	32.18	32.36	32.39
Total Non-OPEC production	63.36	64.60	64.21	64.72	65.39	64.73
Processing gains	2.40	2.47	2.47	2.47	2.47	2.47
Total Non-OPEC liquids production	65.76	67.07	66.68	67.19	67.86	67.20
Previous estimate	65.57	66.72	66.64	66.99	67.65	67.01
Revision	0.20	0.35	0.03	0.20	0.21	0.20

Source: OPEC

- From the above table, it can be inferred, that the total non-OPEC liquids production is expected to reach 67.20 mb/d by 2023.
- OPEC NGLs and non-conventional liquids production in 2022 is forecast to have grown by 0.1 mb/d to average 5.4 mb/d, and is expected to increase by 50 tb/d to average 5.4 mb/d in 2023.
- OPEC-13 crude oil production averaged 28.92 mb/d in February 2023, higher by 117 tb/d m-o-m.

Oil demand situation

- Following an 80 kb/d contraction in 4Q22, world oil demand growth is set to accelerate sharply over the course of 2023, from 710 kb/d in 1Q23 to 2.6 mb/d in 4Q23. Average annual growth is forecast to ease from 2.3 mb/d in 2022 to 2 mb/d, and global oil demand to reach a record 102 mb/d. Rebounding air traffic and the release of pent-up Chinese demand dominated the recovery.
- For the month of March 2023, Moscow signaled that it will cut output by 500 kb/d. Building stocks in the present will ease tensions as the market swings into deficit during the second half of the year when China is expected to drive world oil demand to record levels. Global demand is set to surge by 3.2 mb/d from 1Q23 to 4Q23, taking average growth for the year to 2 mb/d.

Table 3: World Oil demand, mb/d

	2022	1Q23	2Q23	3Q23	4Q23	2023	Growth	%
Total OECD	46.00	45.88	45.63	47.01	46.39	46.23	0.23	0.49
~ of which US	20.46	20.41	20.46	20.85	20.49	20.55	0.09	0.46
Total Non-OECD	53.58	55.40	55.14	55.13	57.00	55.67	2.09	3.90
~ of which India#	5.14	5.41	5.44	5.21	5.50	5.39	0.25	4.96
~ of which China	14.85	15.23	15.40	15.43	16.16	15.56	0.71	4.75
Total world	99.58	101.28	100.77	102.14	103.39	101.90	2.32	2.33

Source: OPEC monthly report, March 2023

Note: 2022* = Estimate and 2023 = Forecast. Totals may not add up due to independent rounding

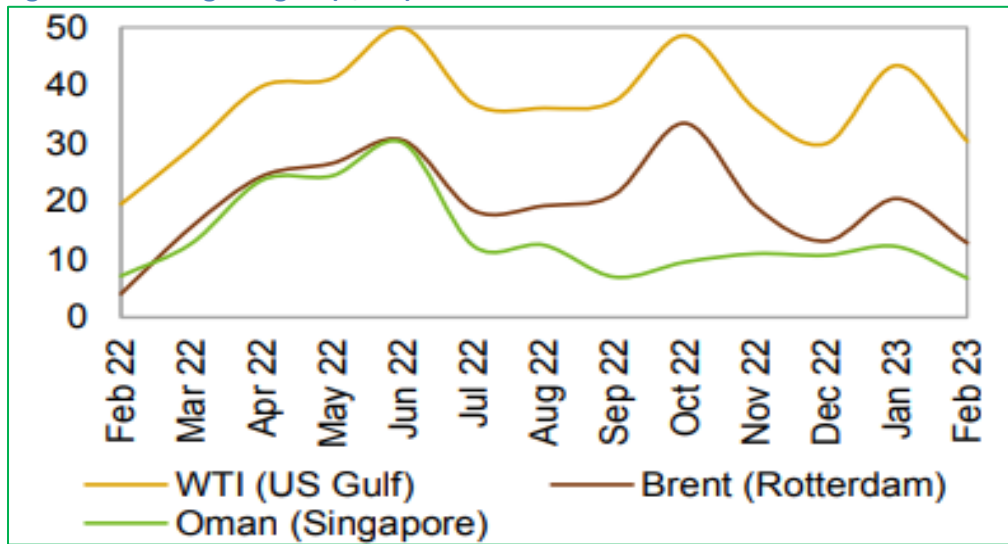
Global petroleum product prices

USGC refining margins against WTI suffered the steepest monthly loss compared to the other regions, as US refining economics underwent a downward correction from the counter seasonal highs seen in the previous month. Although all products across the barrel weakened, most of the downturn was attributed to jet fuel, as the robust performance seen in early January at the end of the holiday season subsided in February. The resulting slowdown in aviation fuel demand led to considerable jet kero inventory growth, which contributed to the massive decline in jet fuel crack spreads. In addition, weaker gasoil exports and growing availability of the fuel in the country positioned gasoil as the second strongest negative performer and further contributed to the weakness in refining margins.

Refinery margins in Rotterdam against Brent weakened, affected by strong gasoil stock builds within the region as Europe prepared and secured product supplies prior to the implementation of the 5th February sanctions on Russian products. Consequently, the strong product availability led to bearish market sentiment, suppressed fuel prices and weaker fundamentals – particularly for the products at the middle section of the barrel. This impact overshadowed the supportive effect of rising offline capacities in response to increasing refinery maintenance interventions.

Refinery throughput in Europe increased by 340 tb/d to average 9.45 mb/d according to preliminary data. Refinery margins against Brent in Europe averaged \$12.86/b in February, down by \$7.64/b compared with a month earlier, but were higher by \$8.77 y-o-y.

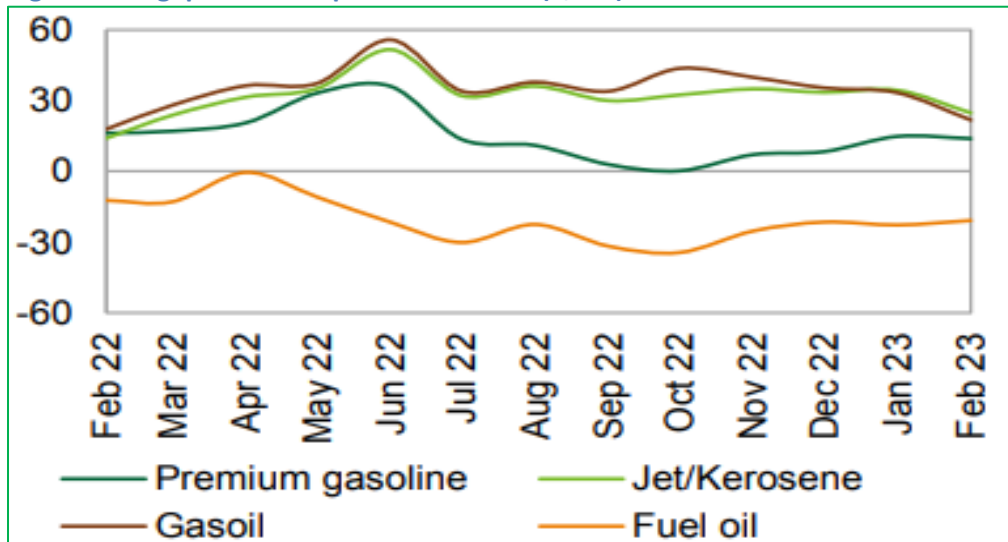
Figure 3: Refining Margins (\$/bbl)



Source: Argus and OPEC

The Asian gasoline 92 crack spread shed the previous month’s gains, mainly pressured by ample volume availability within the region. The Singapore gasoline crack spread against Dubai in February averaged \$13.81/b, and was down 93¢ m-o-m and \$2.34 y-o-y.

Figure 4: Singapore crack Spreads vs. Dubai (\$/bbl)



Source: Argus and OPEC

The Singapore gasoil crack spread represented the strongest negative performer across the barrel in February, just as in the West, for the second consecutive month. The Singapore gasoil crack spread against Oman averaged \$21.66/b, down \$11.57 m-o-m but up \$3.86 y-o-y.

Table 4: Singapore FOB, refined product prices (\$/bbl) in February 2023

Singapore product prices	Price (\$/b)	MoM (%) change	YoY (%) change
Naphtha	76.98	6.2%	-19.6%
Premium gasoline (unleaded 95)	99.36	0.5%	-10.3%
Regular gasoline (unleaded 92)	95.86	0.4%	-11.5%
Jet/Kerosene	106.77	-7.2%	0.6%
Gasoil/Diesel (50 ppm)	107.19	-7.3%	-2.8%
Fuel oil (180 cst 2.0% S)	101.05	-9.7%	-7.5%
Fuel oil (380 cst 3.5% S)	61.18	5.5%	-23.3%

Source: OPEC

Petroleum products consumption in India

Monthly Review:

- Overall consumption of all petroleum products in February 2023 with a volume of 18.5 MMT registered a growth of 5.18% on volume of 17.6 MMT in February 2022.
- MS (Petrol) consumption during the month of February 2023 with a volume of 2.78 MMT recorded a growth of 8.84% on volume of 2.55 MMT in February 2022.
- HSD (Diesel) consumption during the month of February 2023 with a volume of 6.70 MMT recorded a growth of to 7.43% on volume of 6.51 MMT in the month of February 2022.
- LPG consumption during the month of February 2023 with a volume of 2.39 MMT registered de-growth of 0.38% over the volume of 2.40 MMT in the month of February 2022.
- ATF consumption during February 2023 with a volume of 0.623 MMT registered a growth of 43.23% over the volume of 0.435 MMT in February 2022.
- Bitumen consumption during February 2023 with a volume of 0.801 MMT registered de-growth 9.18% over volume of 0.882 MMT in the month of February 2022.
- Kerosene consumption registered de-growth of 71.82% during the month of February 2023 as compared to February 2022.

Table 5: Petroleum products consumption in India, February 2023

CONSUMPTION OF PETROLEUM PRODUCTS (P)	Consumption in '000 MT	MoM (%) change	YoY (%) change
LPG	2,391	-4.6%	-0.4%
Naphtha	1,055	-9.0%	-11.3%
MS	2,776	-1.8%	8.8%
ATF	623	-6.6%	43.2%
SKO	33	0.0%	-71.8%
HSD	6,997	-2.5%	7.4%
LDO	56	12.0%	-34.7%
Lubricants & Greases	348	-1.7%	-12.8%
FO & LSHS	569	-5.3%	8.9%
Bitumen	801	21.5%	-9.2%
Petroleum coke	1,493	-1.5%	6.4%
Others	1,347	22.0%	24.7%
TOTAL	18,489	-0.9%	5.2%

Source: PPAC

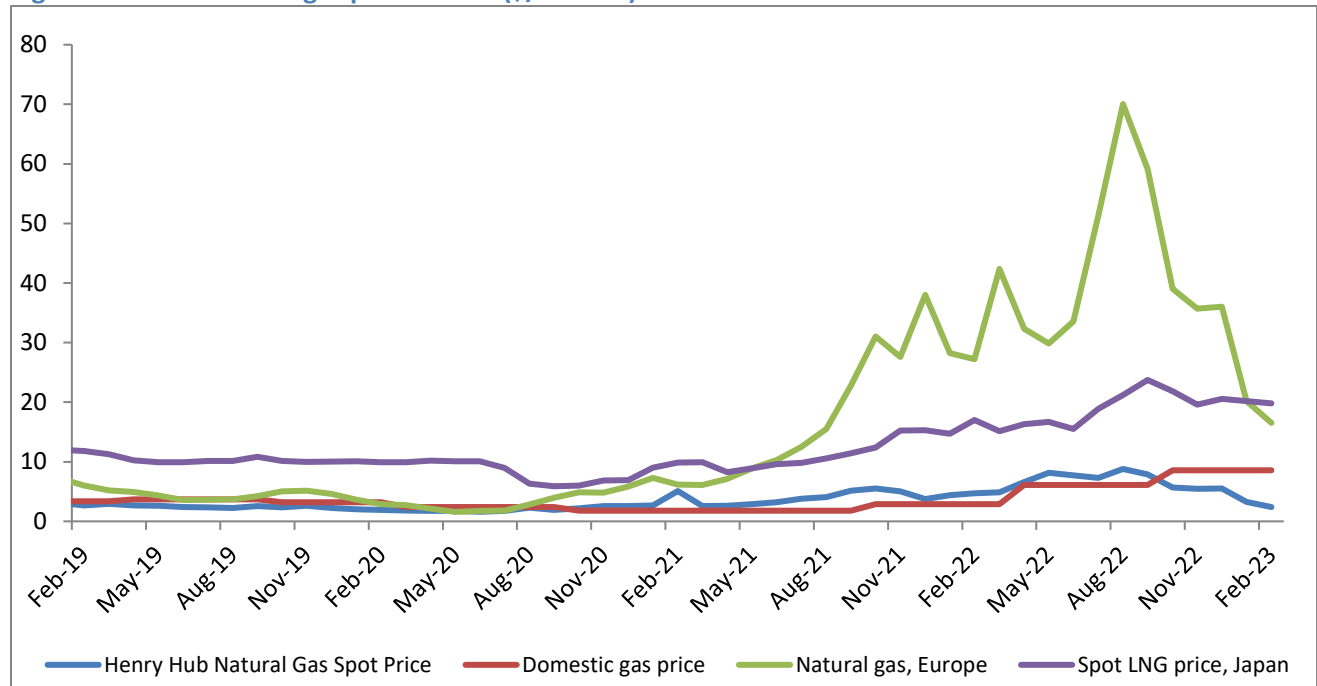
Natural Gas Market

Natural Gas Price – Monthly Review

- Natural gas spot prices at the U.S. Henry Hub benchmark averaged \$2.38 per million British thermal units (MMBtu) in February 2023. Natural gas prices started to decrease as plenty of natural gas is in storage to meet the requirements and production is running at a higher level as compared to last year, with 25 more rigs extracting natural rigs from the earth's crust in March 2023 than in March 2022.
- The natural gas spot price at the Title Transfer Facility (TTF) in the Netherlands in Europe traded at an average of \$16.54 per MMBtu. Price of natural gas at the Dutch Title Transfer Facility (TTF) decreased due to relatively mild weather and higher EU gas storage filling level, thereby leading to decrease in demand of natural gas.
- Japan Liquefied Natural Gas Import Price averaged at \$19.78 per MMBtu for February 2023, down from \$20.19 per MMBtu in January 2023. Japan's Ministry of Economy, Trade and Industry (METI) is planning a strategic LNG reserve to ensure the country has enough natural gas to meet domestic demand as global competition ramps up. METI's proposal is primarily aimed at preventing gas shortages and preparing Japan, one of the world's largest buyers of liquefied natural gas, for battling Europe for cargoes in the years ahead as the continent displaces Russian imports.
- The price of domestically produced natural gas is \$8.57 per million British thermal unit (MMBtu) from October 1, 2022 to March 31, 2023. The price of domestic gas price has been hiked by 40% from the previous revision which was \$6.1 per MMBtu for April 1, 2022, to September 30, 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 \$9.92 per MMBtu to \$12.46 per MMBtu.

Figure 5: Global natural gas price trends (\$/mmbtu)



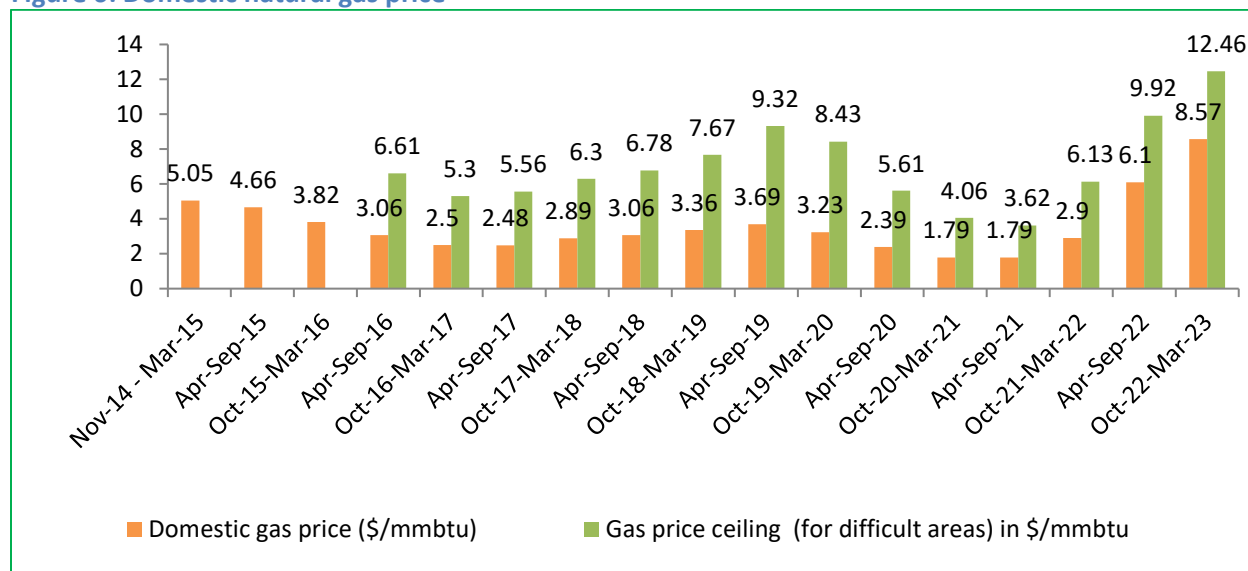
Source: EIA, World Bank

Table 6: Gas price, February 2023

Natural Gas	Price (\$/MMBTU)	MoM (%) change	YoY (%) change
India, Domestic gas price	8.57	0%	195.5%
India, Gas price ceiling – difficult areas	12.46	0%	103.3%
Henry Hub	2.38	-27.2%	-49.3%
Natural Gas, Europe	16.54	-18.0%	-39.3%
Liquefied Natural Gas, Japan	19.78	-2.0%	16.4%

Source: EIA, PPAC, World Bank

Figure 6: Domestic natural gas price



Source: PPAC

Indian Gas Market

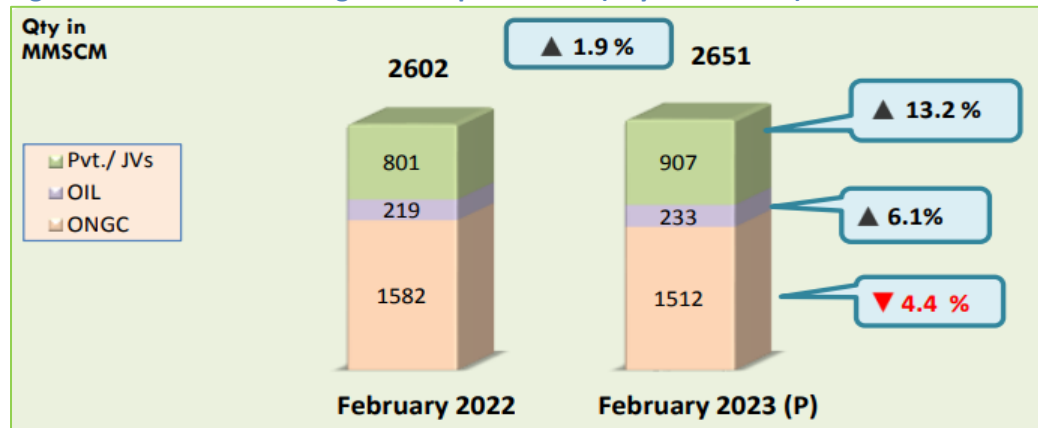
- Gross production of natural gas for the month of February 2023 was 2,651 MMSCM (increase of 1.9% over the corresponding month of the previous year).
- Total imports of LNG (provisional) during the month of February 2023 were 2,253 MMSCM (increase of 11.0% over the corresponding month of the previous year).
- Natural gas available for sale during February 2023 was 4,477 MMSCM (increase of 15.2% over the corresponding month of the previous year).
- Total consumption during February 2023 was 4,508 MMSCM (provisional). Major consumers were fertilizer (36%), City Gas Distribution (CGD) (21%), Power (13%), Refinery (6%) and Petrochemicals (3%).

Monthly Report on Natural gas production, imports and consumption – February 2023

1. Domestic Natural Gas Gross Production:

Domestic natural gas gross production for the month of February 2023 was 2,651 MMSCM (increase of 1.9% over the corresponding month of the previous year).

Figure 7: Domestic natural gas Gross production (Qty in MMSCM)

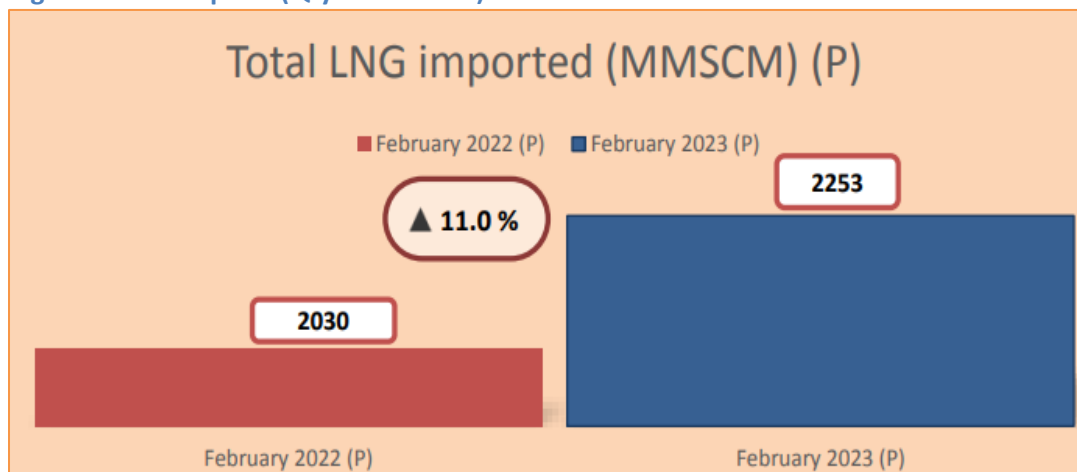


Source: PPAC

2. LNG imports:

Total imports of LNG (provisional) during the month of February 2023 were 2,253 MMSCM (increase of 11.0% over the corresponding month of the previous year) 2,030 MMSCM.

Figure 8: LNG imports (Qty in MMSCM)

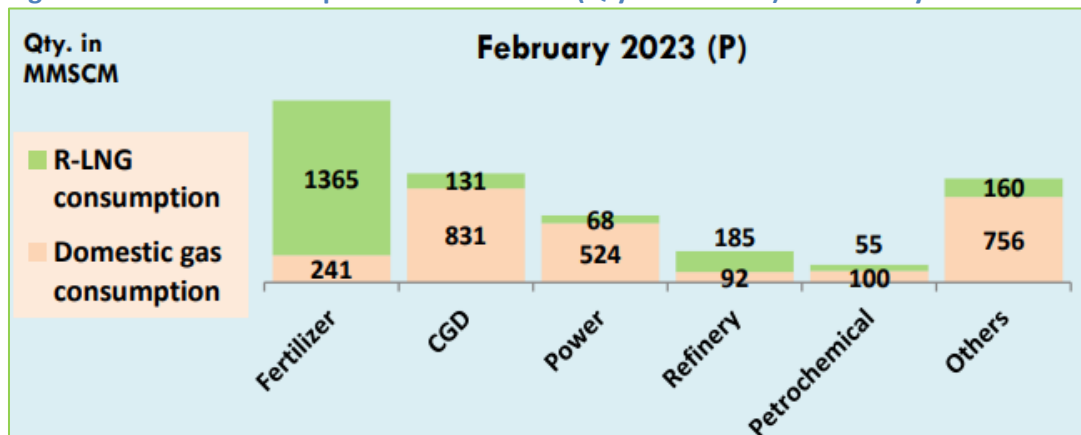


Source: PPAC

3. Sectoral Consumption of Natural Gas:

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

Figure 9: Sectoral Consumption of Natural Gas (Qty in MMSCM) in February 2023



Source: PPAC

Key developments in Oil & Gas sector

- **Monthly Production Report for February, 2023**

1. Production of Crude Oil

Indigenous crude oil and condensate production during February 2023 was down by 4.9% than that of February 2022 as compared to a de-growth of 1.1% during January 2022. OIL registered a growth of 6.8% and ONGC registered a de-growth of 4.5% during February 2023 as compared to February 2022. PSC registered de-growth of 11.0% during February 2023 as compared to February 2022. De-growth of 1.6% was registered in the total crude oil and condensate production during April - February 2023 over the corresponding period of the previous year.

2. Production of Natural Gas

Gross production of natural gas for the month of February 2023 (P) was 2651 MMSCM which was higher by 1.9% compared with the corresponding month of the previous year. The cumulative gross production of natural gas of 31494 MMSCM for the current financial year till February 2023 was higher by 1.1% compared with the corresponding period of the previous year.

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

Crude oil processed during February 2023 was 20.8 MMT, which was 2.0% higher than February 2022 as compared to a growth of 5.1% during January 2022. Growth of 5.9% was registered in the total crude oil processing during April- February 2023 over the corresponding period of the previous year.

4. **Production of Petroleum Products**

Production of petroleum products saw a growth of 3.3% during February 2023 over February 2022 as compared to a growth of 4.5% during January 2022. Growth of 5.2% was registered in the total POL production during April- February 2023 over the corresponding period of the previous year.

Key Policy developments in Energy sector

Cabinet approved targeted subsidy to Pradhan Mantri Ujjwala Yojana Consumers

The Cabinet Committee on Economic Affairs, chaired by the Hon'ble Prime Minister Shri Narendra Modi, has approved a subsidy of Rs.200 per 14.2 kg cylinder for up to 12 refills per year to be provided to the beneficiaries of Pradhan Mantri Ujjwala Yojana (PMUY). As on 1st March 2023, there were 9.59 crore PMUY beneficiaries.

The total expenditure incurred was Rs.6,100 crore for financial year 2022-23 and project at Rs.7,680 crore for 2023-24. The subsidy is credited directly to bank accounts of the eligible beneficiaries. Public Sector Oil Marketing Companies namely Indian Oil Corporation Ltd. (IOCL), Bharat Petroleum Corporation Ltd. (BPCL) and Hindustan Petroleum Corporation Ltd. (HPCL) have already been providing this subsidy since 22nd May, 2022.

There has been a sharp increase in international prices of LPG due to various geopolitical reasons. It is important to shield PMUY beneficiaries from high LPG prices.

Targeted support to PMUY consumers encourages them for continuous usage of LPG. It is important to ensure sustained LPG adoption and usage among PMUY consumers so that they can completely switch to cleaner cooking fuel. Average LPG consumption of PMUY consumers has increased by 20 percent from 3.01 refills in 2019-20 to 3.68 in 2021-22. All PMUY beneficiaries are eligible for this targeted subsidy.

To make Liquefied Petroleum Gas (LPG), a clean cooking fuel, available to the rural and deprived poor households, Government launched Pradhan Mantri Ujjwala Yojana in May 2016, to provide deposit free LPG connections to adult women of poor households.

Power Foundation and Climate Policy Initiative India Pvt. Ltd. signed MoU to advance Sustainable Development in Power Sector

The Power Foundation and Climate Policy Initiative India Pvt. Ltd. (CPI) have signed a Memorandum of Understanding (MoU) to work together to support India's transition towards a cleaner energy future. The MoU was signed at a function in New Delhi by Dr Sambit Basu, Director (Programs) & Chief Energy Economist on behalf of Power Foundation, and Shri Dhruba Purkayastha, Director, on behalf of Climate Policy Initiative India Pvt. Ltd in the presence of Director General of Power Foundation, Shri Sanjiv Nandan Sahai.

Under the MoU, Power Foundation and CPI will work together to promote distributed renewable energy, capacity building of relevant stakeholders, supporting India's energy transition, and managing transition-related risks. This MoU intends to provide an overarching framework under which collaborations and partnerships may be developed between the two organizations in the areas of sustainable development of the power sector.

Speaking on the occasion, Dr Basu said, "As India works to fulfill its global climate change commitments, collaborations like this one between CPI and Power Foundation are crucial. By working together to promote sustainable development in the power sector, we can build a cleaner, more resilient energy system for the future."

NTPC Green Energy Limited (NGEL) signed pact with Indian Oil Corporation Limited (IOCL) for setting up renewable energy projects

NGEL, a wholly owned subsidiary of NTPC Limited, has signed a Joint Venture Agreement with IOCL for setting up of renewable energy projects to meet Round the Clock power requirement of IOCL Refineries. The JV Agreement was signed by Mr. Kausik Basu, ED (M&I), IOCL and Mr. V. V. Sivakumar, GM, NGEL in the presence of Mr. Gurdeep Singh, CMD, NTPC Limited and Mr. Shrikant Madhav Vaidya, Chairman, IOCL.

NTPC Limited, through its wholly owned subsidiary, NGEL, has set an ambitious target of building a renewable generation portfolio of 60 GW over the next decade to aggressively pursue its green energy business.

The signing of this Joint Venture Agreement between the two Maharatna behemoths will enable NTPC Limited and Indian Oil to meet the Government of India's Clean Energy Targets in their respective core businesses.

Mr. D. K. Patel, Director (HR), NTPC Limited, Mr. U.K. Bhattacharya, Director (Projects), NTPC Limited, Mr. Jaikumar Srinivasan, Director (Finance), NTPC Limited, Ms. Sukla Mistry, Director (R), IOCL and other senior officials from NGEL, NTPC REL, and IOCL were present on the occasion.

NTPC Renewable Energy Ltd. signed MoU with Indian Army for the implementation of Green Hydrogen Projects in Army Establishments

NTPC REL has signed an MoU with Indian Army for setting up Green Hydrogen Projects in its establishments on Build, Own and Operate (BOO) model. The intent is to reduce complex logistics,

dependence on fossil fuels and to accelerate decarbonization. The MoU was signed by Mr. Mohit Bhargava, CEO (NTPC REL) and Lt. General Rajinder Dewan, PVSM, AVSM, VSM, QMG.

Under the ambit of the MoU, a joint identification of potential sites would be undertaken for setting up of green hydrogen projects for supplying electricity, in a phased manner. NTPC REL will also design, develop, and install renewable energy projects (solar, wind etc.) for the Indian Army.

The MoU signals an advanced approach for modernization by Indian Army and NTPC's commitment to assist the nation in its decarbonization goals. This agreement is a first of its kind and ushers in a new era of border security backed with energy security for the lines of defence of the country.

Various locations of Indian Army are powered through DG sets in off-grid locations. The Indian Army, in line with Hon'ble Prime Minister's vision of "Panchamrit" and Carbon Neutral Ladakh, intends to reduce the dependence on fossil fuel and their logistics for power generation and heat.

NTPC REL is wholly subsidiary of NTPC Limited and currently it has a portfolio of 3.6 GW RE capacity under construction. NTPC Group has ambitious plans of 60 GW of RE capacity by the year 2032 and currently it has 3.2 GW of installed RE capacity.

NTPC has taken several initiatives in the Hydrogen technologies and already commissioned Hydrogen blending with Piped Natural Gas project at Gujarat and currently executing hydrogen-based mobility project (in Ladakh and Delhi) and green methanol project in MP.

IREDA gets 'Infrastructure Finance Company' status from RBI

The Reserve Bank of India (RBI) has granted an 'Infrastructure Finance Company (IFC)' status to Indian Renewable Energy Development Agency (IREDA) today. It was earlier classified as 'Investment and Credit Company (ICC)'.

With the IFC status, IREDA will be able to take higher exposure in RE financing. The IFC status will also help the company to access wider investor base for fund mobilisation, resulting in competitive rates for fund raising.

The recognition of IREDA as an IFC will increase the investors' confidence, enhance the brand value, and generate positive outlook in the market. The grant of IFC status is a recognition of IREDA's 36 years of infrastructure financing and development with focused development of Renewable Energy. With IFC status, IREDA will keep contributing towards Govt. of India's target of 500 GW installed capacity of non-fossil fuels by 2030.

Shri Pradip Kumar Das, Chairman and Managing Director of IREDA, said, "The IFC status is a significant milestone for IREDA and will enable us to maintain our leading position as a financier of RE space. IREDA will continue to play a motherly role for development of RE sector."

IREDA has been promoting, developing and financing new and renewable sources of energy with the motto: "Energy for Ever" since 1987. It finances all RE technologies and value chain such as solar, wind,

hydro, bio-energy, waste to energy, energy efficiency, e-mobility, battery storage, biofuel and new and emerging technologies.

Govt. decreased windfall tax on crude oil; export duty on diesel hiked

The government has decreased windfall tax on crude oil to Rs 3,500 per tonne from Rs 4,400 per tonne. The export duty on diesel has been hiked to ₹1 per litre from ₹0.50 per litre. However, the export duty on petrol and aviation turbine fuel (ATF) has been exempted.

India first imposed windfall profit taxes on July 1, joining a growing number of nations that tax super normal profits of energy companies. At that time, export duties of ₹6 per litre (\$12 per barrel) each were levied on petrol and ATF and ₹13 a litre (\$26 a barrel) on diesel. A ₹23,250 per tonne (\$40 per barrel) windfall profit tax on domestic crude production was also levied. The export tax on petrol has since been scrapped. The tax rates are reviewed every fortnight based on average oil prices in the country.

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