FIPI

Federation of Indian Petroleum Industry

POLICY & ECONOMIC REPORT

OIL & GAS MARKET

SEPTEMBER 2023

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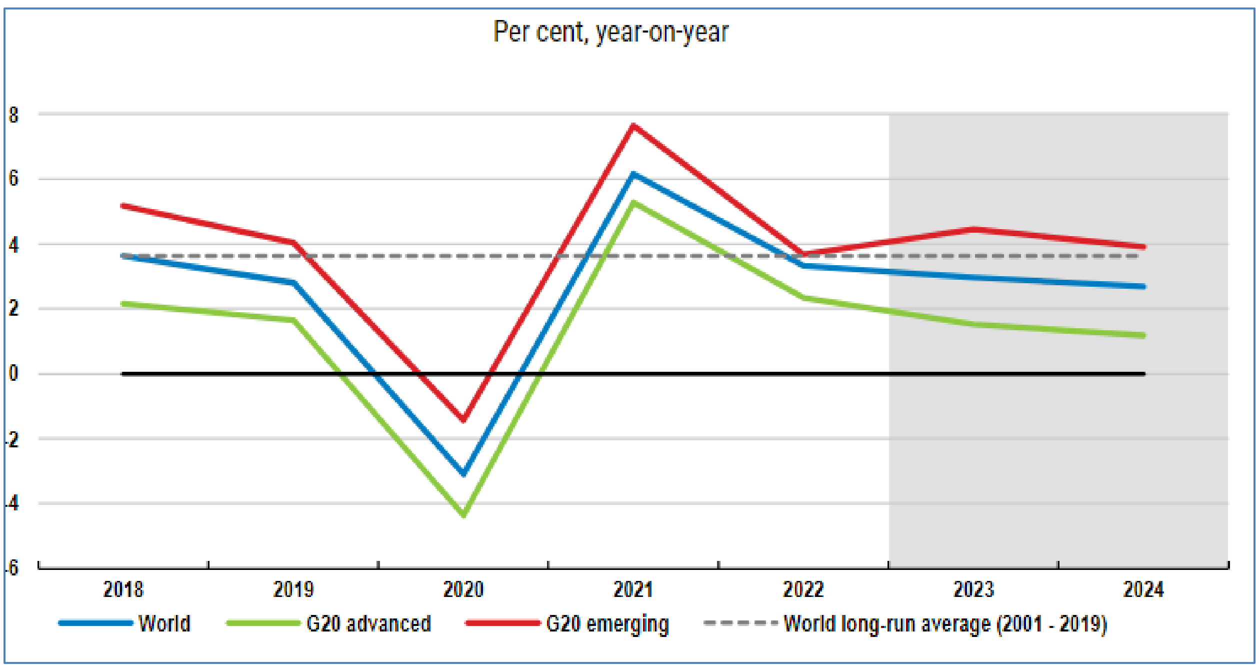
Executive Summary

According to OECD estimates, the world economy is expected to grow by 3.0% in 2023, and slow down to 2.7% in 2024. Growth in most advanced economies in 2024 will continue to be held back by the macroeconomic policy tightening needed to rein the inflation. The US economy has so far proved resilient to the steep rise in policy interest rates, with household spending supported by a run-down of excess savings accumulated during the pandemic. The GDP growth is projected to ease from 2.2% in 2023 to 1.3% in 2024.

Activity has already weakened in the euro area and the United Kingdom, reflecting the lagged effect on incomes from the large energy price shock in 2022. GDP growth in the euro area in 2023 and 2024 is projected to be 0.6% and 1.1% respectively, with the corresponding numbers for the United Kingdom being 0.3% and 0.8%.

Figure- Global growth



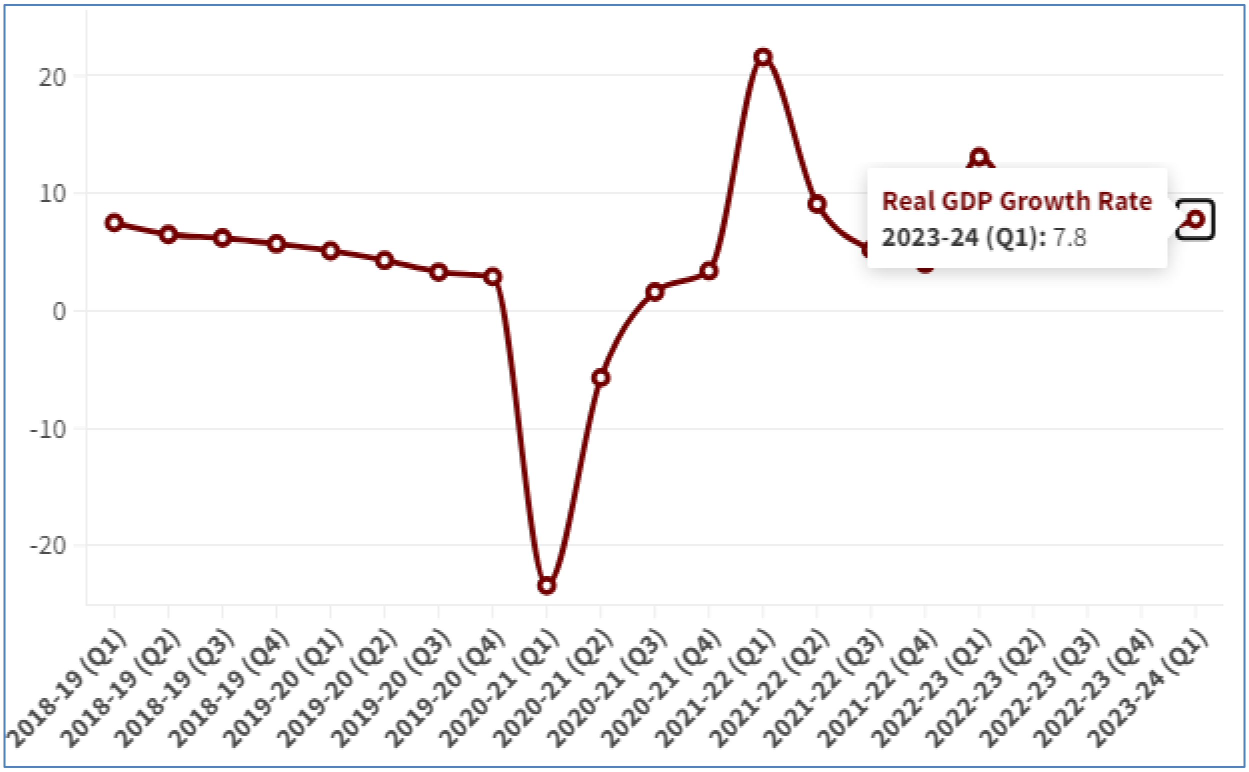
Source- OECD Economic Outlook- Interim Report September 2023

As far as India is concerned, the National Statistical Office (NSO), Ministry of Statistics and Programme Implementation, released the estimates of Gross Domestic Product (GDP) for the April-June quarter (Q1) of 2023-24. The main highlights were as follows: -

- Real GDP in Q1 2023-24 is estimated to attain a level of ₹ 40.37 lakh crore, as against ₹ 37.44 lakh crore in Q1 2022-23, showing a growth of 7.8 percent as compared to 13.1 percent in Q1 2022-23.

- This growth in real GDP is mainly due to a pickup in agriculture and services especially financial, real estate and professional services and contact-intensive services of trade, hotel, and transportation.

Source- Quarter -wise real GDP growth rates (%) for FY 2018-19 to FY 2023-24 (Q1)



Source- MoSPI, India

Capital formation, a proxy for investments, and private consumption expenditure, an indicator of consumption demand, posted growth rates of 8 per cent and 6 per cent in Q1 FY24, respectively. These had recorded higher growth rates of 20.4 per cent and 19.8 per cent, respectively, in the corresponding period a year ago.

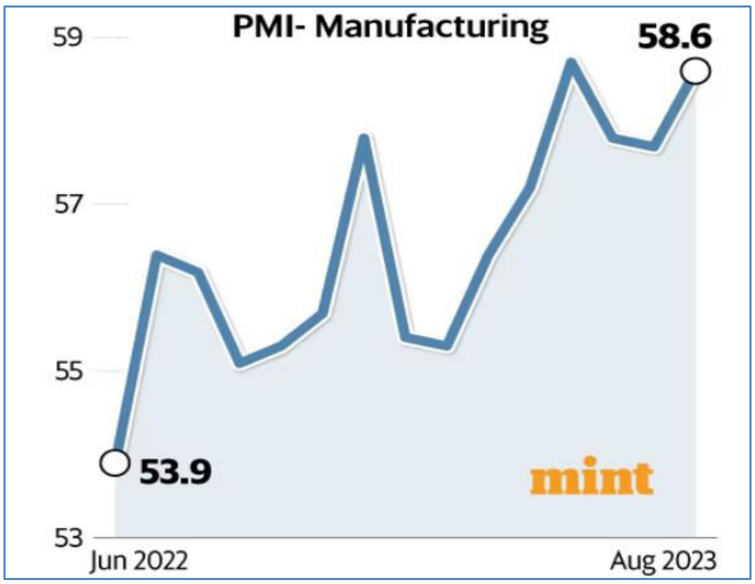
As a share of GDP, private consumption expenditure dropped to 57.3 per cent of GDP in April-June from 58.3 per cent in the year-ago period.

According to National Statistical Office (NSO), India's retail inflation rate eased to 6.83 per cent in August from a 15-month high of 7.44 per cent in July 2023, mainly due to a slide in prices of food items, especially vegetables.

The Consumer Food Price Index (CFPI) recorded an inflation rate of 9.94 per cent in August as against 11.51 per cent in July and 7.62 per cent a year ago. The overall retail inflation rate in August was higher at 7.02 per cent in rural areas than 6.59 per cent in urban areas. As per the RBI projection, inflation is likely to hit the 6.2 per cent level in the ongoing quarter (July-September). The MPC is expected to maintain its current policy stance, holding rates steady, until inflation shows signs of sustainably moving towards the 4 percent mark.

India's manufacturing sector activity continued to expand in August, with the S&P Global Purchasing Managers' Index (PMI) rising to a three-month high of 58.6. In August, the manufacturing PMI rose on the back of new orders and output increasing at the quickest rates in nearly three years. Export orders also rose for the 17th month in a row.

Figure- India manufacturing PMI



Source- S&P Global

India’s services activity continued to expand in August, but at a slower pace than in July. The services purchasing managers' index (PMI) fell to 60.1 in August from 62.3 recorded in July, according to data released by S&P Global. The services PMI has been above 50 for 25 consecutive months.

The unemployment rate in India climbed to 8.1 per cent in August from 7.9 per cent in July 2023. This increase came as an upshot of a commendable increase in labor participation. Labor participation rate (LPR) among people aged 15 years and above increased to 41.2 per cent in August, compared to 39.3 per cent in the preceding month.

As far as oil and gas industry is concerned, Oil prices traded in a narrow range in entire August, with North Sea Dated hovering around $85/bbl and price volatility at multi-year lows. Prices increased by month-end as fundamentals came to the fore once again and breached $90/bbl for the first time in 10 months after Saudi Arabia and Russia extended voluntary production cuts until the end of 2023.

Crude spot prices were buoyed by the rally in futures prices, which gained momentum on the back of healthy oil supply and demand expectations. Physical crude market fundamentals remained strong throughout August and September's trading cycles, characterized by firm demand for crude in the spot market and a decline in the U.S. crude stocks.

Crude oil futures prices maintained their upward momentum, building upon the rebound witnessed in July, as investors exhibited renewed optimism regarding the global oil market outlook in the short span. A surge in middle distillates margins amid a tight diesel market lent support.

Hedge funds and other money managers accelerated the selling of bullish positions in the second and third weeks of August as oil prices retreated and uncertainties about China and US economic outlooks were amplified.

Natural gas spot prices at the U.S. Henry Hub benchmark averaged $2.58 per million British thermal units (MMBtu) in August 2023. Henry Hub's natural gas prices advanced for a third consecutive month, increasing by 1.2% m-o-m in August. Prices fell earlier in the month due to a combination of lower demand and increased production in the US. However, increased buying interest in the U.S. LNG outside the U.S. amid rising concerns over supply helped offset the downward pressure.

Economy in Focus

1. A snapshot of the global economy

Global economic growth

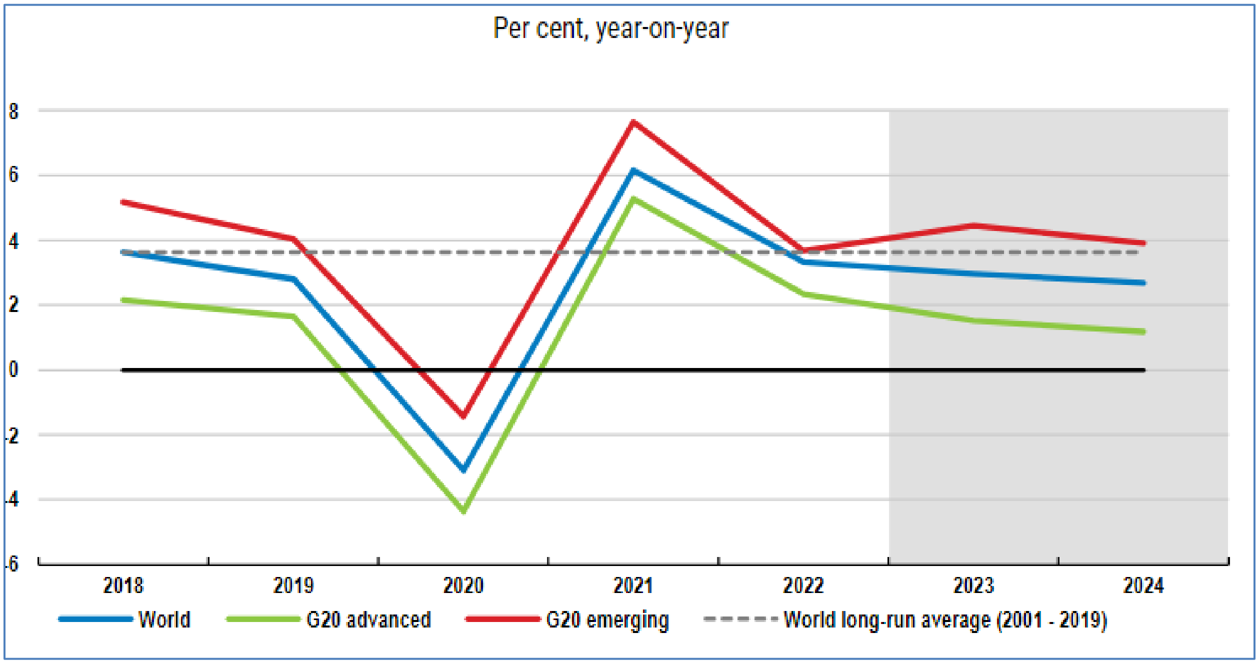
- According to OECD estimates, the world economy is expected to grow by 3.0% in 2023, and slow down to 2.7% in 2024. Growth in most advanced economies in 2024 will continue to be held back by the macroeconomic policy tightening needed to rein in inflation.

- The US economy has so far proved resilient to the steep rise in policy interest rates, with household spending supported by a run-down of excess savings accumulated during the pandemic. The GDP growth is projected to ease from 2.2% in 2023 to 1.3% in 2024.

- Activity has already weakened in the euro area and the United Kingdom, reflecting the lagged effect on incomes from the large energy price shock in 2022.GDP growth in the euro area in 2023 and 2024 is projected to be 0.6% and 1.1% respectively, with the corresponding numbers for the United Kingdom being 0.3% and 0.8%.

- Japan is the only advanced economy in the G20 without any increase in policy interest rates so far. Improving wage growth and strong service exports are expected to help boost GDP growth to 1.8% this year, before growth moves back closer to trend in 2024, at 1%.

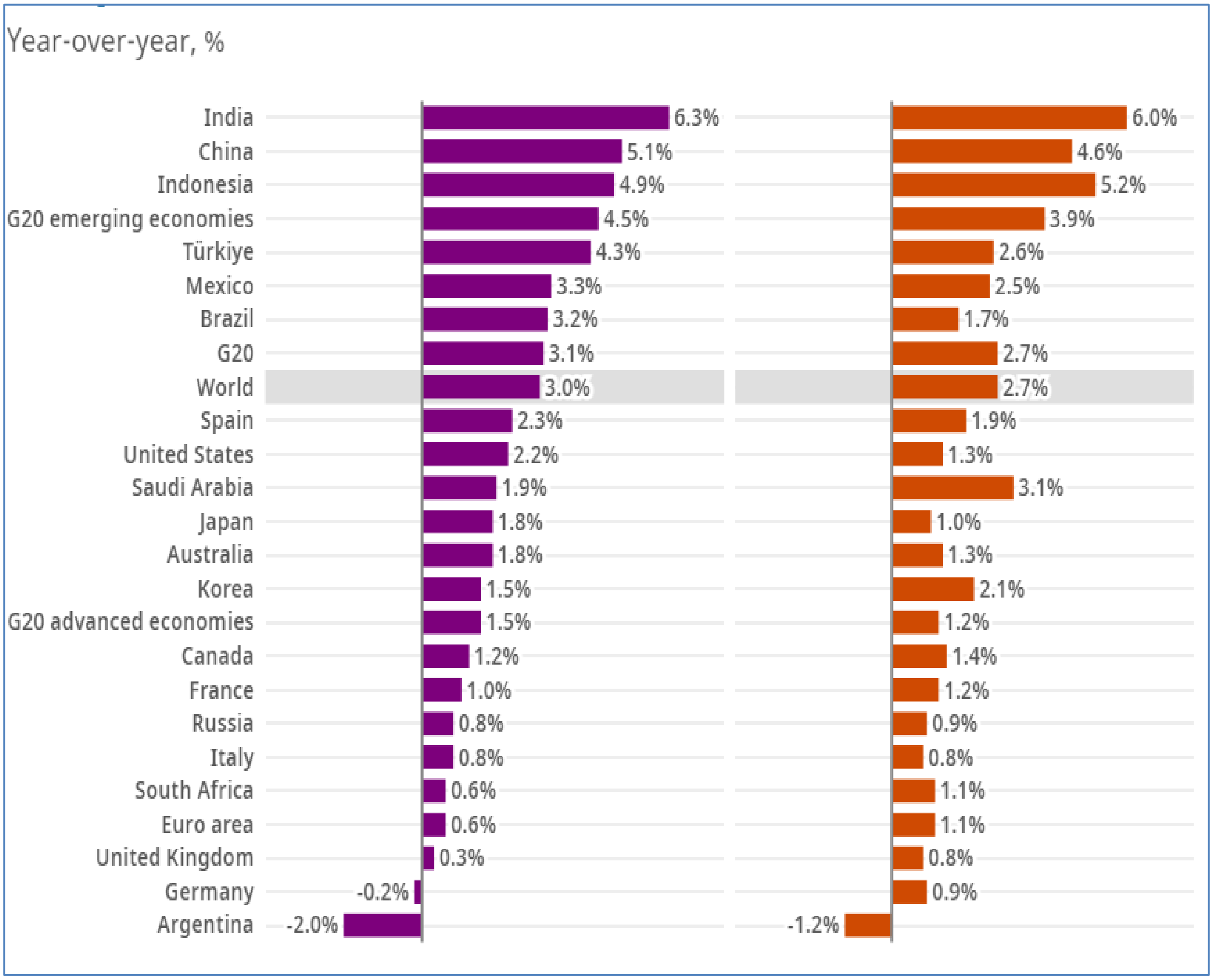
Figure- Global growth



Source- OECD Economic Outlook- Interim Report September 2023

- Among the G20 emerging-market economies, China largely stands apart as having its own cyclical and structural stresses. China's GDP growth will be restrained by low domestic demand and structural stresses in real estate markets, this indicator will decrease to 5.1% in 2023 and 4.6% in 2024. In contrast, GDP growth in the other major Asian emerging-market economies, India, and Indonesia, is projected to remain relatively steady in 2023 and 2024: around 6% for India and 5% for Indonesia. The growth outlook in the rest of the G20 emerging-market economies is quite varied, depending on specific national circumstances such as the challenges of high inflation in Argentina and Türkiye, and fluctuations in commodity prices. In general, however, excluding China, a modest improvement in growth is seen among the G20 emerging-market economies over 2023-24.

Figure- GDP projected growth rates for 2023 (purple) and 2024 (red)

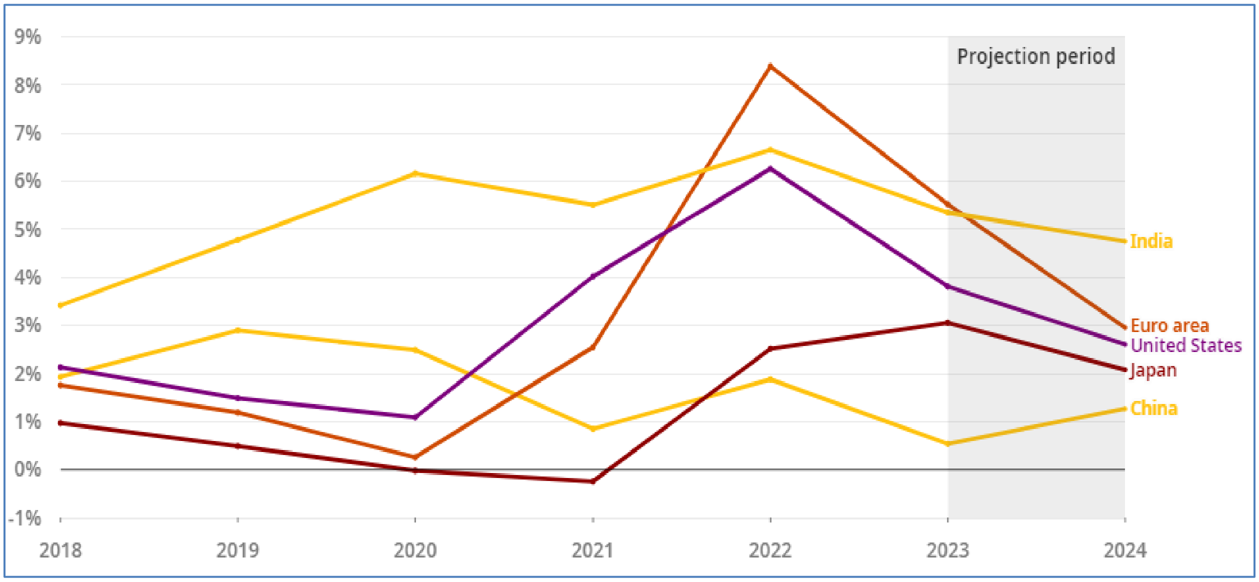


Source- OECD Economic Outlook- Interim Report September 2023

Global Inflation

Headline inflation has continued to come down in many countries, driven by the decline of food and energy prices in the first half of 2023. Energy prices remain important for both growth and inflation in G20 economies. Sharp declines in the prices of oil, gas, and coal since their 2022 peaks contributed to the upturn in growth and decline in inflation in the first half of 2023.

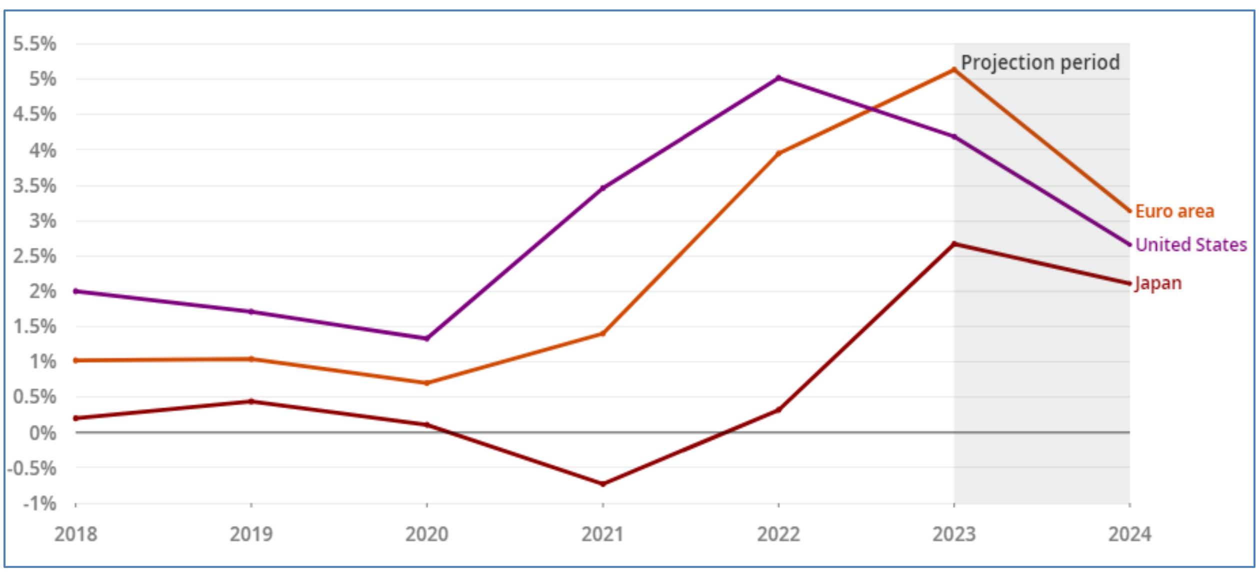
Figure- Headline Inflation



Source- OECD Economic Outlook- Interim Report September 2023

However, core inflation – excluding energy and food – has gone up significantly. It remains well above central banks' targets. For the G20 advanced economies as a group, annual average core inflation in 2023 is projected to be 4.3%, marginally higher than in 2022 before receding to 2.8% in 2024 as cost pressures diminish and profit margins moderate.

Figure- Core Inflation

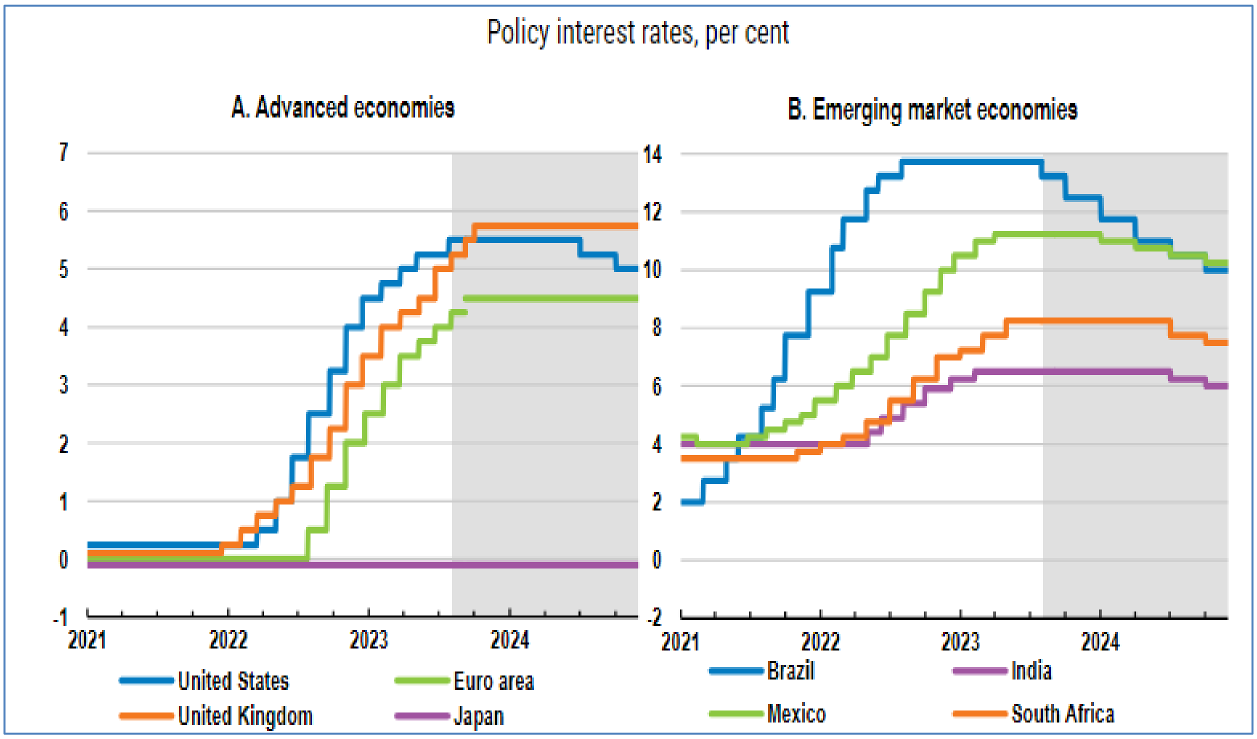


Source- OECD Economic Outlook- Interim Report September 2023

Monetary policy stance by Central Banks to curb inflation

- Policy interest rates have risen further in most advanced economies in recent months, except for Japan, where the policy stance remains accommodative, but the pace of rate increases has slowed.
- Monetary policy judgements have become more balanced as headline inflation recedes and the impact of higher interest rates becomes visible in credit and housing markets.
- Monetary policy space in most emerging-market economies is constrained by tight global financial conditions and the need to keep inflation expectations under control.
- Policy rates have remained unchanged in many major economies, including India, Indonesia, Mexico, and South Africa, with inflation pressures at moderate levels.

Figure- Policy interest rates by Central Banks of advanced and emerging market economies



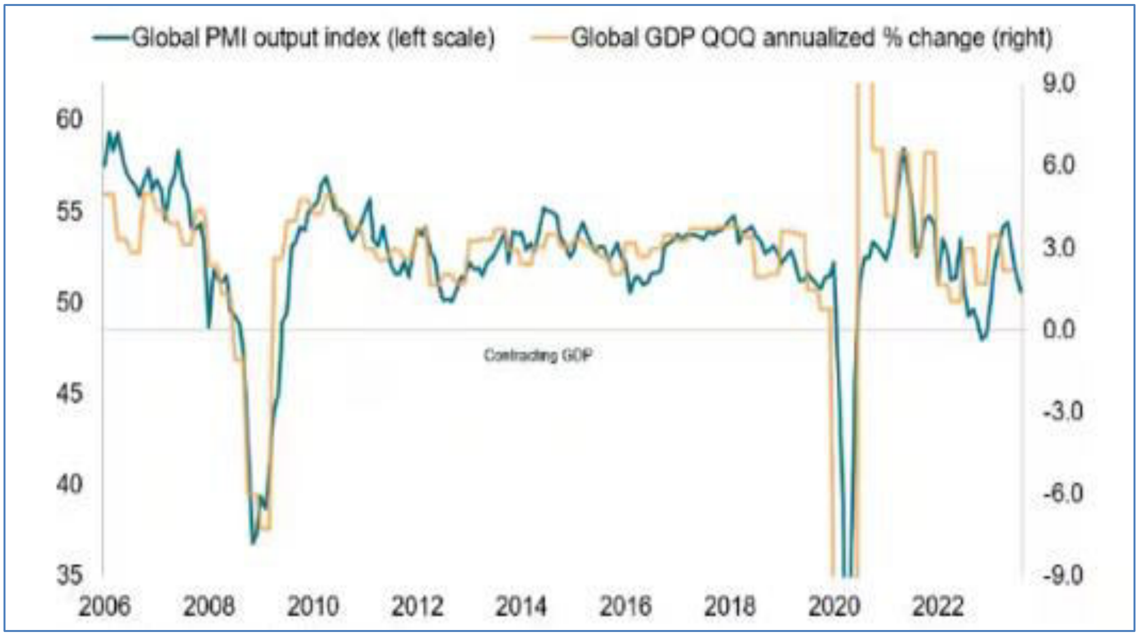
Source- OECD Economic Outlook- Interim Report September 2023

Global PMI

The J.P.Morgan Global PMI Composite Output Index produced by S&P Global - posted 50.6 in August 2023, down from 51.6 in July 2023. This is the third straight month in which the rate of expansion has declined. New orders for goods experienced the longest streak of declines on record, leading to the continued deterioration in production. Destocking and weakness in global trade remained the key drivers for the latest developments.

The service sector remained in expansion, but the growth is declining. The waning service sector growth momentum is partly attributed to softer consumer services conditions as the recent travel surge fades.

Figure- Global PMI



Source- S&P Global

2. UNCTAD projects above $5 trillion investment needed to achieve SDGs by 2030

A new report by the UN Conference on Trade and Development (UNCTAD) finds that the world needs to invest between USD1,179 and USD1,383 per person, per year, to achieve Sustainable Development Goals (SDGs) by 2030.

- The study factors in 50 SDG indicators across 90 countries, covering three quarters of the global population. For the world's 48 developing economies, the shortfall is estimated at USD337 billion annually, if they are to take the required action on climate change, biodiversity loss and pollution.
- When expanded to cover all developing economies, using the median per-capita cost for the 48 in the study, total annual needs rise to between USD6.9 trillion and USD7.6 trillion, the UNCTAD reported.
- The report further stated that although finding this kind of investment will likely be extremely difficult for countries with limited resources, the solution lies in allocating funding in cross-cutting areas, such as education, which also advances gender equality, poverty reduction and innovation - all Sustainable Development Goal (SDG) targets.
- Analysis by UNCTAD indicates that the world's wealthiest economies are expected to account for nearly 80 per cent of SDG expenditure between now and 2030. These countries generally face the

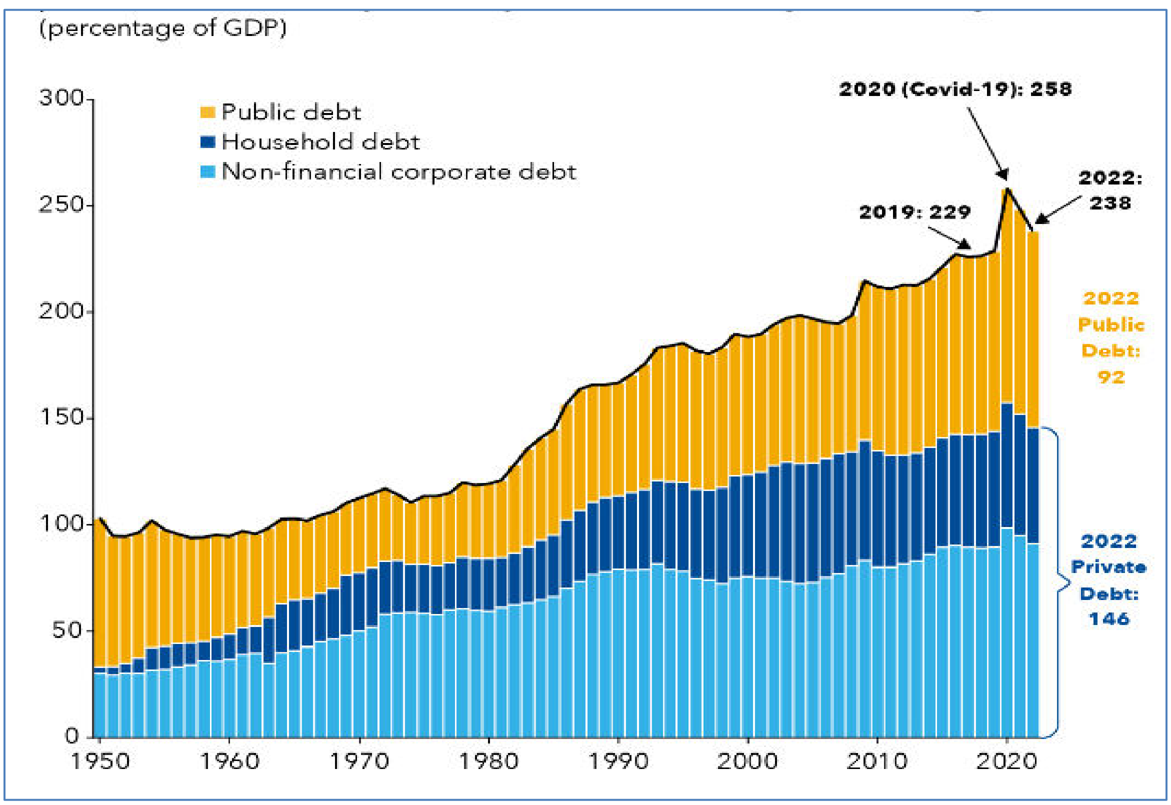
highest annual per capita costs and the largest financing gaps. The UNCTAD analysis reveals major shortfalls in national spending trends towards sustainability. The biggest gap is in inclusive digitization, at USD468 billion a year. Closing this gap would require a 9 per cent increase in annual spending. The analysis focuses on six paths for transformation through sustainable development: social protection and decent jobs, transforming education, food systems, climate change, biodiversity loss and pollution, energy transition and inclusive digitization.

- It covers indicators ranging from reducing greenhouse gas emissions and increasing protected forest cover to guaranteeing universal access to electricity and the internet, promoting literacy, fighting hunger, and reducing mortality.

3. Global Debt although below the level from last year, is returning to its rising trend above the already high pre-pandemic level- IMF

The global debt burden retreated for the second year in a row, even though it remains above its already-high pre-pandemic level, according to the latest update of Global Debt Database. The total debt stood at 238 percent of global gross domestic product last year, 9 percentage points higher than in 2019.

Figure- Global debt (as a % of GDP)



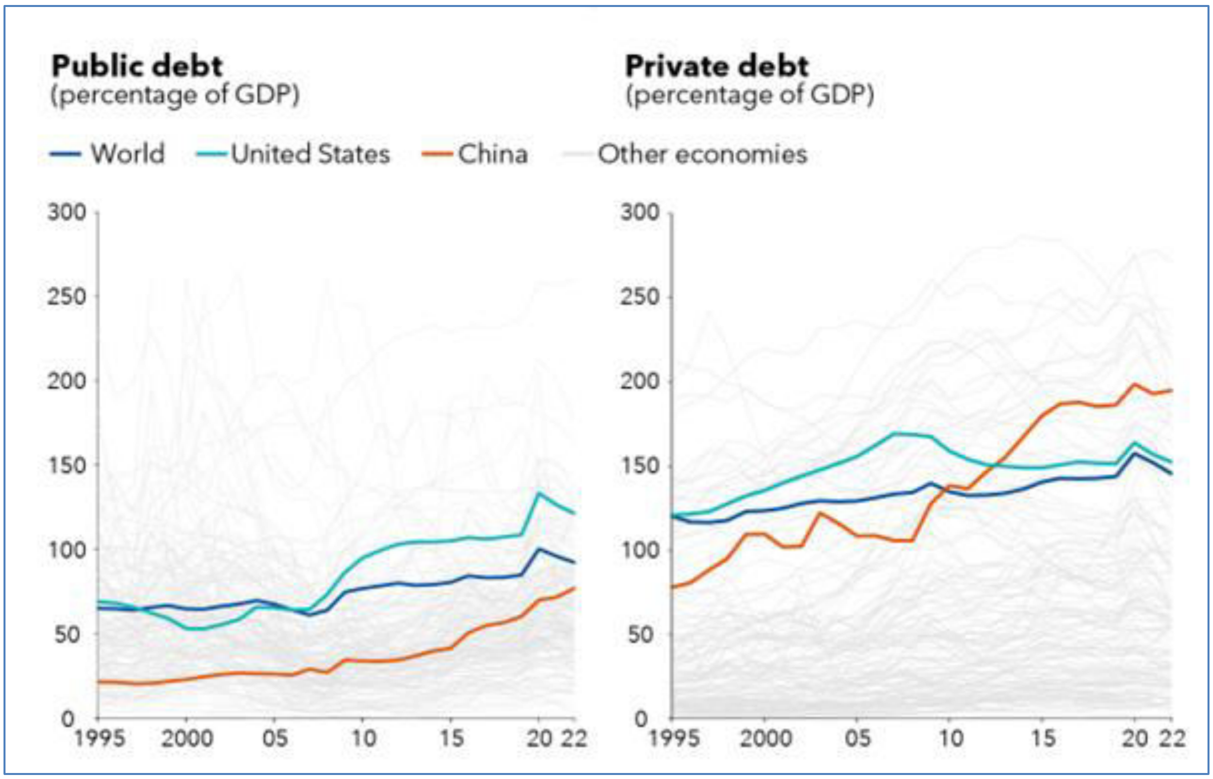
Source- IMF 2023 Global Debt Database

Despite the economic growth rebound from 2020 and much higher-than-expected inflation, public debt remained stubbornly high. Fiscal deficits kept public debt levels elevated, as many governments spent more to boost growth and respond to food and energy price spikes.

As a result, public debt declined by just 8 percentage points of GDP over the last two years, offsetting only about half of the pandemic-related increase, as shown in our latest Global Debt Monitor. Private debt, which includes household and non-financial corporate debt, declined at a faster rate, dropping 12 percentage points of GDP.

Before the pandemic, global debt-to-GDP ratios had risen for decades. Global public debt tripled since the mid-1970s to reach 92 percent of GDP (or just above $91 trillion) by end-2022. Private debt also tripled to 146 percent of GDP (or close to $144 trillion), but over a longer time span between 1960 and 2022.

Figure- Public debt and Private debt



Source- IMF 2023 Global Debt Database

China played a central role in increasing global debt in recent decades as borrowing outpaced economic growth. Debt as a share of GDP has risen to about the same level as in the United States, while in dollar terms China's total debt ($47.5 trillion) is still markedly below that of the United States (close to $70 trillion). As for non-financial corporate debt, China's 28 percent share is the largest in the world.

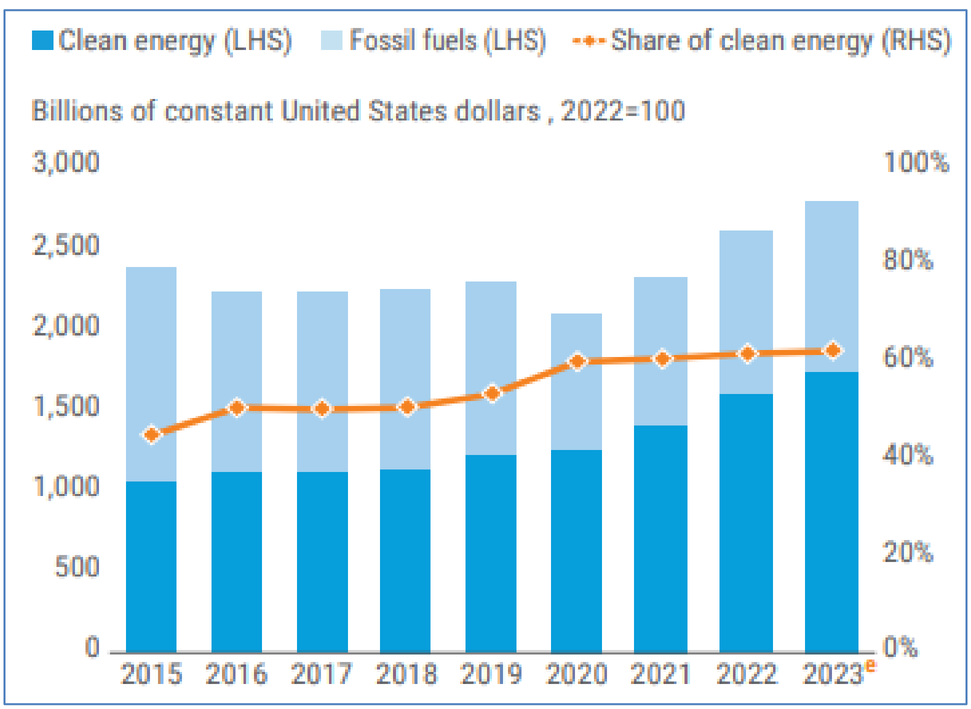
Debt in low-income developing countries also rose significantly in the last two decades, albeit from lower initial levels. More than half of low-income developing countries are in or at high risk of debt distress, and about one fifth of emerging markets have sovereign bonds trading at distressed levels.

Governments should take urgent steps to help reduce debt vulnerabilities and reverse long-term debt trends. For private sector debt, those policies could include vigilant monitoring of household and non-financial corporate debt burdens and related financial stability risks. For public debt vulnerabilities, building a credible fiscal framework could guide the process to balance spending needs with debt sustainability.

4. Investment in the energy sector- a crucial step- United Nation

Aggregate investment in the energy sector picked up in 2021 after a long stagnation following the adoption of the Sustainable Development Goals (SDGs) and the Paris Climate Agreement in 2015. It has been on a steady rise since then. World energy investment is expected to increase by about 7 per cent in 2023, reaching a record of $2.8 trillion. The International Energy Agency (IEA) estimates that a total of $37 trillion in investment is required by 2030 to keep the world on track for net-zero by 2050. The International Renewable Energy Agency's (IRENA) 1.5°C Scenario estimates that investments of $150 trillion in transition technologies and infrastructure by 2050 amounting to $5.3 trillion per year on average is required to achieve climate goals.

Figure- World total energy investment, by source

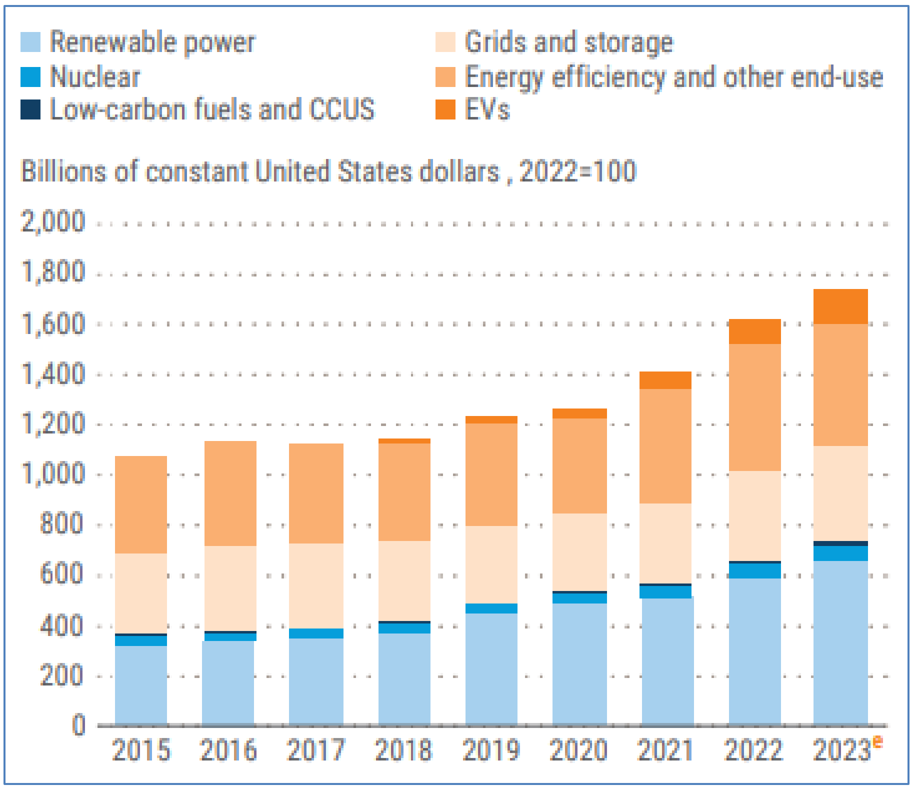


Source- United Nations

Clean energy investment continued to increase for the third consecutive year since the COVID-19 pandemic. It is expected to exceed $1.7 trillion in 2023, accounting for almost two-thirds of the global energy investment. This boost in clean energy investments is driven by a variety of factors. These include improved cost competitiveness at a time of high and volatile fossil fuel prices; enhanced policy support particularly in developed economies; a strong alignment of climate and energy security goals.

The share of clean energy in total energy investments, however, grew only 2 percentage points since 2020 from 60 per cent to 62 per cent in 2022, following a 15 percentage points increase from 45 per cent to 60 per cent from 2015 to 2020. Even as clean energy attracted more investments over the past years, fossil fuels did as well.

Figure- Global investment in clean energy



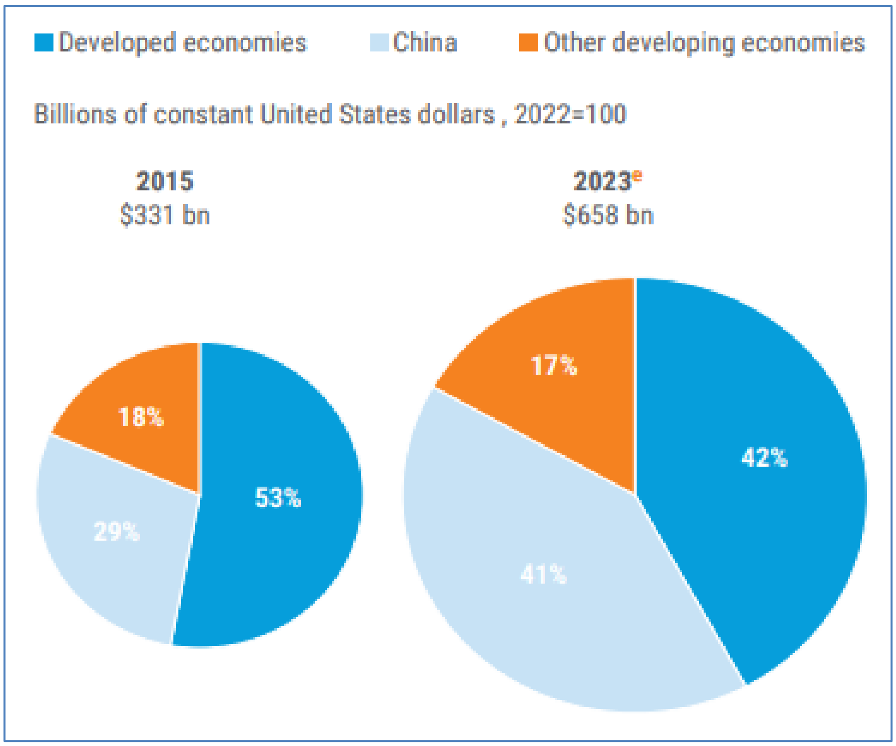
Source- United Nations

Investment in renewable power generation; grids and battery storage; and energy efficiency and other end use account for most of the investment in clean energy sectors. Renewable power generation alone makes up 38 per cent of all clean energy. Electric vehicles (EVs) attract increasingly more investment supported by developments in EV infrastructure (i.e., charging stations) and investments in batteries and critical minerals.

Persistent gap in renewable energy investments

Despite the overall increase in investment in the energy sector, a massive investment gap in renewables is currently evident. Global investment in renewable power generation has doubled from $331 billion in 2015 to $658 billion in 2023. However, the increase remains heavily concentrated in a small number of countries. While the share of developed economies' investment in renewable energy declined from 2015 to 2023, it is China that saw its relative contribution go up. China alone accounts for 41 per cent of global investment in renewable energy in 2023, while the rest of the developing countries account for only 16 per cent.

Figure- Global investment in renewable energy by country group, 2015 Vs 2023



Source- United Nations

5. Global Biofuels Alliance (GBA) announced at G20 event

GBA is an India-led Initiative to develop an alliance of governments, international organizations, and industry to facilitate adoption of biofuels. Bringing together the biggest consumers and producers of biofuels to drive biofuels development and deployment, the initiative aims to position biofuels as a key to energy transition and contribute to jobs and economic growth.

Announcement of the GBA showcases the action-oriented nature of India's positive agenda as G20 President and representing the "Voice of the Global South''.

GBA will support worldwide development and deployment of sustainable biofuels by offering capacity-building exercises across the value chain, technical support for national programs and promoting policy lessons-sharing. It will facilitate mobilizing a virtual marketplace to assist industries, countries, ecosystem players and key stakeholders in mapping demand and supply, as well as connecting technology providers to end users. It will also facilitate development, adoption and implementation of internationally recognized standards, codes, sustainability principles and regulations to incentivize biofuels adoption and trade.

The initiative will be beneficial for India at multiple fronts. GBA as a tangible outcome of the G20 presidency, will help strengthen India's position globally. Moreover, the alliance will focus on collaboration and will provide additional opportunities to Indian industries in the form of exporting technology and exporting equipment. It will help accelerate India's existing biofuels programs such as PM-JIVANYojna, SATAT, and GOBARdhan scheme, thereby contributing to increased farmers' income, creating jobs and overall development of the Indian ecosystem. The global ethanol market was valued at USD 99.06 billion in 2022 and is predicted to grow at a CAGR of 5.1% by 2032 and surpass USD 162.12 billion by 2032. As per IEA, there will be 3.5-5x biofuels growth potential by 2050 due to Net Zero targets, creating a huge opportunity for India.

Countries and organizations which have already joined GBA

19 countries and 12 international organizations have already agreed to join.

- G20 countries (07) supporting GBA: 1. Argentina, 2. Brazil, 3. Canada, 4. India 5. Italy, 6. South Africa, 7.USA
- G20 Invitee Countries (04) supporting GBA: 1. Bangladesh, 2. Singapore, 3. Mauritius, 4. UAE
- Non G20 (08) supporting GBA: 1. Iceland, 2. Kenya, 3. Guyana, 4. Paraguay, 5. Seychelles, 6. Sri Lanka, and 7. Uganda have agreed to be initiating members of GBA, and 8. Finland
- International organizations (12): World Bank, Asian Development Bank, World Economic Forum, World LPG Organization, UN Energy for All, UNIDO, Bio futures Platform, International Civil Aviation Organization, International Energy Agency, International Energy Forum, International Renewable Energy Agency, World Biogas Association.
- GBA Members constitute major producers and consumers of biofuels. USA (52%), Brazil (30%) and India (3%), contribute about 85% share in production and about 81% in consumption of ethanol.

6. Indian Economy

India's economic growth

The National Statistical Office (NSO), Ministry of Statistics and Programme Implementation, released the estimates of Gross Domestic Product (GDP) for the April-June quarter (Q1) of 2023-24. The main highlights were as follows: -

- Real GDP in Q1 2023-24 is estimated to attain a level of ₹ 40.37 lakh crore, as against ₹ 37.44 lakh crore in Q1 2022-23, showing a growth of 7.8 percent as compared to 13.1 percent in Q1 2022-23.
- This growth in real GDP is mainly due to a pickup in agriculture and services especially financial, real estate and professional services and contact-intensive services of trade, hotel, and transportation.

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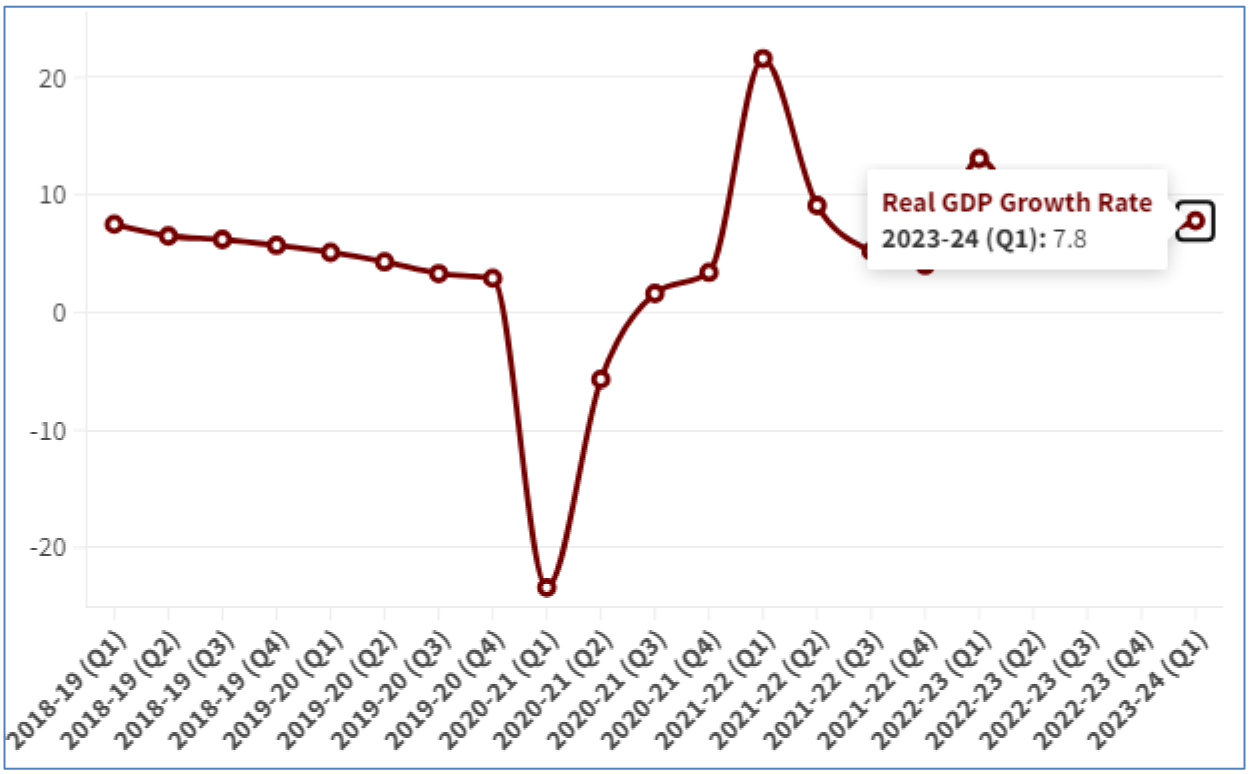


Source- MoSPI, India

- Nominal GDP in Q1 2023-24 is estimated at ₹ 70.67 lakh crore, as against ₹ 65.42 lakh crore in Q1 2022-23, showing a growth of 8.0 percent as compared to 27.7 percent in Q1 2022-23.

- Capital formation, a proxy for investments, and private consumption expenditure, an indicator of consumption demand, posted growth rates of 8 per cent and 6 per cent in Q1 FY24, respectively. These had recorded higher growth rates of 20.4 per cent and 19.8 per cent, respectively, in the corresponding period a year ago.
- As a share of GDP, private consumption expenditure dropped to 57.3 per cent of GDP in April-June from 58.3 per cent in the year-ago period.
- Manufacturing grew at 4.7 per cent in April-June 2023 as against 6.1 per cent in April-June 2022, while mining and quarrying grew at 5.8 per cent, lower than 9.5 per cent a year ago. Construction sector grew at 7.9 per cent in April-June this year as against 16 per cent growth in the corresponding period last year.

Inflation in India

- According to National Statistical Office (NSO), India's retail inflation rate eased to 6.83 per cent in August from a 15-month high of 7.44 per cent in July 2023, mainly due to a slide in prices of food items, especially vegetables.
- The inflation rate, however, continued to remain above the upper limit of the 4+/- 2 per cent band of Reserve Bank of India's medium-term inflation target, making it the fourth instance of headline inflation staying higher than the upper limit of the target during this calendar year.
- On the retail inflation front, vegetables inflation provided relief by moderating to 26.14 per cent in August from 37.34 per cent in July, while cereals and products inflation also eased to 11.85 per cent from 13.04 per cent in the previous month.
- The retail inflation rate in August was 13.04 per cent in case of pulses and products, 7.73 per cent for milk and products, 23.19 per cent for spices, 5.31 per cent for prepared meals, snacks, sweets etc., and (-)15.28 per cent for oils and fats.
- The Consumer Food Price Index (CFPI) recorded an inflation rate of 9.94 per cent in August as against 11.51 per cent in July and 7.62 per cent a year ago.
- The overall retail inflation rate in August was higher at 7.02 per cent in rural areas than 6.59 per cent in urban areas. Data for 22 major states/UTs shared by NSO showed 13 states recorded higher-than-average retail inflation rate in August, with the highest inflation rate seen in Rajasthan (8.6 per cent), followed by Telangana and Haryana (8.27 per cent each), Odisha (8.23 per cent) and Jharkhand (7.91 per cent).
- As per the RBI projection, inflation is likely to hit the 6.2 per cent level in the ongoing quarter (July-September). The MPC is expected to maintain its current policy stance, holding rates steady, until inflation shows signs of sustainably moving towards the 4 percent mark.

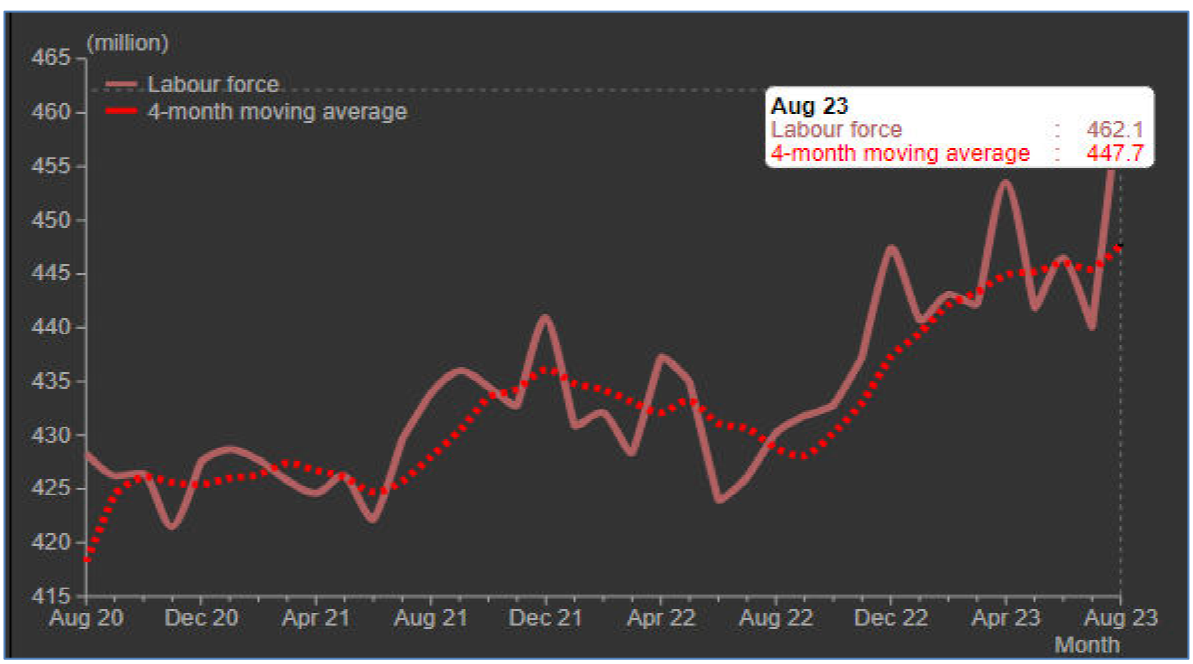
India PMI

- India's manufacturing sector activity continued to expand in August, with the S&P Global Purchasing Managers' Index (PMI) rising to a three-month high of 58.6.
- In August, the manufacturing PMI rose on the back of new orders and output increasing at the quickest rates in nearly three years. Export orders also rose for the 17th month in a row.
- India's services activity continued to expand in August, but at a slower pace than in July. The services purchasing managers' index (PMI) fell to 60.1 in August from 62.3 recorded in July, according to data released by S&P Global.
- The services PMI has been above 50 for 25 consecutive months.
- Advertising and robust demand for services were among the reasons listed for growth. Although softer than in July, the overall expansion in sales was one of the strongest seen in 13 years, S&P Global said.

Unemployment in India

- The unemployment rate in India climbed to 8.1 per cent in August from 7.9 per cent in July 2023.
- This increase came as an upshot of a commendable increase in labour participation. Labour participation rate (LPR) among people aged 15 years and above increased to 41.2 per cent in August, compared to 39.3 per cent in the preceding month.

Figure- increase in labour force participation



Source- CMIE

India's external position

India's forex position

- According to Reserve Bank of India's (RBI) data, India's foreign exchange (forex) reserves stood at a near four-month low of $593.037 billion as of September 15th, 2023 - a decrease of $860 million from the previous week.
- For the week ended September 15, the foreign currency assets, a major component of the reserves, decreased $511 million to $525.915 billion, gold reserves were down $384 million to $44 billion, the Special Drawing Rights (SDRs) were up $32 million to $18.092 billion and the country's reserve position with the IMF was down ~ $4 million to $5.03 billion.

India's foreign trade position

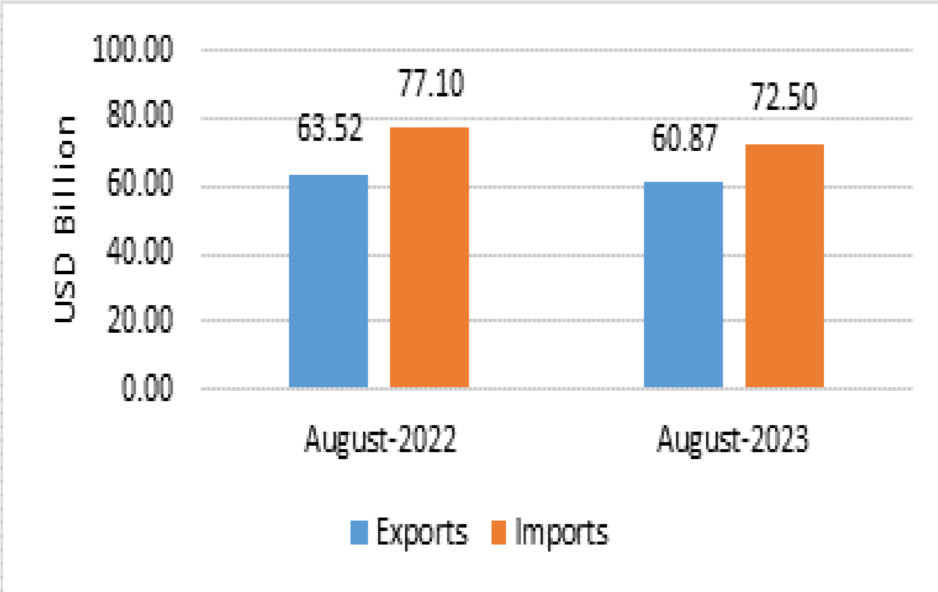
- India's overall exports (Merchandise and Services combined) in August 2023 is estimated to be USD 60.87 Billion, exhibiting a negative growth of (-) 4.17 per cent over August 2022.
- Overall imports in August 2023 is estimated to be USD 72.50 Billion, exhibiting a negative growth of (-) 5.97 per cent over August 2022.

Figure- Trade during August 2023

		August 2023 (USD Billion)	August 2022 (USD Billion)
Merchandise	Exports	34.48	37.02
	Imports	58.64	61.88
Services*	Exports	26.39	26.50
	Imports	13.86	15.22
Overall Trade (Merchandise +Services) *	Exports	60.87	63.52
	Imports	72.50	77.10
	Trade Balance	-11.63	-13.58

Source- RBI

Figure- Overall trade during August 2023



Source- RBI

- For the month of August 2023, under merchandise exports, 15 of the 30 key sectors exhibited growth in August 2023 as compared to same period last year (August 2022). These include Iron Ore (1556.09%), Oil Meals (57.26%), Ceramic Products & Glassware (29.28%), Electronic Goods (26.29%), Cotton Yarn/Fabs./Made-Ups, Handloom Products Etc. (26%), Tobacco (20.03%), Oil Seeds (17.02%), Meat, Dairy & Poultry Products (16.46%), Cashew (14.25%), Fruits & Vegetables (14.19%), Carpet (13.15%), Cereal Preparations & Miscellaneous Processed Items (12.88%), Engineering Goods (7.73%), Drugs & Pharmaceuticals (4.53%) and Marine Products (2.45%).

- For April-August 2023, under merchandise exports, 12 of the 30 key sectors exhibited growth during April-August 2023 as compared to April-August 2022. These include Iron Ore (95.18%), Oil Meals (37.2%), Electronic Goods (35.22%), Oil Seeds (25.29%), Ceramic Products & Glassware (15.74%), Fruits & Vegetables (14.37%), Tobacco (7.23%), Spices (5.73%), Coffee (4.81%), Drugs & Pharmaceuticals (4.18%), Cashew (2.19%) and Rice (0.99%).

- Under merchandise imports, 17 of the 30 key sectors exhibited negative growth in April-August 2023 as compared to April-August 2022. These include Silver (-88.12%), Cotton Raw & Waste (-52.61%), Sulphur & Unroasted Iron Pyrites (-46.75%), Coal, Coke & Briquettes, Etc. (-37.16%), Fertilisers, Crude & Manufactured (-29.34%), Organic & Inorganic Chemicals (-27.25%), Pearls, Precious & Semi-Precious Stones (-26.52%), Petroleum, Crude & Products (-23.33%), Vegetable Oil (-23.16%), Textile Yarn Fabric, Made-Up Articles (-21.7%), Leather & Leather Products (-13.73%), Wood & Wood Products (-12.67%), Fruits & Vegetables (-11.55%), Artificial Resins, Plastic Materials, Etc. (-9.37%), Metalliferous Ores & Other Minerals (-7.29%), Transport Equipment (-4.18%) and Medicinal & Pharmaceutical Products (-0.29%).

- India's trade deficit has shown considerable decline in April-August 2023. Overall trade deficit for April-August 2023 is estimated at USD 37.49 Billion as compared to the deficit of USD 60.31 Billion during April-August 2022, registering a decline of (-) 37.85 percent. The merchandise trade deficit during April-August 2023 was USD 98.88 Billion compared to USD 112.85 Billion during April-August 2022, registering a decline of (-) 12.38 percent.

7. Moody's raises India's GDP growth estimates for 2023 to 6.7%

- The global rating agency Moody's increased the GDP growth estimates for India for 2023 to 6.7 per cent from 5.5 per cent earlier due to strong Q1FY24 GDP growth of 7.8% stated by the NSO.

- According to Moody, strong services expansion and capital expenditures propelled India's 7.8% real GDP growth in the second quarter from a year ago.

- However, the growth estimates for 2024 have been revised downward to 6.1 per cent from 6.5 per cent earlier.

- Additionally, the CPI estimates for 2023 stand at 5.6 per cent while those for 2024 are pegged at 4.8 per cent. Moody predicts that the recent uptick in food price inflation and uncertain weather conditions will delay monetary policy easing consideration to early next year.

8. World Bank's G20 Global Partnership for Financial Inclusion (GPFI)

- The World Bank's G20 Global Partnership for Financial Inclusion (GPFI) document, prepared in anticipation of the G20 Summit in New Delhi, highlights the significant steps taken by the Indian government and the pivotal role of government policies and regulations in shaping the Digital Public Infrastructure (DPI) landscape.

- The World Bank has lauded India's Digital Public Infrastructure (DPI) for its transformative impact, extending beyond mere financial inclusion. The international financial institution commended India's remarkable achievements in just six years, accomplishments that would typically have taken nearly five decades to realize.

- India has successfully developed a robust digital public goods infrastructure, which holds the potential to positively influence lives worldwide. Key examples of these initiatives include UPI (Unified Payments Interface), Jan Dhan, Aadhar, ONDC, and CoWin.

- The World Bank underscores the significance of the "JAM Trinity" (Jan Dhan, Aadhar, Mobile), which combines universal bank account access, Aadhaar identification, and mobile connectivity. This triumvirate has propelled India's financial inclusion rate from 25 percent in 2008 to over 80 percent of adults within the past six years. The World Bank estimates that this journey was shortened by up to 47 years thanks to the DPIs.

- Since its launch in 2014 during Prime Minister Narendra Modi's tenure, the Pradhan Mantri Jan Dhan Yojana (PMJDY) has seen remarkable growth. The number of PMJDY accounts tripled from 147.2 million in March 2015 to 462 million by June 2022, with women owning a significant 56 percent of these accounts, totaling more than 260 million. PMJDY, a national initiative for financial inclusion and banking the unbanked, marked its ninth year of implementation.

- The UPI platform has also gained significant popularity in India; more than 9.41 billion transactions valuing about Rs 14.89 trillion were transacted in May 2023 alone. For the fiscal year 2022–23, the total value of UPI transaction was nearly 50 per cent of India's nominal GDP," the report said.

- The World Bank also acknowledged India's adept use of technology for direct benefit transfers to citizens and the utilization of UPI for retail payments. The DPI in India has not only improved efficiency for private organizations but has also reduced complexity, costs, and time associated with business operations in the country.

- The Indian government has been keen to extend the benefits of UPI beyond its borders. Several countries, including Sri Lanka, France, UAE, and Singapore, have partnered with India to explore emerging fintech and payment solutions.

9. Partnership for Global Infrastructure and Investment (PGII) & India-Middle East-Europe Economic Corridor (IMEC)- G20 summit

Prime Minister Shri Narendra Modi and the President of USA, H.E. Mr. Joe Biden co-chaired a special event on Partnership for Global Infrastructure and Investment (PGII) and India-Middle East-Europe Economic Corridor (IMEC), on 9 September 2023 on the sidelines of the G20 Summit in New Delhi.

The event aimed at unlocking greater investment for infrastructure development and strengthening connectivity in its various dimensions between India, Middle East, and Europe. Leaders of the European Union, France, Germany, Italy, Mauritius, UAE, and Saudi Arabia, as also the World Bank, participated in the event.

PGII is a developmental initiative aimed at narrowing the infrastructure gap in developing countries as well as help towards accelerating progress on SDGs globally.

The IMEC comprises of an Eastern Corridor connecting India to the Gulf region and a Northern Corridor connecting the Gulf region to Europe. It will include a railway and ship-rail transit network and road transport routes.

In his remarks, Prime Minister highlighted the importance of physical, digital, and financial connectivity. He said that IMEC would help promote economic integration between India and Europe.

An MOU on IMEC was signed by India, USA, Saudi Arabia, UAE, European Union, Italy, France, and Germany.

Lessons from Economics

Diversification

Diversification is a risk management strategy that creates a mix of various investments within a portfolio. A diversified portfolio contains a mix of distinct asset types and investment vehicles to limit exposure to any single asset or risk.

The rationale behind this technique is that a portfolio constructed of different kinds of assets will, on average, yield higher long-term returns and lower the risk of any individual holding or security.

Diversification Strategies

1. Asset Classes

Investors often diversify their investments across asset classes and determine what percentages of the portfolio to allocate to each. Each asset class has a different, unique set of risks and opportunities. Classes can include:

- **Stocks**: Shares or equity in a publicly traded company
- **Bonds**: Government and corporate fixed-income debt instruments
- **Real estate**: Land, buildings, natural resources, agriculture, livestock, and water and mineral deposits
- **Exchange-traded funds (ETFs)**: A marketable basket of securities that follow an index, commodity, or sector
- **Commodities**: Basic goods necessary to produce other products or services
- **Cash and short-term cash-equivalents (CCE)**: Treasury bills, certificate of deposit (CD), money market vehicles, and other short-term, low-risk investments.

2. Market Capitalizations (Large vs. Small)

Investors may want to consider investing across different securities based on the underlying market capitalization of the asset or company. Each company will have a considerably different approach to raising capital, introducing new products to the market, brand recognition, and growth potential. Lower cap stocks have more room to grow, though higher cap stocks tend to be safer investments.

3. Maturity Lengths

Specific to fixed-income securities such as bonds, different term lengths impact risk profiles. Generally, the longer the maturity, the higher the risk of fluctuations in the bond's prices due to changes in interest rates. Short-term bonds tend to offer lower interest rates; however, they also tend to be less impacted by uncertainty in future yield curves.

4. Tangibility

Financial instruments such as stocks and bonds are intangible investments; they cannot be physically touched or felt. On the other hand, tangible investments such as land, real estate, farmland, precious metals, or commodities can be touched and have real-world applications. These real assets have different investment profiles as they can be consumed, rented, developed, or treated differently than intangible or digital assets.

Pros and Cons of Diversification

The primary purpose of diversification is to mitigate risk. By spreading your investment across different asset classes, industries, or maturities, you are less likely to experience market shocks that impact every single one of your investments the same.

However, there are drawbacks to diversification. The more holdings a portfolio has, the more time-consuming it can be to manage—and the more expensive, since buying and selling many different holdings incurs more transaction fees and brokerage commissions. More fundamentally, diversification's spreading-out strategy works both ways.

Oil Market

Crude oil price – Monthly Review

Oil prices traded in a narrow range in entire August, with North Sea Dated hovering around $85/bbl and price volatility at multi-year lows. Prices increased by month-end as fundamentals came to the fore once again and breached $90/bbl for the first time in 10 months after Saudi Arabia and Russia extended voluntary production cuts until the end of 2023.

Crude spot prices were buoyed by the rally in futures prices, which gained momentum on the back of healthy oil supply and demand expectations. Physical crude market fundamentals remained strong throughout August and September's trading cycles, characterized by firm demand for crude in the spot market and a decline in the U.S. crude stocks. The increase in global refinery intake, especially in the U.S. and China, along with a sharp rise in global refining margins signalled a rise in demand for crude oil to meet the growing need for refined products, providing substantial impetus to spot prices. China presented high oil demand during the summer travel season. Simultaneously, the surge in refining margins in Asia further incentivized Chinese refineries to process more crude oil. The healthy demand from Asian buyers, including independent refiners in China, further increased the value of sour crude.

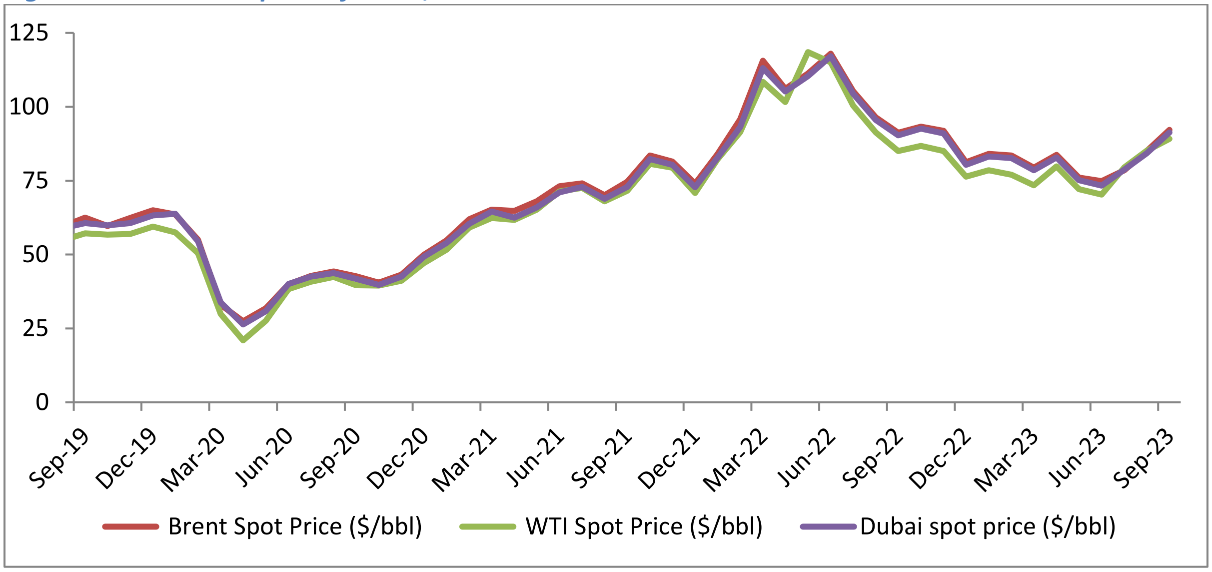
Crude oil futures prices maintained their upward momentum, building upon the rebound witnessed in July, as investors exhibited renewed optimism regarding the global oil market outlook in the short span. A surge in middle distillates margins amid a tight diesel market lent support.

Hedge funds and other money managers accelerated the selling of bullish positions in the second and third weeks of August as oil prices retreated and uncertainties about China and US economic outlooks were amplified.

The OPEC Reference Basket (ORB) value increased, rising by $6.27, or 7.7%, m-o-m to average $87.33/b, due to the rise in all ORB component-related crude benchmarks and higher official selling prices and crude differentials of all crude qualities.

Brent crude ranged an average to $92.23 a barrel and WTI ranged to $89.10 per barrel in the month of September.

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



Source: World Bank

- Brent crude price averaged $92.23 per bbl in September 2023, up by 8.4% on a month on month (MoM) and 1.1% on year on year (YoY) basis, respectively.
- WTI crude price averaged $89.10 per bbl in September 2023, up by 4.7% on a month on month (MoM) and 4.8% on year on year (YoY) basis, respectively.
- Dubai crude price averaged $91.37 per bbl in September 2023, up by 8.4% on a month on month (MoM) and 1.1% on year on year (YoY) basis, respectively.

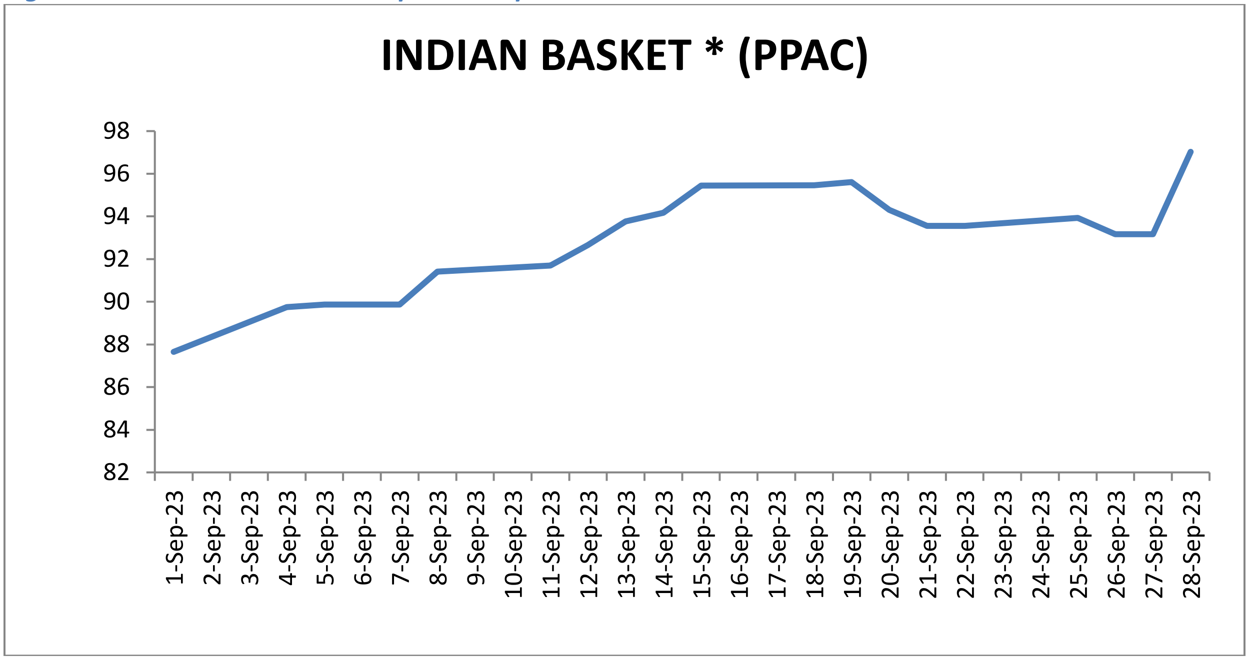
Table 1: Crude oil price in September, 2023

Crude oil	Price ($/bbl)	MoM (%) change	YoY (%) change
Brent	92.23	8.4%	1.1%
WTI	89.10	4.7%	4.8%
Dubai	91.37	8.4%	1.1%

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 $92.80 per barrel in September 2023, up by 7.4% on Month on Month (M-o-M) and 0.6% on a year on year (Y-o-Y) basis, respectively.

Oil production situation

- Non-OPEC liquids supply growth is forecast to expand by 1.6 mb/d in 2023. Main drivers of liquids supply growth for 2023 includes the U.S., Brazil, Norway, Kazakhstan, Guyana and China. For 2024, non-OPEC liquids production is expected to grow by 1.4 mb/d. Major drivers for liquids supply growth for next year are set to be the U.S., Canada, Guyana, Brazil, Norway and Kazakhstan.
- The largest declines are anticipated in Mexico and Malaysia. OPEC NGLs and non-conventional liquids are forecast to grow by around 50 tb/d in 2023 to average 5.44 mb/d and by another 65 tb/d to average 5.51 mb/d in 2024. OPEC-13 crude oil production in August'23 increased by 113 tb/d m-o-m to an average 27.45 mb/d. Slow and steady growth is currently expected for the U.S. shale oil production throughout the year. Accordingly, US liquids supply growth for 2023 is forecast at 1.2 mb/d.

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

Non-OPEC liquids production	2022	1Q23	2Q23	3Q23	4Q23	2023
Americas	26.92	27.90	28.00	28.53	28.52	28.24
of which US	*19.28*	*20.10*	*20.66*	*20.64*	*20.50*	*20.48*
Europe	3.58	3.69	3.64	3.65	3.87	3.71
Asia Pacific	0.48	0.45	0.45	0.48	0.47	0.46
Total OECD	**30.97**	**32.04**	**32.09**	**32.67**	**32.87**	**32.42**
China	4.48	4.63	4.63	4.50	4.50	4.56
India	0.77	0.76	0.78	0.79	0.78	0.78
Other Asia	2.30	2.31	2.26	2.31	2.37	2.31
Latin America	6.34	6.69	6.76	6.88	6.80	6.78
Middle East	3.29	3.27	3.29	3.25	3.30	3.28
Africa	1.29	1.24	1.27	1.28	1.30	1.27
Russia	11.03	11.19	10.85	10.22	9.57	10.45
Other Eurasia	2.83	3.00	2.93	2.94	2.98	2.96
Other Europe	0.11	0.11	0.10	0.10	0.10	0.10
Total Non-OECD	**32.44**	**33.21**	**32.87**	**32.26**	**31.70**	**32.50**
Total Non-OPEC production	63.42	65.25	64.96	64.93	64.57	64.92
Processing gains	2.40	2.47	2.47	2.47	2.47	2.47
Total Non-OPEC liquids production	**65.81**	**67.72**	**67.43**	**67.39**	**67.04**	**67.39**
Previous estimate	**65.76**	**67.70**	**67.39**	**66.96**	**67.03**	**67.27**
Revision	0.06	0.02	0.04	0.43	0.01	0.13

Source: OPEC

- From the above table, it can be inferred, that the total non-OPEC liquids production is expected to reach 67.39 mb/d by 2023.
- OPEC NGLs and non-conventional liquids production in 2023 is forecast to grow by around 50 tb/d to an average of 5.4 mb/d.
- OPEC-13 crude oil production averaged 27.45 mb/d in August 2023, higher by 113 tb/d m-o-m.

Oil demand situation

- World oil demand remains on track to grow by 2.2 mb/d in 2023 to 101.8 mb/d, led by resurgent Chinese consumption, jet fuel and petrochemical feedstocks. In 2024, naphtha and LPG/ethane, especially in China, will dominate an overall increase of a more modest 990 kb/d, to 102.8 mb/d, reflecting below-trend GDP growth and a structural decline in road transport fuel use in major markets.
- For 2024, world oil demand is expected to grow by a healthy 2.2 mb/d. The OECD is expected to grow by about 0.2 mb/d, with OECD Americas contributing the largest increase. The non-OECD is set to drive growth, increasing by about 2.0 mb/d, with China, India, Middle East and Other Asia contributing the most.

Table 3: World Oil demand, mb/d

	2022	1Q23	2Q23	3Q23	4Q23	2023	Growth	%
Total OECD	**46.00**	**45.62**	**45.75**	**46.89**	**46.22**	**46.12**	**0.12**	**0.26**
~ of which US	*20.43*	*20.11*	*20.72*	*20.83*	*20.37*	*20.51*	*0.08*	*0.39*
Total Non-OECD	**53.62**	**56.12**	**55.51**	**55.17**	**56.96**	**55.94**	**2.32**	**4.32**
~ of which India#	*5.14*	*5.40*	*5.40*	*5.21*	*5.50*	*5.38*	*0.24*	*4.69*
~ of which China	14.85	15.63	15.96	15.57	16.11	15.82	0.97	6.51
Total world	**99.62**	**101.74**	**101.26**	**102.06**	**103.18**	**102.06**	**2.44**	**2.45**

Source: OPEC monthly report, September 2023

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

Global petroleum product prices

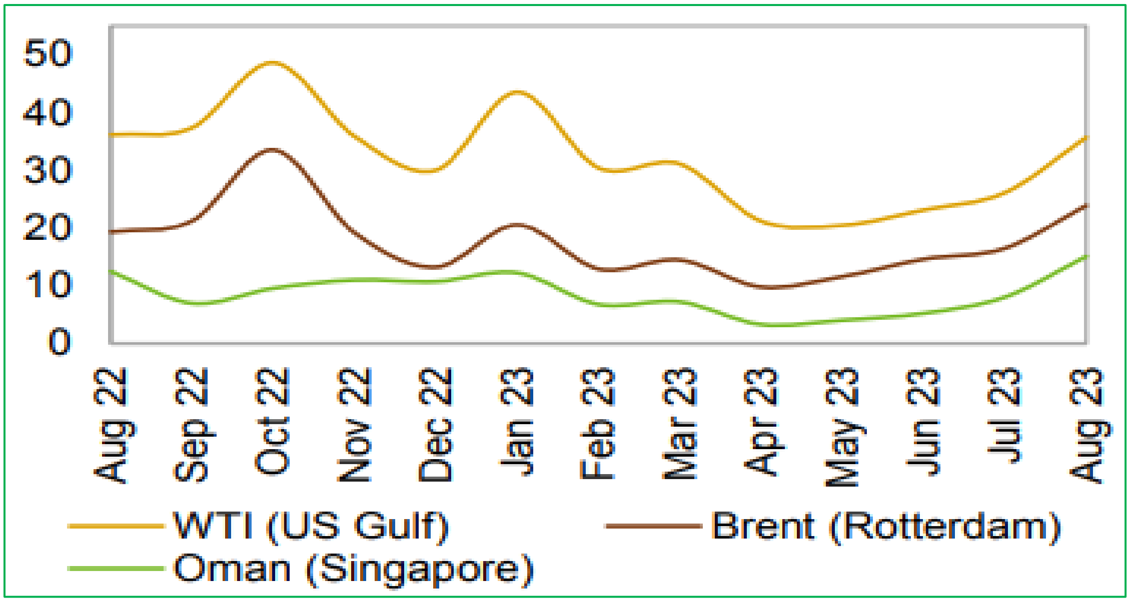
USGC refining margins against WTI rose for the third consecutive month, with gains seen all across the barrel with the exception of naphtha. Most of this improvement was attributed to healthy transport fuel performance, with middle distillates outperforming all other products by showing a notable jump in their respective crack spreads. This outcome was a result of both demand and supply-side dynamics. For most of the month, a seasonal boost in transport fuels led to massive gains. However, some support also stemmed from limited product outputs due to somewhat suppressed refinery product output levels linked to unplanned refinery shutdowns in the US. A fire incident at Marathon's 590 tb/d refinery in Garyville, Louisiana, likely contributed to the limited upside for US refinery runs in August.

Consequently, the expected product stock builds typically seen at this time of the year, particularly for middle distillates, did not materialize, and product availability remained somewhat constrained. Moreover, the shutdown of several major reformers and FCC units continued to suppress production levels for high-value blending components over the last several weeks and kept octane and, consequently, gasoline prices elevated. In terms of operations, the U.S. refinery intake continued to increase slightly and gained 70 tb/d m-o-m to an average of 17.16 mb/d in August. USGC margins against WTI averaged $35.66/b, up by $9.53 m-o-m, but this was down 45¢ y-o-y.

Refinery margins in Rotterdam against Brent increased for the fourth consecutive month, on a 10-month high, with substantial strength derived from the middle section of the barrel. However, gains showed a better gain distribution across the barrel compared to the USGC. An Antwerp refinery fire, as well as FCC unit outages at the start of the month, occurred at a time when gasoline and diesel balances appeared to undergo a contraction, which likely contributed to driving crack spreads higher. Middle distillates, especially jet/kerosene, represented the main margin contributor in NWE in line with considerable inventory declines at the Amsterdam-Rotterdam-Antwerp trading hub in July in response to supportive air travel activities, regional demand and exports. European aviation fuel consumption surged in line with summer air travel demand, approaching pre-pandemic levels.

EUROCONTROL data shows flight traffic reached 93% of pre-pandemic levels in the previous month, a rise from 87% a year ago. Healthy product export volumes to the U.S. provided further support despite weaker exports to West Africa as fuel demand in Nigeria declined following the fuel subsidy removal. Refinery throughput in Europe continued to rise in August. According to preliminary data, it was 210 tb/d higher, at an average of 9.73 mb/d. Refinery margins against Brent in Europe averaged $23.91/b in August, $7.47 higher compared with a month earlier but $4.64 higher y-o-y.

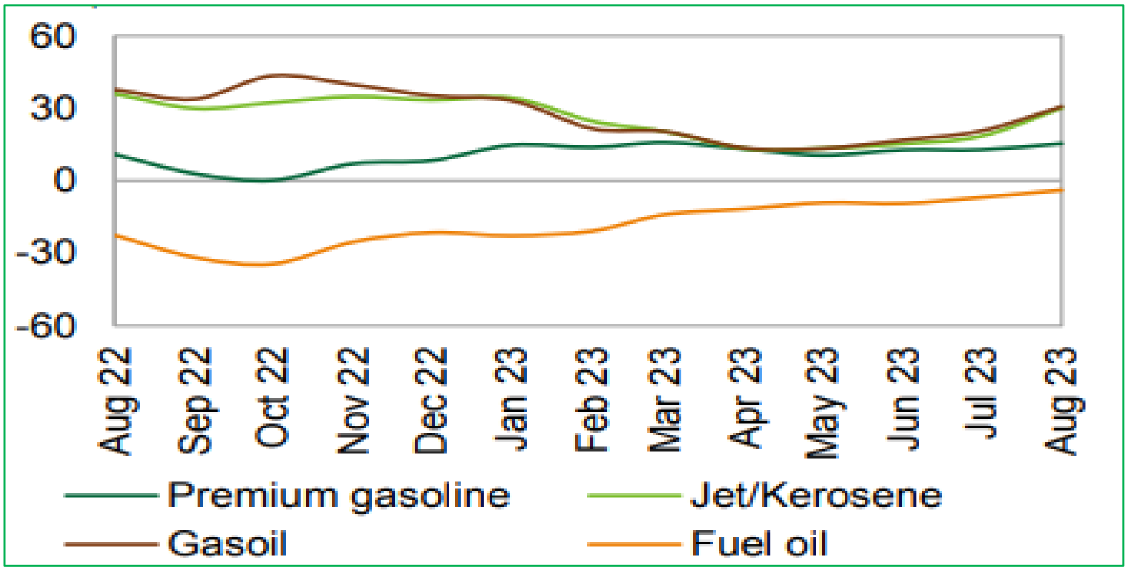
Figure 3: Refining Margins ($/bbl)



Source: Argus and OPEC

The Asian gasoline 92 crack saw a considerable improvement as supportive arbitrage economics continued to provide an open window for deliveries to the U.S. and Europe. The delay of Chinese product export quotas caused concerns over supplies from China, which may have exerted upward pressure on regional gasoline markets and crack spreads. The Singapore gasoline crack spread against Dubai in August averaged $15.38/b. This was up $2.58 m-o-m and $4.46 higher y-o-y.

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



Source: Argus and OPEC

The Singapore gasoil crack spread extended its upward trend for the second consecutive month and exhibited robust performance, with gasoil representing the largest source of strength in the Asian product market, followed by jet/kerosene. Strong exports to OECD Europe and Americas provided support, while consumption levels within the region remained somewhat capped due to soft industrial and manufacturing gasoil demand. The Singapore gasoil crack spread against Oman averaged $30.69/b, up by $10.00 m-o-m but down by $7.07 y-o-y.

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

Singapore product prices	Price ($/b)	MoM (%) change	YoY (%) change
Naphtha	70.70	13.2%	-2.7%
Premium gasoline (unleaded 95)	107.23	8.8%	-3.0%
Regular gasoline (unleaded 92)	101.84	9.4%	-5.0%
Jet/Kerosene	116.59	17.9%	-11.9%
Gasoil/Diesel (50 ppm)	118.88	17.3%	-14.6%
Fuel oil (180 cst 2.0% S)	116.01	16.5%	-13.2%
Fuel oil (380 cst 3.5% S)	82.48	12.4%	11.8%

Source: OPEC

Petroleum products consumption in India

Monthly Review:

- Overall consumption of all petroleum products in August 2023 with a volume of 18.57 MMT registered a growth of 4.25% on volume of 17.81 MMT in August 2022.
- MS (Petrol) consumption during the month of August 2023 with a volume of 3.09 MMT recorded a growth of 2.95% on volume of 3.01 MMT in August 2022.
- HSD (Diesel) consumption during the month of August 2023 with a volume of 6.67 MMT recorded a growth of 5.23% on volume of 6.34 MMT in the month of August 2022.
- LPG consumption during the month of August 2023 with a volume of 2.461 MMT registered growth of 2.76% over the volume of 2.394 MMT in the month of August 2022.
- ATF consumption during August 2023 with a volume of 0.676 MMT registered a growth of 13.55% over the volume of 0.596 MMT in August 2022.
- Bitumen consumption during August 2023 with a volume of 0.554 MMT registered growth of 17.61% over volume of 0.471 MMT in the month of August 2022.
- Kerosene consumption registered growth of 85.29 % during the month of August 2023 as compared to August 2022.

Table 5: Petroleum products consumption in India, August 2023

Consumption of Petroleum Products (P)	Consumption in '000 MT	MoM (%) change	YoY (%) change
LPG	2,461	3.0%	2.8%
Naphtha	1,127	4.7%	-2.6%
MS	3,093	3.7%	2.9%
ATF	676	2.0%	13.5%
SKO	59	7.1%	85.3%
HSD	6,670	-3.2%	5.2%
LDO	76	20.8%	13.4%
Lubricants & Greases	324	5.9%	-4.7%
FO & LSHS	527	-6.3%	-12.2%
Bitumen	554	4.4%	17.6%
Petroleum coke	1,507	-5.1%	21.6%
Others	1,493	48.3%	-4.8%
TOTAL	18,567	2.5%	4.3%

Source: PPAC

Natural Gas Market

Natural Gas Price – Monthly Review

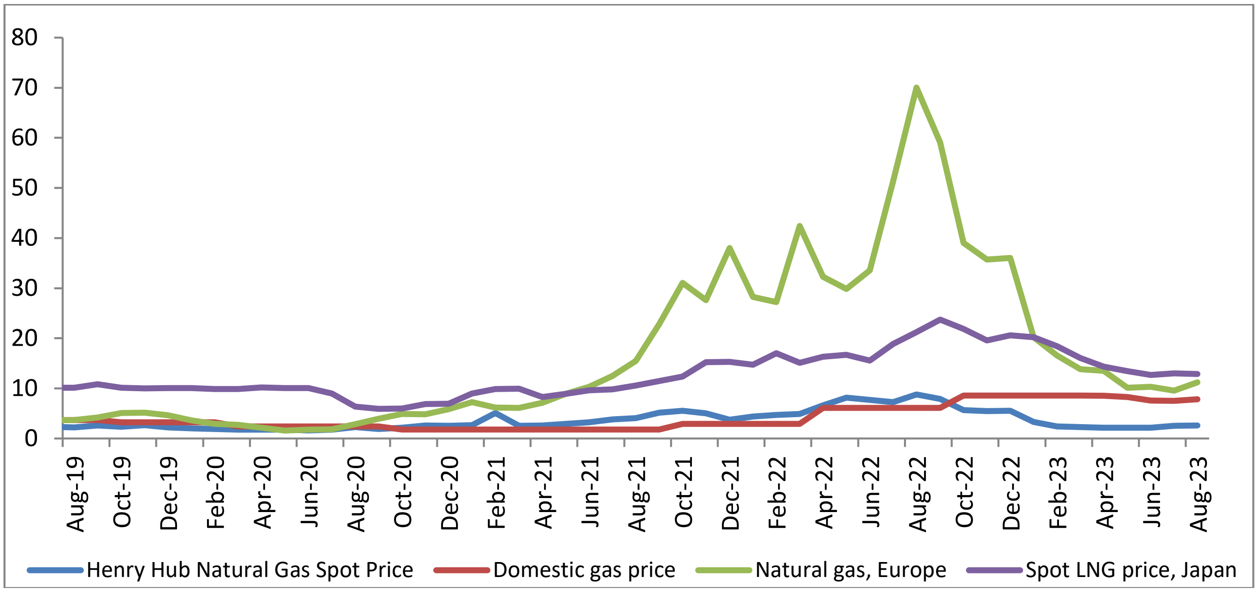
- Natural gas spot prices at the U.S. Henry Hub benchmark averaged $2.58 per million British thermal units (MMBtu) in August 2023. Henry Hub's natural gas prices advanced for a third consecutive month, increasing by 1.2% m-o-m in August. Prices fell earlier in the month due to a combination of lower demand and increased production in the US. However, increased buying interest in the U.S. LNG outside the U.S. amid rising concerns over supply helped offset the downward pressure.

- The natural gas spot price at the Title Transfer Facility (TTF) in the Netherlands in Europe traded at an average of $11.19 per MMBtu. Prices rallied despite information from Gas Infrastructure Europe showing EU inventories at over 90% as of August 31, which underscores the increased susceptibility of TTF prices to market dynamics. Prices increased amid ongoing planned maintenance at Norwegian facilities, which weighed on pipeline gas deliveries. Additionally, labor strikes at Australian LNG facilities during the month added upward pressure on prices amid concerns over supply disruptions.
- Japan Liquefied Natural Gas Import Price averaged at $12.88 per MMBtu for August 2023, down from $12.99 per MMBtu in July 2023. Japan’s liquefied natural gas imports started decreasing as more efforts were paved in to save energy and boost nuclear power, thereby reducing the need for the fossil fuel. The drop in LNG deliveries to Japan, a top importer, is helping to ease the global fuel shortage.

- The Union Cabinet has approved a new formula for pricing of natural gas and imposed cap or ceiling price on the same. Natural gas produced from legacy or old fields, known as APM gas, will now be indexed to crude oil prices. From April 1 2023, APM gas will be priced at 10 per cent of the price of basket of crude oil that India imports. The rate such arrived at however will be capped at USD 6.5 per MMBTU. The price such arrived at will also have a floor of USD 4 per MMBTU.

- Further, in accordance with MoP&NG, Govt. of India, pricing freedom for gas being produced from discoveries in Deepwater, Ultra Deepwater and High Pressure-High Temperature areas, the gas price ceiling for the period 1st April, 2023 - 30th September, 2023 was notified as US$ 12.12/MMBTU on Gross Calorific Value (GCV) basis as per notification dated 31st March, 2023.

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



Source: EIA, World Bank

Table 6: Gas price, August 2023

Natural Gas	Price ($/MMBTU)	MoM (%) change	YoY (%) change
India, Domestic gas price (Sep'23)	8.60	9.55	40.98
India, Gas price ceiling – difficult areas (Apr-Sep-23)	12.12	-2.7%	22.2%
Henry Hub	2.58	1.2%	-70.7%
Natural Gas, Europe	11.19	17.2%	-84.0%
Liquefied Natural Gas, Japan	12.88	-0.8%	-39.3%

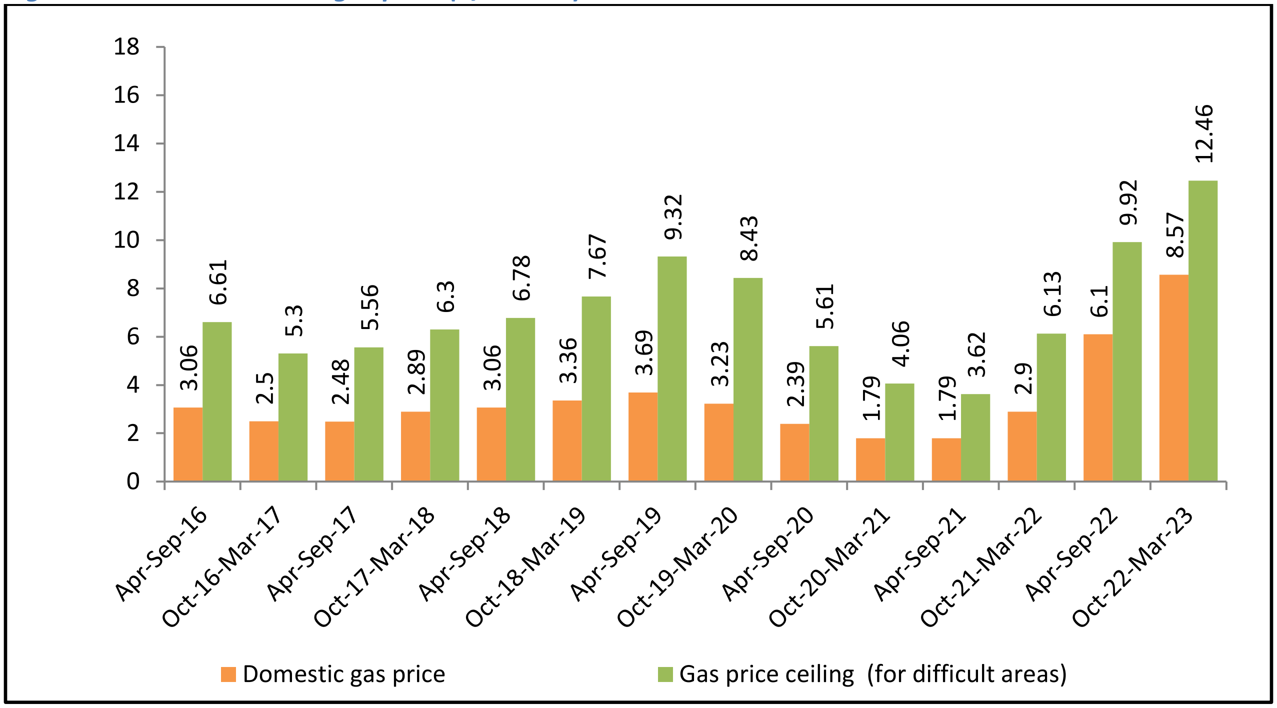
Source: EIA, PPAC, World Bank

Table 7: Gas price, GCV Basis

Period	Domestic Gas calculated price in US$/MMBTU
1-7 April 2023	9.16
8-30 April 2023	7.92
1-31 May 2023	8.27
1-30 June 2023	7.58
1-31 July 2023	7.48
1-31 August 2023	7.85
1-30 September 2023	8.60

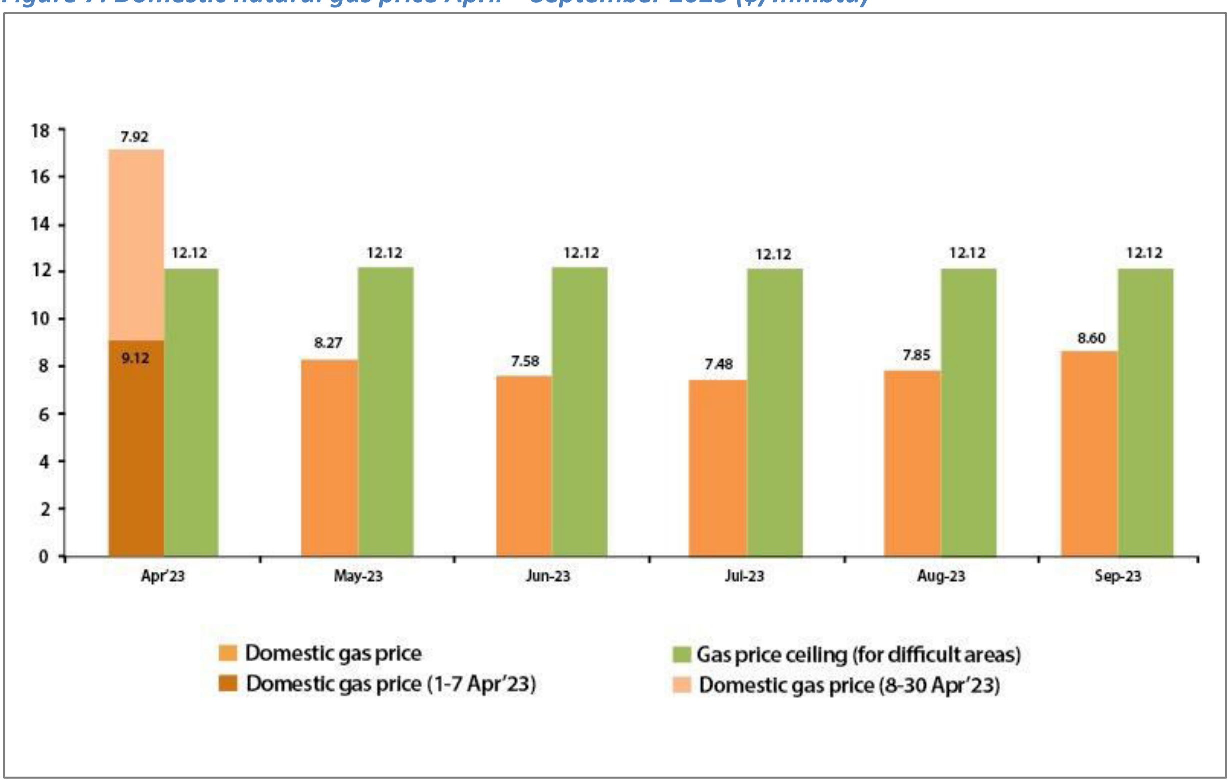
Source: PPAC

Figure 6: Domestic natural gas price ($/mmbtu)



Source: PPAC

Figure 7: Domestic natural gas price April – September 2023 ($/mmbtu)



Source: PPAC

Indian Gas Market

- Gross production of natural gas for the month of August 2023 was 3,166 MMSCM (increase of 9.3% over the corresponding month of the previous year).

- Total imports of LNG (provisional) during the month of August 2023 were 2,234 MMSCM (P) (increase of 10.1% over the corresponding month of the previous year).

- Natural gas available for sale during August 2023 was 4,876 MMSCM (increase of 10.9% over the corresponding month of the previous year).

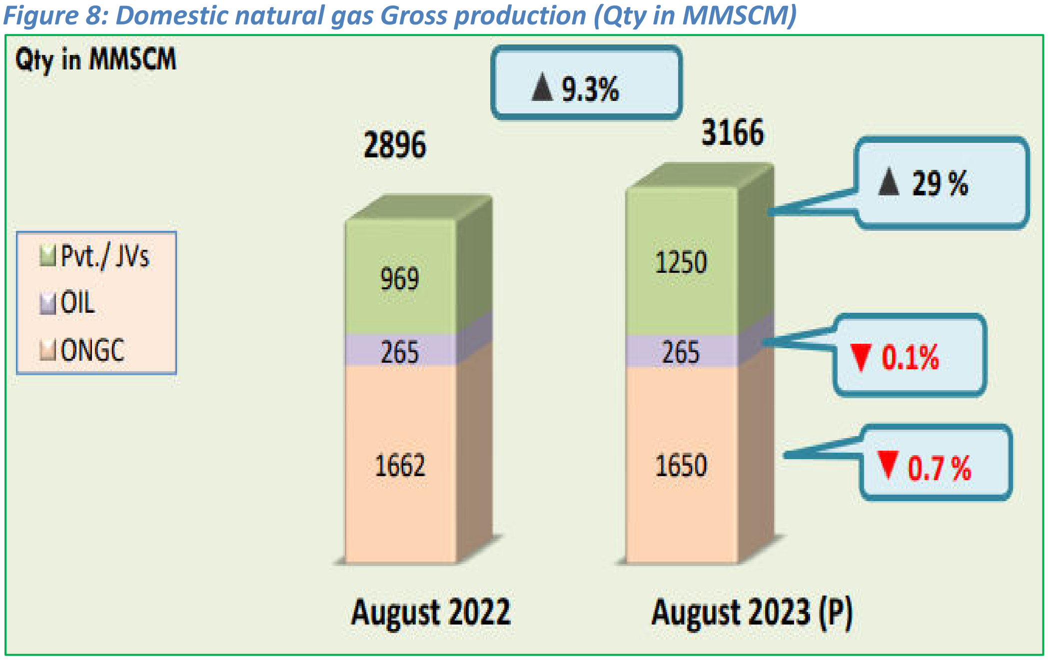
- Total consumption during August 2023 was 6,134 MMSCM (provisional). Major consumers were fertilizer (29%), City Gas Distribution (CGD) (18%), Power (16%), Refinery (8%) and Petrochemicals (4%).

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

1. Domestic Natural Gas Gross Production:

Domestic natural gas gross production for the month of August 2023 was 3,166 MMSCM (increase of 9.3% over the corresponding month of the previous year).

Figure 8: Domestic natural gas Gross production (Qty in MMSCM)

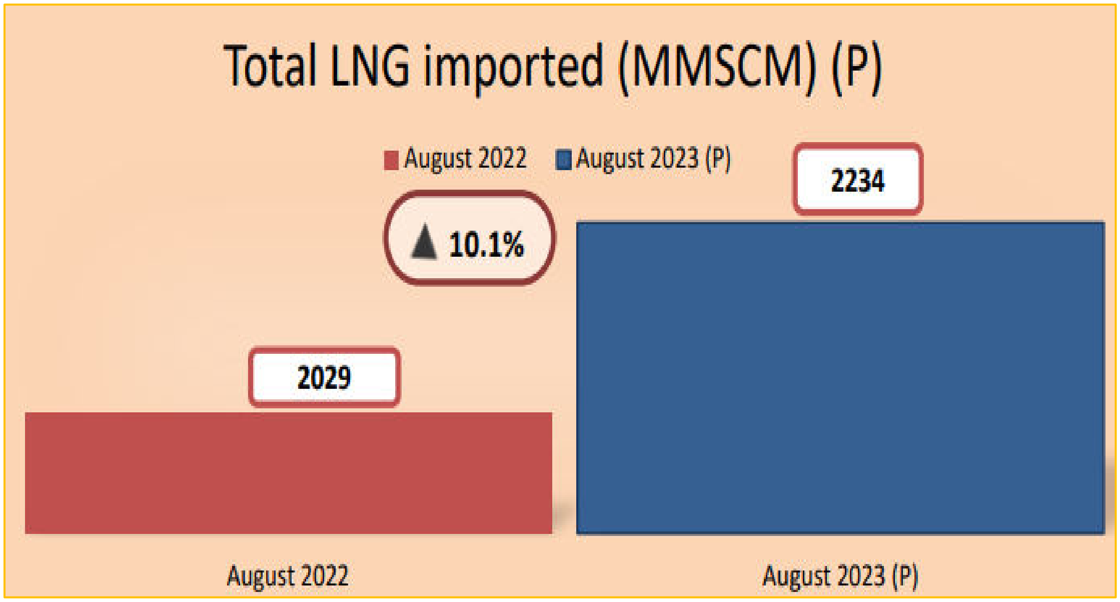


Source: PPAC

2. LNG imports:

Total imports of LNG (provisional) during the month of August 2023 were 2,234 MMSCM (increase of 10.1%) over the corresponding month of the previous year 2,029 MMSCM.

Figure 9: LNG imports (Qty in MMSCM)

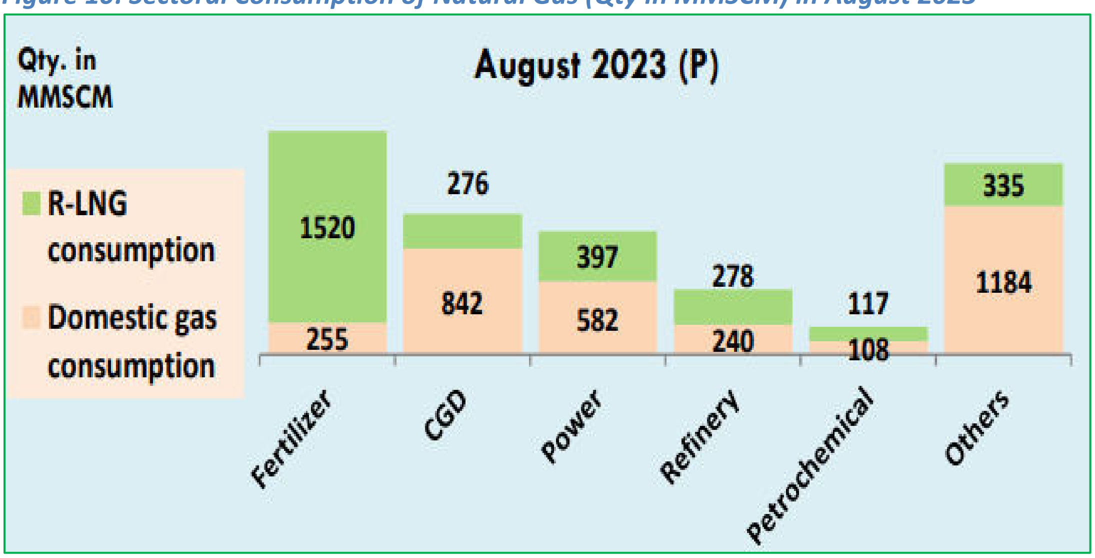


Source: PPAC

3. Sectoral Consumption of Natural Gas:

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

Figure 10: Sectoral Consumption of Natural Gas (Qty in MMSCM) in August 2023



Source: PPAC

Key developments in Oil & Gas sector

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

1. Production of Crude Oil

Indigenous crude oil and condensate production during August 2023 was 2.49 MMT. OIL registered a production of 0.28 MMT, ONGC registered a production of 1.61 MMT whereas PSC registered production of 0.60 MMT during August 2023. A growth of 2.1% has been achieved in total Crude Oil & Condensate Production in August 2023 as compared to August 2022.

2. Production of Natural Gas

Gross production of natural gas for the month of August 2023 was 3,166 MMSCM which was higher by 9.3% compared with the corresponding month of the previous year. The cumulative gross production of natural gas of 14,852 MMSCM for the current financial year till August 2023 was higher by 3.6% compared with the corresponding period of the previous year.

3. Crude Oil Processed (Crude Throughput)

Total Crude oil processed during August 2023 was 21.9 MMT which is 12.2% higher than August 2022, where PSU/JV Refiners processed 14.7 MMT and PVT Refiners Processed 7.2 MMT of Crude Oil. Total Indigenous Crude Oil processed was 2.1 MMT and total Imported Crude oil processed was 19.8 by all Indian Refineries (PSU+JV+PVT). A growth of 2.6 % has been achieved in total Crude oil processed in April-August FY 2023–24 as compared to same period of FY 2022–23.

4. Production of Petroleum Products

Production of petroleum products was 22.9 MMT during August 2023 which is 9.5% higher than August 2022. Out of 22.9 MMT, 22.6 MMT was from Refinery production & 0.3 MMT was from Fractionators. There was a growth of 3.7 % in Production of petroleum products in April-August FY 2023 – 24 as compared to same period of FY 2022 – 23. Out of total POL production, in August 2023, HSD has 41.3 % share, MS has 16.7 %, Naphtha has 6.8 %, ATF has 6.5 %, Pet Coke has 5.4, % LPG has 4.3%, which are the major products and rest are shared by Bitumen, FO/LSHS, LDO, Lubes & others.

Key Policy developments/significant news in Energy sector

Increase in windfall tax on petroleum crude, SAED reduced on ATF and diesel; Petrol to remain zero

The Indian government increased the windfall tax on crude petroleum to Rs 10,000 per tonne from Rs 7,100 per tonne with effect from September 16, 2023. Special Additional Excise Duty (SAED) on diesel was reduced to Rs 5.50 per litre from Re 6 per litre. Also, govt has cut SAED on aviation turbine fuel to Rs. 3.5 per litre from Rs. 4 per litre. The windfall tax on petrol will remain nil.

India first imposed windfall profit taxes on 1st July 2022, 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.

Cabinet approved expansion of Ujjwala Yojana

The Union Cabinet, chaired by the Prime Minister Shri Narendra Modi, approved the extension of Pradhan Mantri Ujjwala Yojana (PMUY) for release of 75 lakh LPG connections over three years from Financial Year 2023-24 to 2025-26. Provisioning of 75 lakh additional Ujjwala connections will take total number of PMUY beneficiaries to 10.35 crore.

Key LPG details in 2014 vs 2023

	(Unit)	01.04.2014	01.04.2016	01.04.2023
National LPG coverage	%	55.90%	61.9%	Near saturation
No. of Bottling Plants of OMCs	in Nos.	186	188	208
No. of LPG distributors in India	in Nos.	13896	17916	25386
Domestic Active LPG Customers in India	in Lakh	1451.76	1662.5	3140.33

As per the existing modalities of Ujjawala 2.0, the first refill and stove will also be provided free of cost to Ujjwala beneficiaries.

A targeted subsidy of Rs.200 per 14.2 kg LPG cylinder for upto 12 refills per year is being provided to PMUY consumers. Without continuation of PMUY, eligible poor households may not be able to get their due benefit under the scheme.

Union Minister Hardeep S Puri flags-off 1st Green Hydrogen Fuel Cell Bus from Kartavya Path, New Delhi

Reiterating Prime Minister's vision that not only will green hydrogen be the basis of green growth through green jobs but it will also set an example for the world towards clean energy transition, "Addressing the nation from the ramparts of the historic Red Fort in Delhi, Hon'ble Prime Minister announced self-reliance in energy production through a mix of electric mobility, gas-based economy and taking Green Hydrogen on Mission mode," said Union Minister of Petroleum & Natural Gas and Housing & Urban Affairs Shri Hardeep Singh Puri, addressing on the occasion of flagging-off 1st Green Hydrogen Fuel Cell Bus from Kartavya Path, New Delhi. Shri Rameswar Teli, Minister of State for Petroleum and Natural Gas & Labour and Employment; Shri Pankaj Jain, Secretary, MoP&NG, Shri SM Vaidya, Chairman, Indian Oil were also present on the occasion.

Flagging-off the first Hydrogen cell bus in presence of young school children, officials and media persons, Shri Hardeep Singh Puri explained the concept of Hydrogen and the benefits of using it as the fuel for future, "The fuel cell utilizes Hydrogen and air to generate electricity to power the bus and the only by-product from the bus is water therefore making it possibly the most environmentally friendly mode of transportation as compared to conventional buses that run on diesel and petrol. With three times the energy density and the absence of harmful emissions, hydrogen shines as a cleaner, more efficient choice to meet the energy requirements." Additionally, the buses powered with hydrogen cells takes few minutes to fully charge itself, added Shri Puri.

Speaking about the Government's ambitious plans on clean and green energy, Shri Hardeep Singh Puri said that emerging fuels like hydrogen and bio-fuels shall account for 25% of global incremental energy demand growth over the next two decades. "With one of the largest synchronous grids in the world, we have achieved 'One Nation-One Grid-One Frequency', and would soon be global champion in production and exports of Hydrogen and is set to emerge as the Hub for green hydrogen", he added.

Complimenting Industry and Government's collaboration in taking India on a global platform and ensuring that it becomes a global hub for cleaner technologies and achieving self-reliance in energy soon, "We were privy to the launch of the world's first BS 6 (Stage II) Electrified Flex Fuel vehicle prototype that encompasses both the flex fuel engine as well as an electric powertrain that offers higher use of ethanol combined with better fuel efficiencies. Now with flagging-off the first two hydrogen cell buses, we have set the ball rolling and expect another 15 such buses to ply on Delhi NCR roads by the end of this year", stated the Petroleum Minister.

Marking the green hydrogen powered buses as a game changer for the city transport in the Country, Shri Hardeep Singh Puri complimented Indian Oil for undertaking this collaborative approach along with Tata Motors for development of indigenous solutions pertaining to Fuel Cell and hydrogen infrastructure in the country. "Success of this project can catapult India from being net importer of fossil energy to becoming net exporter of clean hydrogen energy", added Shri Puri.

Speaking on the occasion, Shri Rameshwar Teli said, "The Green Hydrogen Mission which aims to establish a Green Hydrogen ecosystem in India, is on a developmental and progressive path. Hydrogen will be a key player in the transition to a carbon-free economy and will help mitigate climate change."

NTPC and OIL to collaborate in Renewable Energy and Decarbonization

The largest integrated power utility corporation of India and the second-largest national oil and gas company of the country have joined hands to work together in the area of renewable energy. NTPC Limited and Oil India Limited have signed a Memorandum of Understanding (MoU) on 31st August 2023, to explore collaboration in the areas of renewable energy, green hydrogen, and its derivatives, and decarbonization initiatives including through use of geothermal energy. The MoU shall also facilitate sharing of knowledge and experience on upcoming decarbonization technologies such as carbon sequestration.

Through the MoU, the two Maharatna giants intend to enhance their footprint in the domain of renewable energy and foray into sustainable solutions towards achieving the nation's target of achieving Net Zero by the year 2070.

The MoU was signed in New Delhi, in the presence of CMD, NTPC Shri Gurdeep Singh; CMD, OIL, Dr. Ranjit Rath; and their functional directors.

Cabinet approved the Scheme titled Viability Gap Funding for development of Battery Energy Storage Systems (BESS)

The Union Cabinet, chaired by the Hon'ble Prime Minister approved the Scheme for Viability Gap Funding (VGF) for development of Battery Energy Storage Systems (BESS). The approved scheme envisages development of 4,000 MWh of BESS projects by 2030-31, with a financial support of up to 40% of the capital cost as budgetary support in the form of Viability Gap Funding (VGF). A watershed moment in the long list of pro-environment measures taken by the Government, the move is expected to bring down the cost of battery storage systems increasing their viability.

Designed to harness the potential of renewable energy sources such as solar and wind power, the scheme aims to provide clean, reliable, and affordable electricity to the citizens. The VGF for development of BESS Scheme, with an initial outlay of Rs.9,400 crore, including a budgetary support of Rs.3,760 crore, signifies the government's commitment to sustainable energy solutions. By offering VGF support, the scheme targets achieving a Levelized Cost of Storage (LCoS) ranging from Rs. 5.50-6.60 per kilowatt-hour (kWh), making stored renewable energy a viable option for managing peak power demand across the country. The VGF shall be disbursed in five tranches linked with the various stages of implementation of BESS projects.

To ensure that the benefits of the scheme reach the consumers, a minimum of 85% of the BESS project capacity will be made available to Distribution Companies (Discoms). This will not only enhance the integration of renewable energy into the electricity grid but also minimize wastage while optimizing the utilization of transmission networks. Consequently, this will reduce the need for costly infrastructure upgrades.

The selection of BESS developers for VGF grants will be carried out through a transparent competitive bidding process, promoting a level playing field for both public and private sector entities. This approach will foster healthy competition and encourage the growth of a robust ecosystem for BESS, attracting significant investments and generating opportunities for associated industries.

The Government of India remains committed to promoting clean and green energy solutions, and the BESS Scheme is a significant step towards achieving this vision. By harnessing the power of renewable energy and encouraging the adoption of battery storage, the government aims to create a brighter and greener future for all citizen.

NTPC Green Energy Limited to collaborate with Nayara Energy for Green Hydrogen Production

NTPC Green Energy Limited (NGEL), a wholly-owned subsidiary of India's leading integrated power producer NTPC Limited, and Nayara Energy, a downstream energy company, entered into a Memorandum of Understanding (MoU) to explore opportunities in the Green Hydrogen and Green Energy space.

The MoU envisages collaboration to produce Green Hydrogen for Nayara Energy's captive usage, accelerate decarbonisation and catalyse reduction in carbon footprint. The collaboration is in line with NTPC's initiatives to develop hydrogen projects in India and aligns with the vision of a self-reliant India (Atmanirbhar Bharat) as laid out by the Prime Minister.

The MoU signing ceremony was attended by CEO, NGEL, Shri Mohit Bhargava and Head-Technical, Nayara Energy, Shri Amar Kumar, along with other senior officials of NTPC, NGEL and Nayara Energy.

Shri Mohit Bhargava said that this partnership will explore and implement cutting-edge technologies to produce Green Hydrogen. "We are happy to join hands with Nayara Energy in our shared commitment to accelerate India's transition to clean and sustainable energy sources. Green Hydrogen would be a crucial element of India's clean energy future, and with this partnership, we will explore and implement cutting-edge technologies to produce Green Hydrogen, contributing to a cleaner and more resilient energy landscape. Through NGEL, we are dedicated to expanding our Green Energy portfolio, and this collaboration exemplifies our relentless pursuit of a greener and more sustainable future for the nation."

IREDA and IIFCL signed a Memorandum of Understanding to finance renewable energy projects

Indian Renewable Energy Development Agency Ltd. (IREDA) has signed a Memorandum of Understanding (MoU) with India Infrastructure Finance Company Ltd (IIFCL), to finance renewable energy projects. The MoU will empower IREDA and IIFCL to engage in Co-Lending / Co-Origination and Loan Syndication for all categories of Renewable Energy projects, including Small Hydro projects. Both organizations will strive to also fix interest rates for IREDA borrowings for a period of three to four years. Further, IIFCL may invest in the bonds issued by IREDA, as per the terms and conditions of the issue.

The MoU was signed by Chairman & Managing Director, IREDA, Shri Pradip Kumar Das and Managing Director, IIFCL, Shri P R Jaishankar. Speaking on the occasion, CMD, IREDA said: "We are pleased to partner with IIFCL and offer our techno-financial expertise to IIFCL for the development of Renewable Energy sector. With this collaboration, we will be able to support Govt. of India's target of achieving 50% share of our energy from non-fossil fuels by the year 2030. We remain confident that by working together, we will leverage our strengths and continue to serve our customers in line with Prime Minister Shri Narendra Modi's vision of Aatmanirbhar Bharat and a clean and green India."

IREDA signed MoUs with Union Bank of India and Bank of Baroda to co-finance Renewable Energy projects

Indian Renewable Energy Development Agency Ltd. (IREDA) has signed Memorandums of Understanding (MoUs) with Union Bank of India (UBI) and Bank of Baroda (BoB). These agreements will empower IREDA to collaborate with UBI and BoB, in co-lending and loan syndication for a wide range of renewable energy projects, including both established and emerging RE technologies.

Shri Pradip Kumar Das (CMD of IREDA) said: "Both Union Bank of India and Bank of Baroda have an extensive nationwide presence with a vast network of branches. This collaboration aims to extend our reach, particularly in tier-2 & tier-3 cities and rural areas, enabling us to provide unique and innovative financial support to existing and new customers. We are confident that by combining our strengths and resources, we will continue to serve our customers in alignment with the vision of the Prime Minister for Atmanirbhar Bharat and sustainable growth."

India and Saudi Arabia sign Agreement on Cooperation in Energy Sector

India and Saudi Arabia signed a Memorandum of Understanding (MoU) on cooperation in the field of energy. The MoU between the Government of the Republic of India and the Government of the Kingdom of Saudi Arabia was signed in New Delhi on 10th September, 2023, by Union Minister for New & Renewable Energy and Power, Government of India, Shri R. K. Singh for the Indian side and Minister of Energy for the Kingdom of Saudi Arabia, His Royal Highness Abdulaziz bin Salman Al-Saud for the Saudi side.

According to the MoU, India and Saudi Arabia will cooperate in the following areas:

- Renewable Energy, Energy Efficiency, Hydrogen, Electricity and Grid Interconnection between the two countries, Petroleum, Natural Gas, Strategic Petroleum Reserves and Energy Security
- Encouraging bilateral investment in the field of Renewable Energy, Electricity, Hydrogen and Storage; and Oil & Gas
- Circular Economy and its technologies to reduce the effects of climate change, such as: carbon capture, utilization and storage
- Promoting digital transformation, innovation and cyber-security and artificial intelligence in the field of Energy
- Working on developing qualitative partnerships between the two countries to localize materials, products and services related to all sectors of energy, supply chains and its technologies
- Strengthening the cooperation with companies specialized in the field of energy
- Any other fields related to the energy field that the two countries agree upon

The MoU will develop a stronger partnership between India and Saudi Arabia in the field of energy. The MoU will support India's efforts for energy transition and transformation of global energy system towards combating climate change.

IREDA signed MoUs with Bank of Maharashtra for Financing Renewable Energy Projects

Indian Renewable Energy Development Agency (IREDA), a Government of India enterprise under the administrative control of Ministry of New and Renewable Energy, signed a Memorandum of Understanding (MoU) with Bank of Maharashtra (BoM) on September 18, 2023. This collaboration aims to promote and facilitate co-lending and loan syndication for a diverse spectrum of Renewable Energy projects across the nation.

The MoU comprises several services including co-lending and co-origination support for all Renewable Energy projects, facilitating loan syndication and underwriting, management of Trust & Retention Account for IREDA borrowers, and a commitment to establishing stable fixed interest rates spanning a period of 3-4 years for IREDA borrowings. Under this agreement, Bank of Maharashtra can invest in the Bonds issued by IREDA in accordance with the specified terms and conditions of the offering.

The MoU was signed by General Manager (Technical Services), IREDA, Shri Bharat Singh Rajput and General Manager (Retail & MSME Credit), Bank of Maharashtra, Shri Rajesh Singh at IREDA's Business Centre, New Delhi. The signing ceremony took place in the presence of Chairman and Managing Director of IREDA, Shri Pradip Kumar Das and other senior officials from both organizations.

Speaking on the collaboration, IREDA CMD Shri Das said: "This MoU with Bank of Maharashtra is another significant step in our ongoing efforts to promote Renewable Energy adoption in India. By joining forces, we aim to provide a robust financial ecosystem for Green Energy projects, making clean and sustainable energy accessible to more communities and industries. The partnership underscores the importance of Financial Institutions and Government Agencies working together in line with country's goal to achieve India's goal of Net Zero emissions by the year 2070, the target set by the Hon'ble Prime Minister."

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