

FIPI

Federation of Indian Petroleum Industry



POLICY & ECONOMIC REPORT

OIL & GAS MARKET

September 2024

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Executive Summary

According to Organization for Economic Cooperation and Development (OECD) latest Economic Outlook published in September 2024, the global economy remained resilient in the first half of 2024, with output growing at an estimated annualized rate of 3.2%.

The global growth is expected to stabilize over the projection period at 3.2% in both 2024 and 2025, broadly in line with the average pace observed through the first half of this year.

Annual GDP growth in the United States is projected to slow but supported by monetary policy easing, with growth projected to be 2.6% in 2024 and 1.6% in 2025. Euro area GDP growth is projected to be 0.7% in 2024 and 1.3% in 2025, with activity supported by a recovery in real incomes and an improvement in credit availability. Growth in China is expected to ease to 4.9% in 2024 and 4.5% in 2025, with additional policy stimulus offset by subdued consumer demand.

The National Statistical Office (NSO), Ministry of Statistics and Programme Implementation (MoSPI) released Quarterly Estimates of Gross Domestic Product (GDP) for the April-June Quarter (Q1) of the Financial Year (FY) 2024-25.

The key highlights of the estimates are as below: -

- Real GDP has been estimated to grow by 6.7% in Q1 of FY 2024-25 over the growth rate of 8.2% in Q1 of FY 2023-24.
- Nominal GDP has witnessed a growth rate of 9.7% in Q1 of FY 2024-25 as compared to the growth rate of 8.5% in Q1 of FY 2023-24.
- Real Gross Value Added (GVA) has grown by 6.8% in Q1 of FY 2024-25 over the growth rate of 8.3% in Q1 of the previous financial year. This GVA growth in the Q1 of FY 2024-25 has been driven by significant growth in the Secondary Sector (8.4%), comprising of Construction (10.5%), Electricity, Gas, Water Supply & Other Utility Services (10.4%) and Manufacturing (7.0%) sectors.
- Growth rate in Nominal GVA for Q1 of FY 2024-25 have been estimated at 9.8% over 8.2% growth rate in Q1 of FY 2023-24.
- Private Final Consumption Expenditure (PFCE) and Gross Fixed Capital Formation (GFCF), at Constant Prices, have witnessed growth rates of 7.4% and 7.5% respectively in Q1 of FY 2024-25.
- Net Taxes, at Current Prices, has observed the growth rate of 8.0 % in Q1 of FY 2024-25 resulting in 0.1%-point gap between the growth rates of GVA and GDP.

India's retail inflation in August 2024 falls below the RBI's 4% target for the second time in about five years. India's retail inflation was 3.65% in August 2024, according to the All-India Consumer Price Index (CPI) data released on September 12, 2024. The combined inflation (rural and urban) fell to 3.65% in August 2024, compared to 6.83% in August 2023. However, it has increased by 110 basis points when compared to the previous month's 3.54%. This was the second time in nearly five years that overall retail inflation fell below the Reserve Bank of India's 4% inflation target. The last time was July 2024. Urban inflation fell to 3.14% in August 2024, compared to 6.59% in August 2023. Rural inflation fell to 4.16% in August 2024, compared to 7.02% in August 2023.

The headline HSBC Flash India Composite Output Index – a seasonally adjusted index that measures the month on-month change in the combined output of India's manufacturing and service sectors – dipped to 59.3 in September from 60.7 in August. Softer expansions were seen across both the manufacturing and services sectors. Growth in new orders moderated by a touch in September, but hiring levels rose at a faster pace, supported by improving business confidence. The rise in employment in the service sector was the steepest since August 2022, as companies responded to robust growth in new orders. The HSBC Flash India Manufacturing PMI – a single-figure snapshot of factory business conditions calculated from measures of new orders, output, employment, supplier delivery times and stocks of purchases – posted 56.7 in September, down from 57.5 in August. The reading signaled a further marked strengthening in business conditions for goods producers, but the rate of improvement was the softest since January.

India's overall unemployment rate comprising both urban and rural areas came down to 4.9% in 2023-2024, from 5.1% in 2022-23, quoting the results of annual periodic labor force survey (PLFS). The labor force participation rate (LFPR) also saw an increase in 2023-24, to 56.4% from 54.6% in 2022-23. The urban LFPR rose to 50.8% from 49.4%, and rural LFPR climbed up to 58.9% from 56.7%. The reduction in unemployment rate is consistent with the economic growth (8.2%) in the last fiscal year.

India's forex reserves jumped by \$223 million to hit a fresh all-time high of \$689.46 billion for the week ended September 13, 2024. According to the Weekly Statistical Supplement released by the RBI, foreign currency assets (FCAs) dipped by \$515 million to \$603.63 billion. Expressed in dollar terms, the FCAs include the effect of appreciation or depreciation of non-US units like the euro, pound and yen held in the foreign exchange reserves. Gold reserves saw a surge of \$899 million to \$62.8 billion. Meanwhile, SDRs for above mentioned week were down by \$53 million to stand at \$18.42 billion. Reserve position in the IMF dipped by \$108 million to \$4.52 billion.

As far as oil and gas industry is concerned, the rapid decline in global oil demand growth in recent months, led by China, has fuelled a sharp sell-off in oil markets. Brent crude oil futures have plunged from a high of more than \$82/bbl in early August to a near three-year low at just below \$70/bbl on 11 September, despite hefty supply losses in Libya and continued crude oil inventory draws.

Hedge funds and money managers continued their bearish stance on crude oil in August, following significant reductions in net long positions in July. This contributed to oil price volatility and accelerated the decline in oil futures prices. Net long positions in ICE Brent were reduced to their lowest levels since at least 2011. The selling pressure was particularly strong for NYMEX WTI, where a substantial number of

long positions were closed and short positions increased only slightly. Between 30 July and 27 August, hedge funds and money managers sold an equivalent of 23 mb.

The premiums of light sweet crude over medium sour crude widened further in Asia and Europe, while little changed in the USGC, where light sweet crudes continued to perform better compared to heavy/medium sour crudes. The surge of demand for light sweet crude, particularly in the Atlantic Basin, following supply outages in North Africa boosted the value of sweet grades. Stronger light distillate margins, particularly with naphtha, compared to heavier productions, contributed to the widening spread between sweet and sour crude. Meanwhile, buying interest from some Asian refiners for medium and heavy sour softened amid a well-supplied market and fuel oil margins weakened, which added downward pressure on the sour market.

Natural gas spot prices at the US Henry Hub benchmark averaged \$1.98 per million British thermal units (MMBtu) in August 2024. Henry Hub's natural gas prices fell again in the month of August, falling by 4.3%, m-o-m. Reports of elevated storage levels remained a drag on prices. According to data from the US Energy Information Administration, as of 23 August, underground storage was 2.6% higher, m-o-m, 7.3% higher y-o-y, and 12.1% above the five-year average. Nonetheless, ongoing production cutbacks coupled with higher LNG exports partially offset losses, as terminals returned to normalcy amid limited disruptions from the hurricane season. Prices were down by 23.3%, y-o-y.

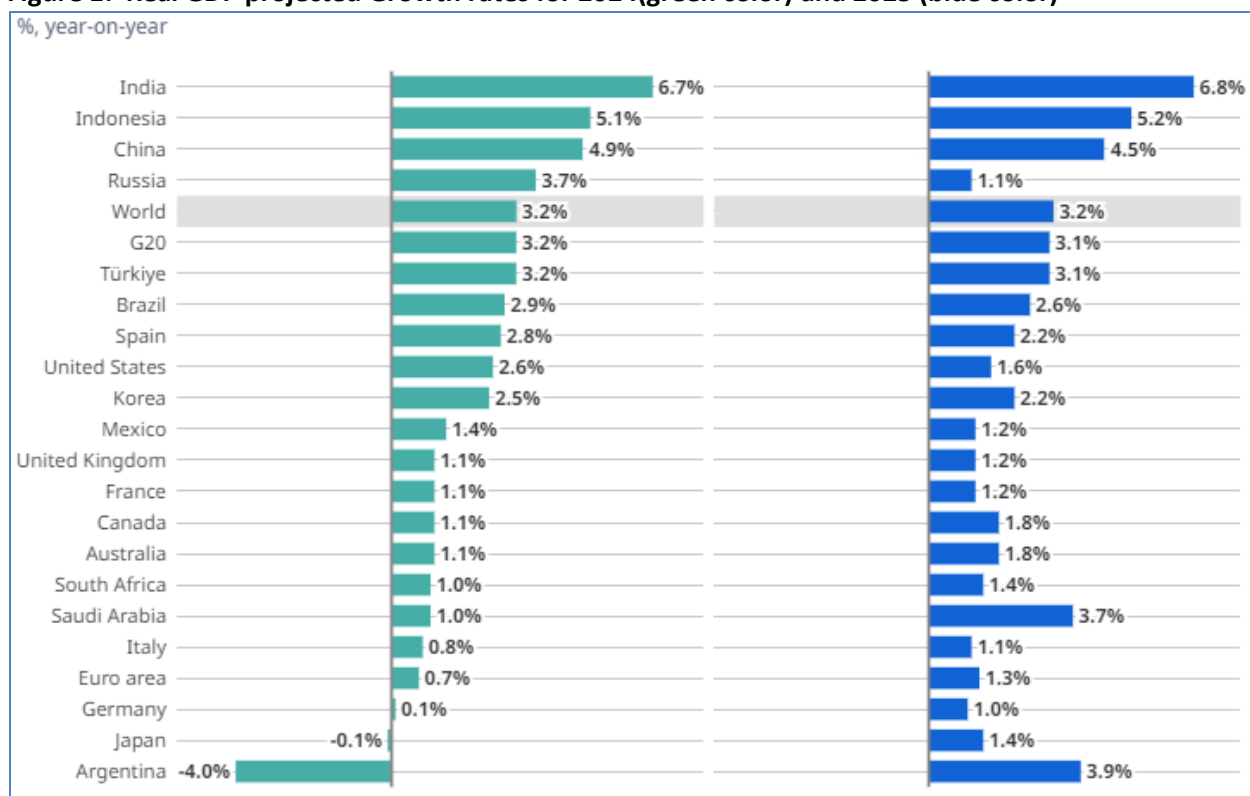
Economy in Focus

1. A snapshot of the global economy

Global economic growth

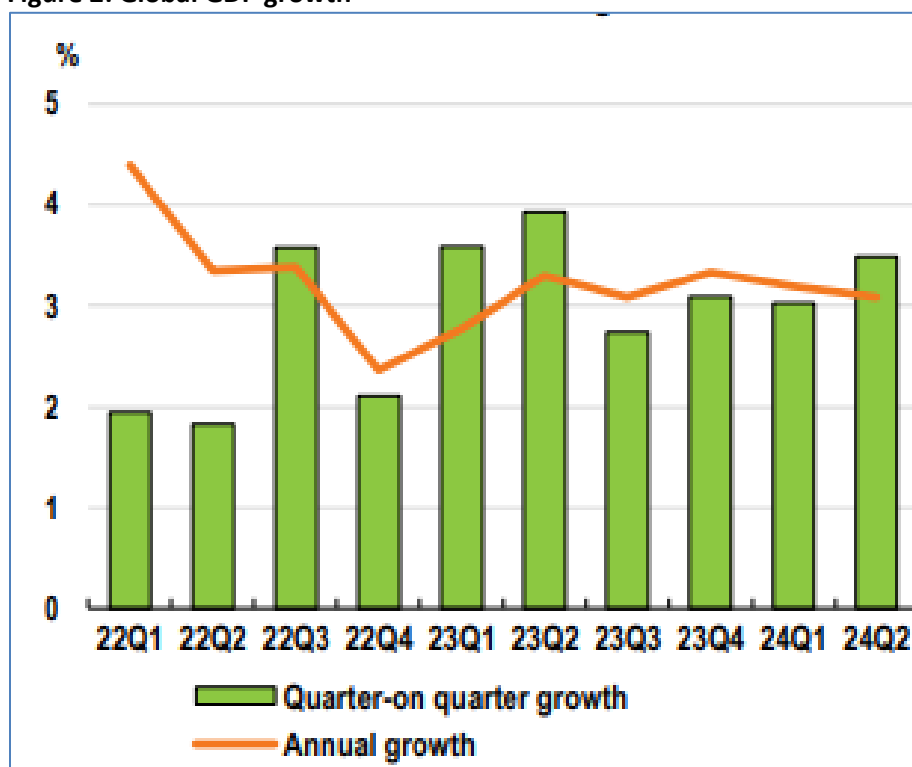
- According to Organization for Economic Cooperation and Development (OECD) latest Economic Outlook published in September 2024, the global economy remained resilient in the first half of 2024, with output growing at an estimated annualized rate of 3.2%.
- The global growth is expected to stabilize over the projection period at 3.2% in both 2024 and 2025, broadly in line with the average pace observed through the first half of this year.
- Annual GDP growth in the United States is projected to slow but supported by monetary policy easing, with growth projected to be 2.6% in 2024 and 1.6% in 2025. Euro area GDP growth is projected to be 0.7% in 2024 and 1.3% in 2025, with activity supported by a recovery in real incomes and an improvement in credit availability. Growth in China is expected to ease to 4.9% in 2024 and 4.5% in 2025, with additional policy stimulus offset by subdued consumer demand.

Figure 1: Real GDP projected Growth rates for 2024 (green color) and 2025 (blue color)



Source- OECD

Figure 2: Global GDP growth



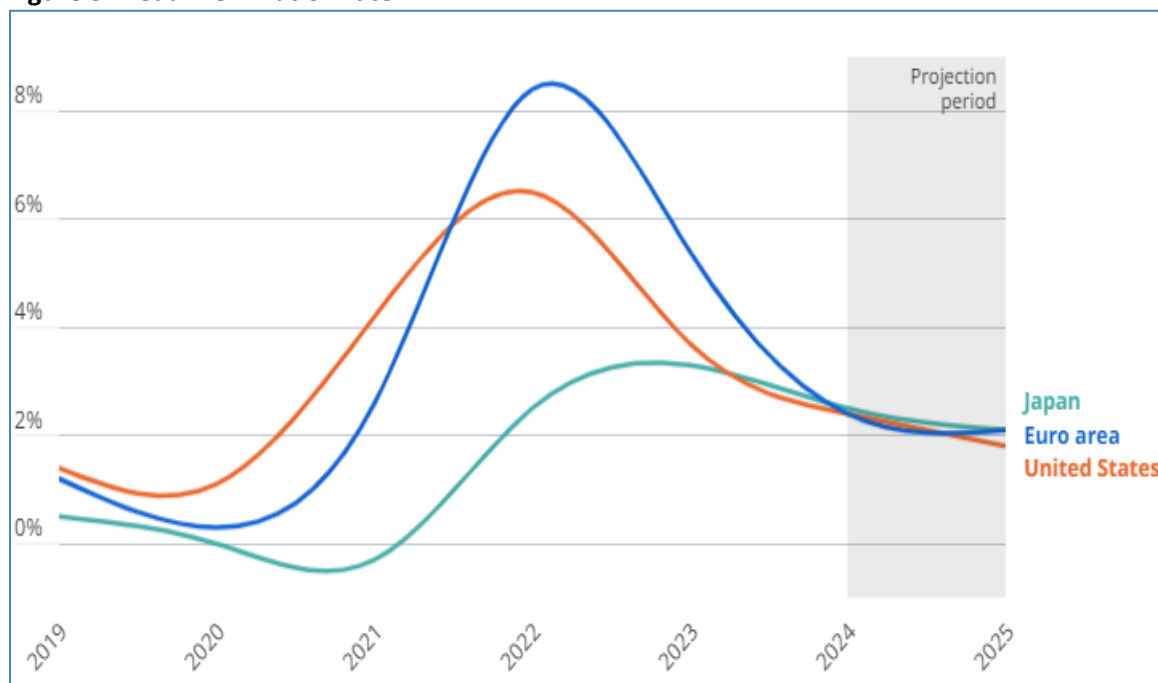
Source- OECD

- Despite growth being resilient in many economies, significant risks remain. According to OECD, persisting geopolitical and trade tensions could increasingly damage investment and raise import prices. Growth could slow more sharply than expected as labor markets cool, and deviations from the expected smooth disinflation path could trigger disruptions in financial markets.

Global Inflation

- According to OECD, headline inflation has continued to decline in most OECD countries, partly due to further declines in food price inflation and low energy and goods price inflation. As a result, inflation is now close to target in about four-fifths of OECD economies.
- Headline inflation in the G20 is projected to fall from 6.1% in 2023, to 5.4% in 2024, and 3.3% in 2025.
- Core inflation in the G20 advanced economies is anticipated to ease from 4.2% in 2023 to 2.7% in 2024 and 2.1% in 2025.

Figure 3: Headline Inflation rate

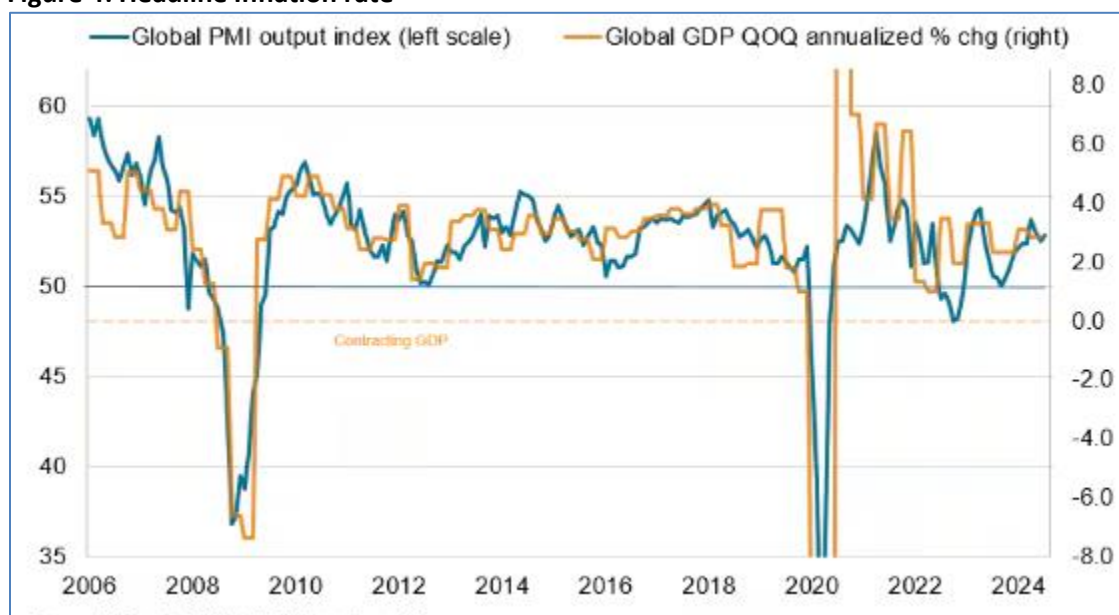


Source- OECD

Global PMI

- The JPMorgan Global PMI Composite Output Index - produced by S&P Global - registered 52.8 in September 2024, up from 52.5 in August 2024.
- The latest reading marked a first acceleration in growth rate in three months and is broadly indicative of the global economy growing at an annualized rate of 3.2% in 2024.
- While the services activity growth accelerated to a three-month high, the manufacturing output fell fractionally. Softening demand, underpinned by deteriorating trade conditions, affected manufacturing production midway through the third quarter of 2024.

Figure 4: Headline Inflation rate



Source- S&P Global

2. ADB Raises Economic Growth Forecast for Developing Asia and the Pacific

The Asian Development Bank (ADB) has raised its economic growth forecast for developing Asia and the Pacific this year, amid solid domestic demand and continued strength in exports. ADB has also lowered its forecast for regional inflation.

The region is forecast to grow by 5.0% this year, compared with a projection of 4.9% in April, according to Asian Development Outlook (ADO) September 2024. The forecast for next year is maintained at 4.9%. Inflation in developing Asia and the Pacific is expected to ease further to 2.8% in 2024, compared with a previous forecast of 3.2%.

The improved economic outlook reflects stronger-than-expected expansions in East Asia, Caucasus and Central Asia, and the Pacific. Rising global demand for semiconductors, driven in part by the artificial intelligence boom, is boosting exports; while easing global food prices and the lagged effects of monetary policy tightening have brought inflation down to near pre-pandemic levels.

Risks to the outlook include a worsening of trade tensions between the United States (US) and the People's Republic of China (PRC); further deterioration in the PRC property market; worsening geopolitical tensions; and the effects of climate change and adverse weather on commodity prices and food and energy security.

India's economy is forecast to grow 7.0% in 2024, unchanged from April, amid strong domestic demand including an increase in government spending.

The growth forecast for the Pacific is revised upward to 3.4%, from 3.3% in April, driven by the increase in tourist arrivals. The forecast for Southeast Asia has been lowered by 0.1 percentage points to 4.5%, due to a decline in public investments and slower-than-expected export recovery.

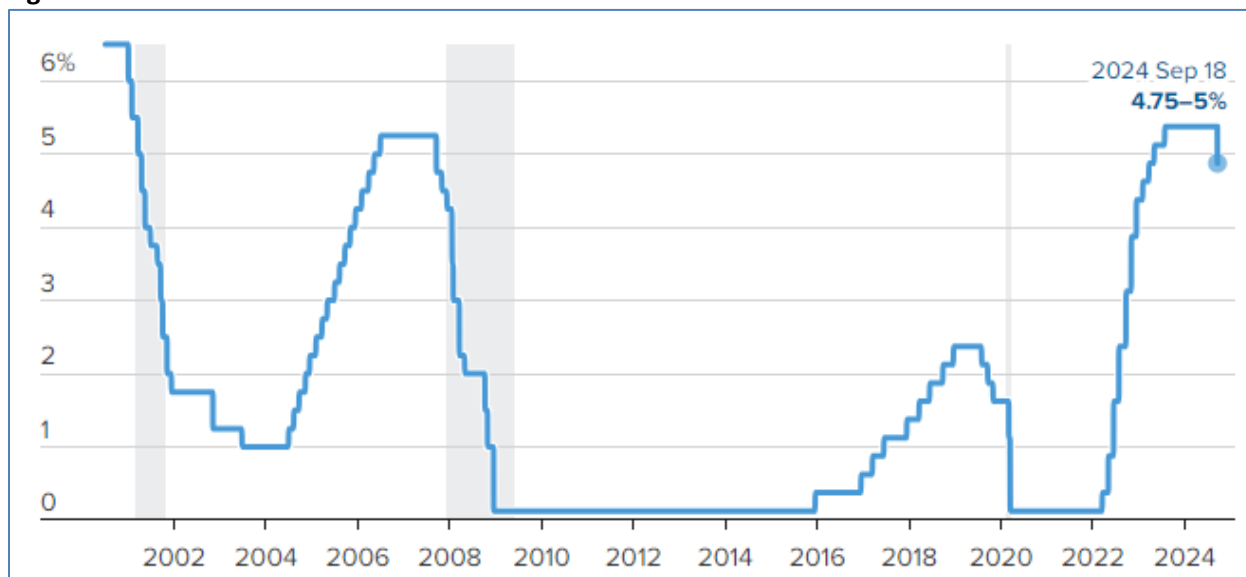
GDP Growth Rate, % per year					
	2023	2024		2025	
		April	September	April	September
Developing Asia	5.1	4.9	5.0	4.9	4.9
Developing Asia excluding the PRC	5.1	5.0	5.1	5.3	5.2
Caucasus and Central Asia	5.3	4.3	4.7	5.0	5.2
Armenia	8.3	5.7	6.0	6.0	6.0
Azerbaijan	1.1	1.2	2.7	1.6	2.6
Georgia	7.5	5.0	7.0	5.5	5.5
Kazakhstan	5.1	3.8	3.6	5.3	5.1
Kyrgyz Republic	6.2	5.0	6.3	4.5	5.8
Tajikistan	8.3	6.5	6.5	6.5	6.5
Turkmenistan	6.3	6.5	6.5	6.0	6.0
Uzbekistan	6.0	5.5	6.0	5.6	6.2
East Asia	4.7	4.5	4.6	4.2	4.2
People's Republic of China	5.2	4.8	4.8	4.5	4.5
Hong Kong, China	3.3	2.8	2.8	3.0	3.0
Republic of Korea	1.4	2.2	2.5	2.3	2.3
Mongolia	7.4	4.1	5.5	6.0	6.0
Taipei, China	1.3	3.0	3.5	2.7	2.7
South Asia	6.8	6.3	6.3	6.6	6.5
Afghanistan	-6.2
Bangladesh	5.8	6.1	5.8	6.6	5.1
Bhutan	4.0	4.4	5.5	7.0	7.0
India	8.2	7.0	7.0	7.2	7.2
Maldives	4.1	5.4	5.0	6.0	5.4
Nepal	2.0	3.6	3.9	4.8	4.9
Pakistan	-0.2	1.9	2.4	2.8	2.8
Sri Lanka	-2.3	1.9	2.6	2.5	2.8
Southeast Asia	4.1	4.6	4.5	4.7	4.7
Brunei Darussalam	1.4	3.7	3.7	2.8	2.8
Cambodia	5.0	5.8	5.8	6.0	6.0
Indonesia	5.0	5.0	5.0	5.0	5.0
Lao People's Democratic Republic	3.7	4.0	4.0	4.0	3.7
Malaysia	3.6	4.5	4.5	4.6	4.6
Myanmar	0.8	1.2	0.8	2.2	1.7
Philippines	5.5	6.0	6.0	6.2	6.2
Singapore	1.1	2.4	2.6	2.6	2.6
Thailand	1.9	2.6	2.3	3.0	2.7
Timor-Leste	1.9	3.4	3.1	4.1	3.9
Viet Nam	5.1	6.0	6.0	6.2	6.2
The Pacific	3.4	3.3	3.4	4.0	4.1
Cook Islands	14.0	9.1	15.0	5.2	7.5
Fiji	7.5	3.0	3.4	2.7	2.9
Kiribati	4.2	5.3	5.8	3.5	4.1
Marshall Islands	-0.6	2.7	2.0	1.7	3.0
Federated States of Micronesia	0.8	3.1	3.1	2.8	3.5
Nauru	1.6	1.8	2.0	2.0	2.5
Niue
Palau	-0.2	6.5	6.5	8.0	8.0
Papua New Guinea	2.0	3.3	3.2	4.6	4.5
Samoa	8.0	4.2	11.0	4.0	8.0
Solomon Islands	3.0	2.2	2.5	2.2	2.5
Tonga	2.2	2.6	2.0	2.3	2.3
Tuvalu	3.9	3.5	3.5	2.4	2.4
Vanuatu	1.0	3.1	1.9	3.6	2.4

Source- ADB

3. U.S. Fed slashes lending rate by 50 bps in first cut since 2020

The U.S. Federal Reserve cut its key lending rate by half a percentage-point in its first reduction for more than four years, sharply lowering borrowing costs. The decision lowers the federal funds rate to a range between 4.75%-5%.

Figure 5: Headline Inflation rate



Source- Federal Reserve Bank of New York

The Fed’s decision to ease monetary policy is likely to support growth and stabilize a slowing labor market. Recent indicators suggest that economic activity has continued to expand at a solid pace.

The Fed Committee seeks to achieve maximum employment and inflation at the rate of 2 percent over the longer run. The Committee has gained greater confidence that inflation is moving sustainably toward 2 percent, and judges that the risks to achieving its employment and inflation goals are roughly in balance.

The Fed's decision will affect the rates at which commercial banks lend to consumers and businesses, bringing down the cost of borrowing. The Fed’s policymakers also signaled that they expect to cut their key rate by an additional half-point in their final two meetings this year, in November and December and they envision four more rate cuts in 2025 and two in 2026 as well.

4. UN Adopts Pact for Sustainable Global Trade System

At the 79th UN General Assembly, world leaders adopted the Pact for the Future, a landmark commitment to tackle global challenges through multilateralism. Action 5 of the pact focuses on making the global trading system a driver of sustainable development, emphasizing export-led growth and preferential trade access for developing countries—crucial for achieving the Sustainable Development Goals.

UN Trade and Development (UNCTAD) plays a central role in advancing these principles, promoting fair and inclusive commerce that supports the Global South while addressing the growing intersection between trade, climate change and digital transformation.

The rise of the Global South is reshaping global power dynamics, with developing nations playing an increasingly significant role in international trade and economic governance. Calls for reform - such as Brazil's recent push for a more inclusive global governance system at the G20 - underscore the South's growing influence.

This shift offers opportunities for developing countries to access global supply chains, partnerships, and investments. However, these must be carefully managed to ensure that growth is sustainable and inclusive, aligning with the goals of the Pact for the Future.

As the world transitions to a more sustainable economy, critical minerals such as lithium, cobalt, and nickel are vital for renewable energy technologies and digital infrastructure. While countries like the Democratic Republic of the Congo and Chile are rich in these resources, relying on raw material exports leaves them vulnerable to commodity price fluctuations. To avoid this, these nations must focus on value addition and economic diversification, ensuring local communities' benefit and environmental impacts are minimized.

Simultaneously, climate-related regulations are reshaping global trade. For instance, the European Union's Carbon Border Adjustment Mechanism seeks to reduce carbon emissions but also presents challenges for developing countries with less carbon-efficient production processes. These regulations could undermine the export competitiveness of least developed countries and small island developing states, which rely heavily on trade. A coordinated international effort is needed to provide these nations with the financial and technical support required to decarbonize their economies while remaining competitive.

5. How Europe Can Make Carbon Pricing Policies Less Regressive- IMF

According to IMF analysis, poor households in Germany and France pay up to \$2 more per ton of emitted carbon dioxide than their higher-income compatriots. That is because products and services that wealthier people are likelier to consume—such as imported goods and travel outside the European Union—are exempt from carbon pricing. In other words, carbon pricing is regressive, meaning the poor pay proportionally more than the rich, as a share of their income.

New IMF research shows that correcting that distortion, in other words, equalizing carbon prices across countries, would spread the economic burden of emission reductions more evenly across households and alleviate the weight on poorer Europeans.

This would also be economically more efficient. It would ensure that cheaper emissions reduction options are implemented first, which would lower the cost of achieving European countries' emission targets and it would also distribute the cost of emissions reduction across firms, sectors, and countries.

The average highest-income household in Europe paid about \$10.75 per ton of carbon dioxide in 2020 and the lowest-income households pay on average \$1.25 more. This gap rises to \$1.75 and \$2 in countries such as Germany and France, and \$5 in Bulgaria.

Making carbon prices more uniform within countries and, across countries, would help equalizing the burden of cutting greenhouse gas emissions within EU countries.

In fact, a global price would be most effective in this regard, as it would raise carbon pricing embedded in EU households' imports. Because such a scheme would also imply large differences in burdens across countries, one possible alternative is the IMF's carbon price floor proposal, which could promote economic efficiency.

6. Indian Economy

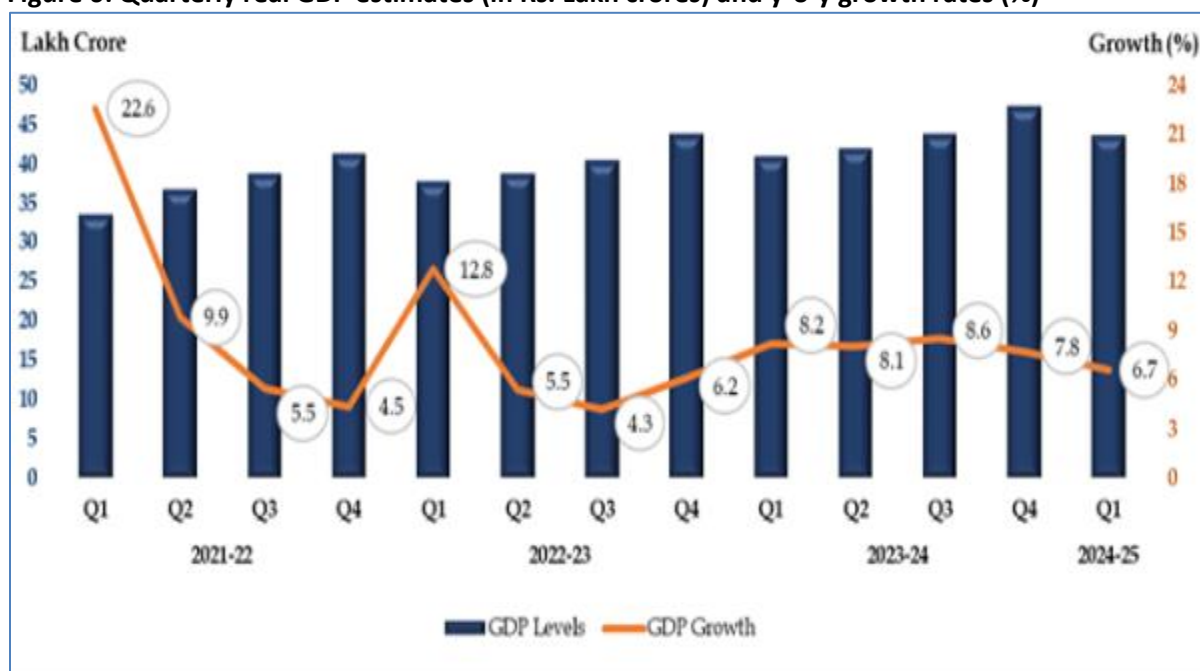
India's economic growth

The National Statistical Office (NSO), Ministry of Statistics and Programme Implementation (MoSPI) released Quarterly Estimates of Gross Domestic Product (GDP) for the April-June Quarter (Q1) of the Financial Year (FY) 2024-25.

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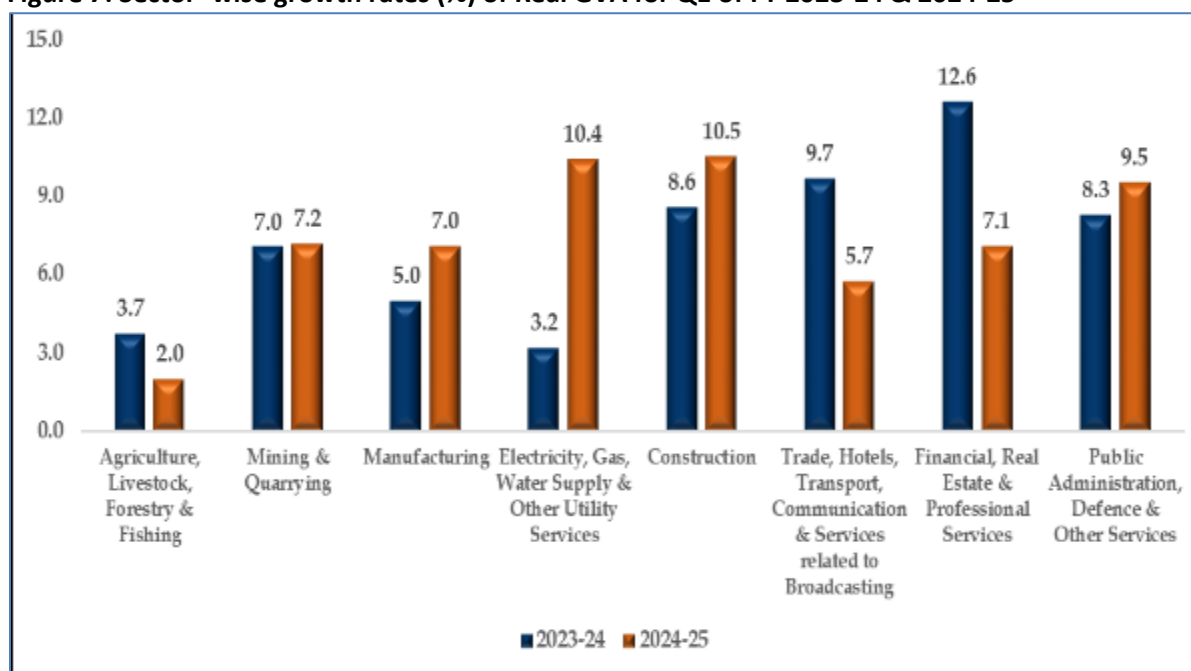
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Figure 6: Quarterly real GDP estimates (in Rs. Lakh crores) and y-o-y growth rates (%)



Source- MoSPI

Figure 7: Sector -wise growth rates (%) of Real GVA for Q1 of FY 2023-24 & 2024-25

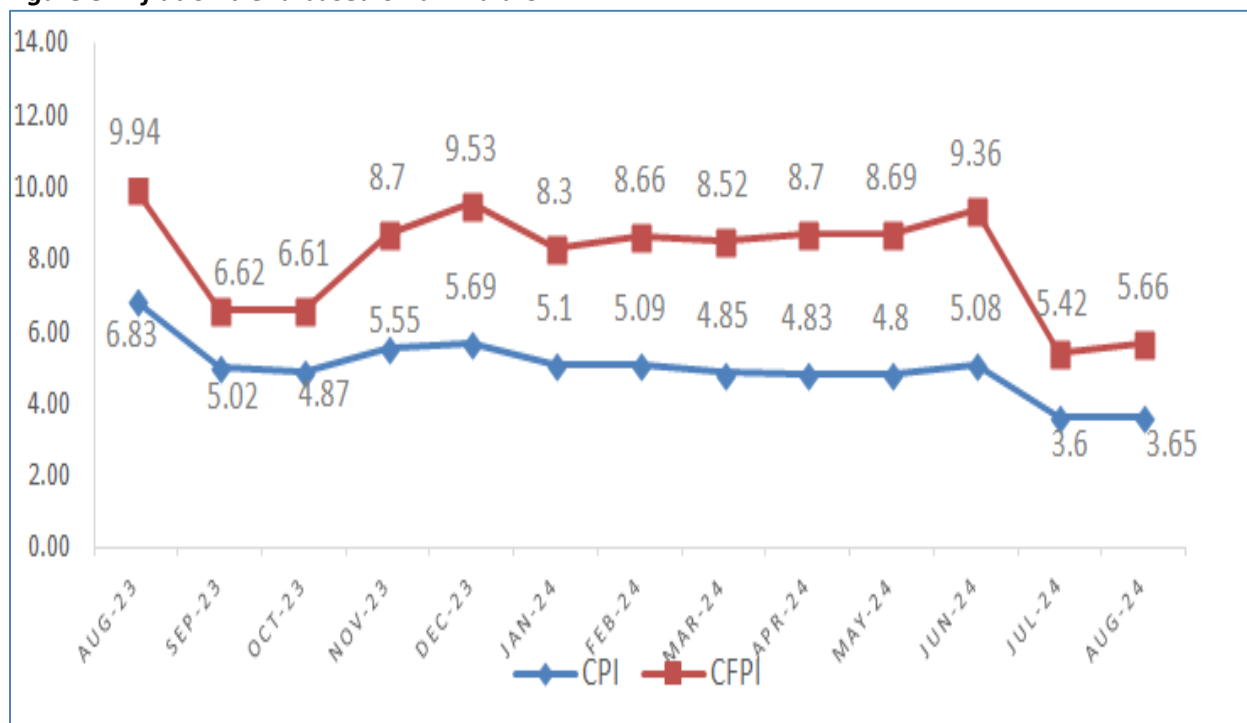


Source- MoSPI

Inflation in India

- India's retail inflation in August 2024 falls below the RBI's 4% target for the second time in about five years.
- India's retail inflation was 3.65% in August 2024, according to the All-India Consumer Price Index (CPI) data released on September 12, 2024.
- The combined inflation (rural and urban) fell to 3.65% in August 2024, compared to 6.83% in August 2023. However, it has increased by 110 basis points when compared to the previous month's 3.54%.
- This was the second time in nearly five years that overall retail inflation fell below the Reserve Bank of India's 4% inflation target. The last time was July 2024.
- Urban inflation fell to 3.14% in August 2024, compared to 6.59% in August 2023. Rural inflation fell to 4.16% in August 2024, compared to 7.02% in August 2023.
- The combined Consumer Food Price Index (CFPI), which shows food inflation was 5.65% in August 2024, compared to 9.94% in August 2023. While the urban food inflation fell to 4.99% in August 2024, compared to 10.42% in August 2023, rural food inflation fell to 6.02% in August 2024, compared to 9.67% in August 2023.

Figure 8: Inflation trend based on all India CPI



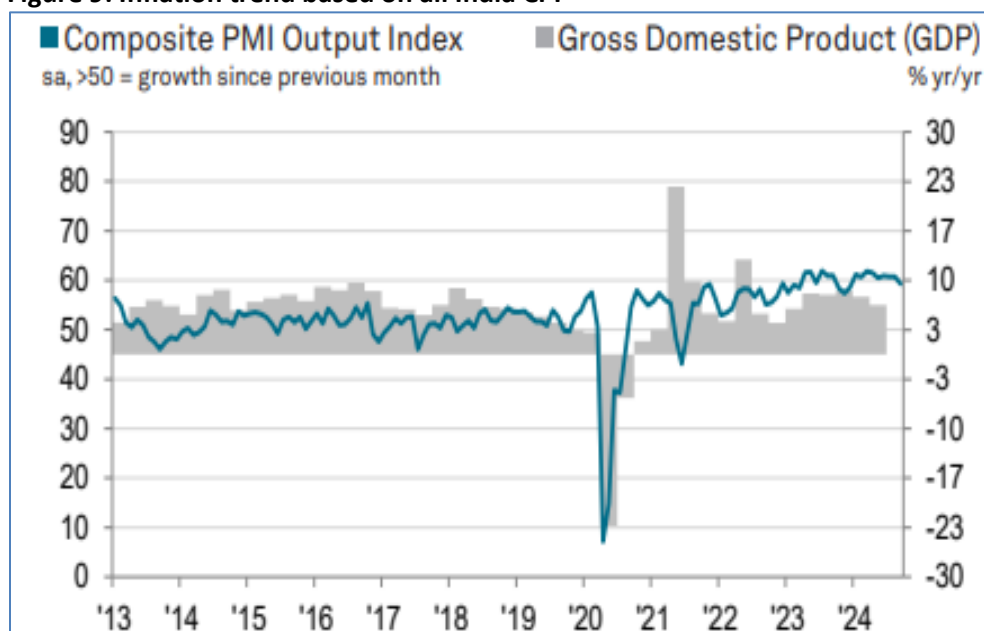
Source- MoSPI

- Bihar witnessed the highest combined inflation among all Indian states in August 2024 at 6.62%, followed by Odisha at 5.63% and Assam at 5.03%. On the other hand, Telangana had the lowest combined inflation of 2.02% followed by Uttarakhand at 2.37% and Delhi at 2.52%.
- The RBI's inflation target is 4% with a tolerance band of +/- 2 percentage points, meaning that the target is within the range of 2% to 6%.

Manufacturing PMI – India

- The headline HSBC Flash India Composite Output Index – a seasonally adjusted index that measures the month on-month change in the combined output of India's manufacturing and service sectors – dipped to 59.3 in September from 60.7 in August.
- Softer expansions were seen across both the manufacturing and services sectors. Growth in new orders moderated by a touch in September, but hiring levels rose at a faster pace, supported by improving business confidence. The rise in employment in the service sector was the steepest since August 2022, as companies responded to robust growth in new orders.
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Figure 9: Inflation trend based on all India CPI



Source- S&P Global PMI, HSBC

Unemployment in India

- India's overall unemployment rate comprising both urban and rural areas came down to 4.9% in 2023-2024, from 5.1% in 2022-23, quoting the results of annual periodic labor force survey (PLFS).
- The labor force participation rate (LFPR) also saw an increase in 2023-24, to 56.4% from 54.6% in 2022-23. The urban LFPR rose to 50.8% from 49.4%, and rural LFPR climbed up to 58.9% from 56.7%.
- The reduction in unemployment rate is consistent with the economic growth (8.2%) in the last fiscal year.
- This was the first time the unemployment rate (UR), measured by the current weekly status (CWS), fell below the 5% mark. The first annual PLFS survey was conducted in 2017-18, when the UR was 8.7%, and it has since been on a declining trend.
- The CWS measures the activity status of a person based on a reference period of the last 7 days preceding the date of survey. CWS is used to determine the quarterly urban unemployment rates, as well as the annual rural rates.
- The country's overall worker population ratio (WPR) increased to 53.7% in 2023-24 from 51.8% in 2022-23. In urban areas, the WPR increased to 47.4% from 46%, and in rural areas it rose to 56.5% from 54.2%. WPR denotes the percentage of employed persons in the population.

India's external position

India's forex reserves

- India's forex reserves jumped by \$223 million to hit a fresh all-time high of \$689.46 billion for the week ended September 13, 2024.
- According to the Weekly Statistical Supplement released by the RBI, foreign currency assets (FCAs) dipped by \$515 million to \$603.63 billion. Expressed in dollar terms, the FCAs include the effect of appreciation or depreciation of non-US units like the euro, pound and yen held in the foreign exchange reserves.
- Gold reserves saw a surge of \$899 million to \$62.8 billion. Meanwhile, SDRs for above mentioned week were down by \$53 million to stand at \$18.42 billion. Reserve position in the IMF dipped by \$108 million to \$4.52 billion.

India's foreign trade position

- India's total exports (Merchandise and Services combined) for August 2024 is estimated at USD 65.40 Billion, registering a negative growth of 2.38 percent vis-à-vis August 2023.

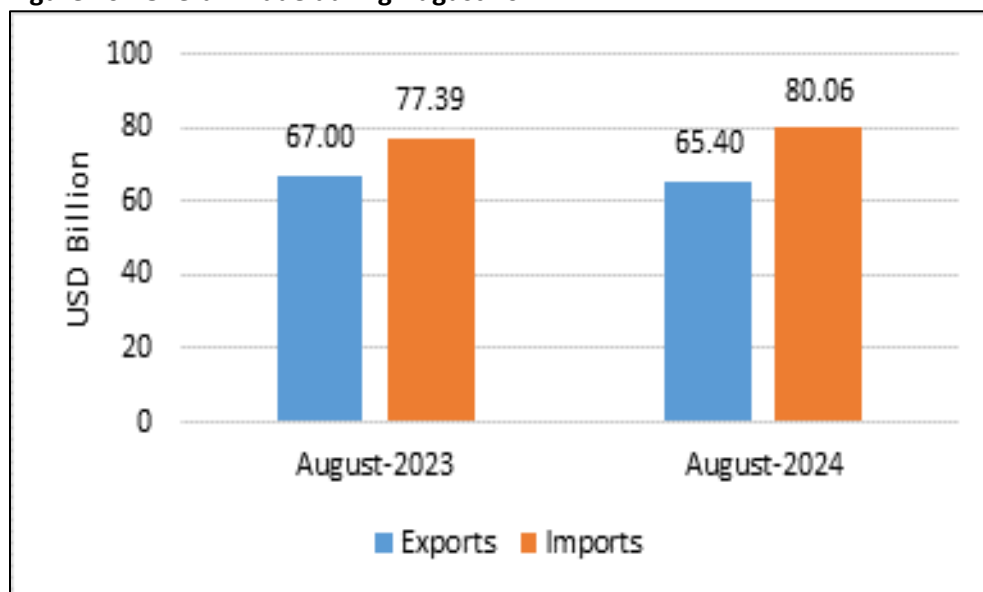
- Total imports (Merchandise and Services combined) for August 2024 is estimated at USD 80.06 Billion, registering a growth of 3.45 percent vis-à-vis August 2023.

Table 1: Trade during August 2024

		August 2024 (USD Billion)	August 2023 (USD Billion)
Merchandise	Exports	34.71	38.28
	Imports	64.36	62.30
Services	Exports	30.69	28.71
	Imports	15.70	15.09
Overall Trade (Merchandise + Services)	Exports	65.40	67.00
	Imports	80.06	77.39
	Trade Balance	-14.66	-10.39

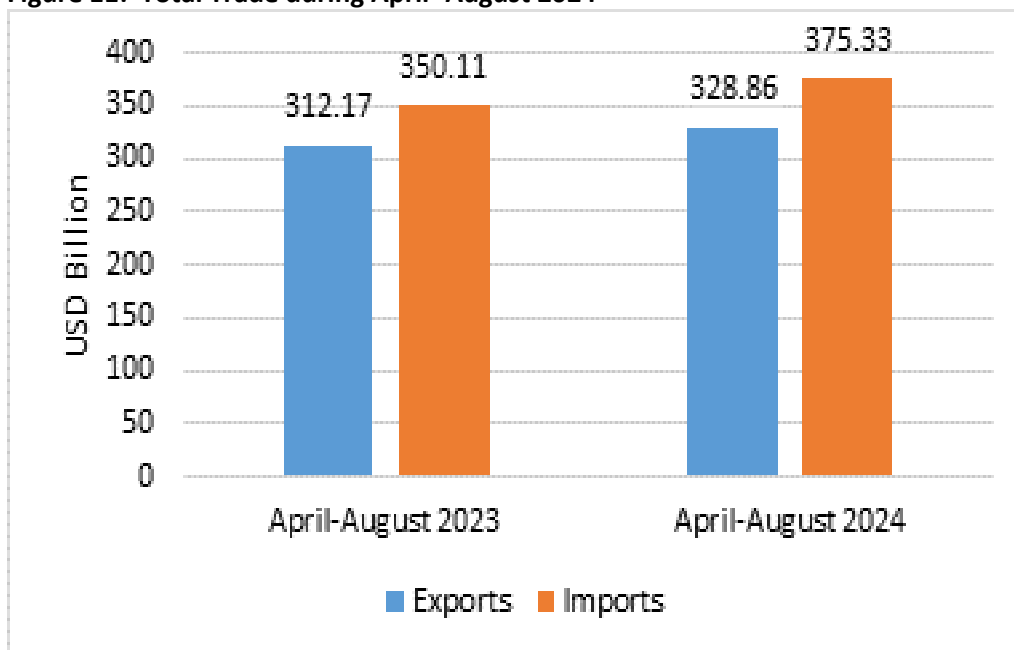
Source- Ministry of Commerce & Industry

Figure 10: Overall Trade during August 2024



Source- RBI

Figure 11: Total Trade during April- August 2024



Source- RBI

- India's total exports during April-August 2024 is estimated at USD 328.86 Billion registering a growth of 5.35 percent.
- Total imports during April-August 2024 is estimated at USD 375.33 Billion registering a growth of 7.20 percent.
- Exports of Coffee (69.55%), Tobacco (34.45%), Spices (19.13%), Jute Mfg. Including Floor Covering (15.24%), Tea (14.96%), Plastic & Linoleum (11.08%), Meat, Dairy & Poultry Products (9.83%), Carpet (8.9%), Organic & Inorganic Chemicals (8.32%), Oil Seeds (8.09%), Electronic Goods (7.85%), Cereal Preparations & Miscellaneous Processed Items (7.62%), Handicrafts Excl. Hand Made Carpet (7.19%), Cashew (6.84%), Drugs & Pharmaceuticals (4.67%), Engineering Goods (4.36%), Man-Made Yarn/Fabs./Made-Ups Etc. (1.59%) and Leather & Leather Products (0.07%) record positive growth during August 2024 over the corresponding month of last year.
- Imports of Dyeing/Tanning/Coloring Materials (-58.07%), Chemical Material & Products (-53.08%), Pearls, Precious & Semi-Precious Stones (-35.37%), Petroleum, Crude & Products (-32.38%), Sulphur & Unroasted Iron Pyrites (-25.23%), Fertilizers, Crude & Manufactured (-18.15%), Project Goods (-17.92%), Vegetable Oil (-16.56%), Newsprint (-10.78%), Pulp And Waste Paper (-5.63%), Medicinal & Pharmaceutical Products (-2.64%) and Iron & Steel (-1.43%) record negative growth during August 2024 over the corresponding month of last year.
- Services exports is estimated to grow by 10.84 percent during April-August 2024 over April-August 2023.

- Top 5 export destinations, in terms of change in value, exhibiting growth in August 2024 vis a vis August 2023 are Netherland (28.92%), Kenya (105.72%), Russia (44.61%), Brazil (27.05%) and U K (14.57%).
- Top 5 export destinations, in terms of change in value, exhibiting growth in April-August 2024 vis a vis April-August 2023 are Netherland (36.43%), U S A (5.72%), U Arab Emts (9.24%), Malaysia (40.06%) and U K (14.59%).
- Top 5 import sources, in terms of change in value, exhibiting growth in August 2024 vis a vis August 2023 are U Arab Emts (72.7%), Switzerland (80.45%), China P Rp (15.55%), U K (124.55%) and Oman (274.95%).
- Top 5 import sources, in terms of change in value, exhibiting growth in April-August 2024 vis a vis April-August 2023 are U Arab Emts (52.6%), China P Rp (10.96%), Russia (6.39%), Switzerland (16.88%) and Taiwan (40.38%).

7. Moody's raises India's 2024 growth forecast to 7.1% on better growth in Asia-Pacific

Moody's has revised its calendar year (CY) 2024 growth forecast for India to 7.1%, from its earlier estimates of 6.8% in June, as it expects growth in the Asia-Pacific region to outpace the global economy. It, however, kept its India growth forecast for CY 2025 unchanged at 6.5%.

The World Bank had also revised its fiscal year 2025 or FY25 growth forecast for India to 7%, from its previous estimate of 6.6%, citing government spending on infrastructure, a rise in household investments in real estate, better-than-expected monsoon and agricultural output, and an increase in private consumption.

India's GDP expanded 8.2% in FY24, at a faster pace than the 7% reported in FY23, according to data released by the National Statistical Office (NSO). The Reserve Bank of India (RBI) expects the economy to grow at 7.2% in FY25.

India's economy grew at 6.7% in the April-June quarter (Q1, FY25), following a 7.8% expansion in the previous quarter (Q4, FY24), marking the slowest pace in five quarters, according to data released by the statistics ministry in August.

8. ADB retains India's GDP growth projection for FY25 at 7%

The Asian Development Bank (ADB) retained its projection on India's GDP growth for the current financial year at 7% and for 2025-26 at 7.2% and said geopolitical shocks that could disrupt global supply chains and commodity prices pose near-term risks.

According to ADB, agricultural improvements will enhance rural spending, which will complement the effects of robust performance of the industry and services sectors.

In its Asian Development Outlook update for September, the ADB noted that an above-average monsoon in most parts of the country will lead to strong agricultural growth, enhancing the rural economy. It maintains a positive outlook for the industry and services sectors, private investment, and urban consumption for 2024-25 and 2025-26. Additionally, a new government policy offering employment-linked incentives to workers and firms could increase labor demand and support job creation starting in the financial year 2025-26.

ADB cited that geo-political risks can be offset by higher foreign direct investment, which could support growth and investment, particularly in manufacturing. Additionally, improvements in the supply of agricultural products may reduce food prices, potentially lowering consumer inflation.

ADB has pegged retail inflation for the current financial year at 4.7%. It said the food prices are likely to remain elevated despite higher agriculture output expectations.

9. Annual FDI inflows to India may rise to \$100bn soon: Department for Promotion of Industry and Internal Trade (DPIIT)

According to Department for Promotion of Industry and Internal Trade (DPIIT), the annual inflow of foreign direct investment (FDI) to India is likely to increase to \$100 billion in the coming years from an average of around \$67 billion recorded in the past 10 years.

The government has taken several steps to streamline the approval process for FDI applications in the sectors like defense, railways, telecom, and insurance.

FDI inflows to India increased to \$22.49 billion in the first quarter of the current financial year as against \$17.56 billion recorded in the corresponding period of the last year. Cumulative FDI inflow to India increased to \$667.4 billion during the period 2014 to 2024, which is 119% higher over the preceding decade (2004-14). FDI equity inflows into the manufacturing sector over the past decade (2014-24) increased to \$165.1 billion, marking a 69% increase compared to the previous decade (2004-14), which saw inflows of \$97.7 billion.

Further, India allows up to 100% FDI under the automatic route in most of the sectors, except certain strategically important areas. The highest FDI inflows in India in the past one decade have come in the sectors like automobiles, telecommunications, and pharmaceuticals. Prime Minister Narendra Modi government launched Make-in-India initiative in 2014 to boost domestic manufacturing to cut dependence on imports. The Make in India initiative has resulted in a significant enhancement in India's industrial capacity and export competitiveness over the last decade.

With strategic interventions in renewable energy, green technologies, and advanced manufacturing, the initiative is ensuring that Indian products meet the highest global standards.

The Production-Linked Incentive (PLI) scheme, which was introduced in 2020, has resulted in Rs 1.32 lakh crore (\$16 billion) in investments and a significant boost in manufacturing output of Rs 10.90 lakh crore (\$130 billion) as of June 2024. Over 8.5 lakh jobs have been created directly and indirectly due to the initiative.

10. India climbs 42 spots in Global Innovation Index over 9 years, ranks 39th

India has ascended 42 positions in the Global Innovation Index (GII) since 2015 and now ranks 39th out of 133 economies evaluated. The latest GII report showed India's remarkable progress in fostering an innovative ecosystem.

This achievement underscores India's growing influence in the global innovation landscape, particularly among developing nations. The GII is the world's benchmark resource charting global innovation trends to guide policymakers, business leaders and others in unleashing human ingenuity to improve lives and address shared challenges, such as climate change.

India secured the top position among lower middle-income countries, ranking ahead of Vietnam and the Philippines, with a score of 38.3. China, India, Indonesia, the Islamic Republic of Iran (64th), the Philippines, Türkiye, Vietnam, and Morocco are the middle-income economies within the GII top 70 that have climbed the most in the GII ranking since 2013.

India's strengths lie in key indicators such as Information and communication technology (ICT) services exports, venture capital received and intangible asset intensity. India's unicorn companies also secure the country the 8th rank globally.

Samsung Electronics in Bengaluru and Indian Institute of Science (IISc)-Bangalore figured in the top 100 science and technology clusters (S&T clusters) in the index. S&T clusters in Delhi, Chennai and Mumbai have also made it to the top 100 list.

Lessons from Economics

An Economy's Purchasing Managers Index (PMI)

The PMI features a headline number, indicating the overall health of an economy, and sub-indices, which provide insights into other key economic drivers such as GDP, inflation, exports, capacity utilization, employment, and inventories.

It is an indicator of the prevailing direction of economic trends in the manufacturing and service sectors. The purpose of the PMI is to provide information about current and future business conditions to company decision-makers, analysts, and investors.

The PMI is calculated based on responses to a survey sent to senior executives of various companies' in primary industries, which are weighted by their contribution to Gross Domestic Product (GDP).

The surveys include questions about business conditions, whether they are changing, and whether they are improving or deteriorating. The PMI is based on five major survey areas—each of which is weighted equally:

- New orders
- Inventory levels
- Production
- Supplier deliveries
- Employment

The headline PMI is a number from 0 to 100. A PMI above 50 represents an expansion when compared with the previous month. A PMI reading under 50 represents a contraction while a reading at 50 indicates no change.

Advantages of the PMI

- The PMI is usually released monthly, offering up-to-date information about the economic activity in the manufacturing or services sector. This timeliness allows policymakers, analysts, and investors to quickly assess the current economic conditions.
- PMI is also considered a leading indicator because it tends to provide a glimpse of economic trends before they are reflected in other economic data. Changes in the PMI can signal shifts in economic activity before those changes are seen in other indicators like GDP growth or employment numbers.
- The PMI captures information from various sub-components such as new orders, production, employment, supplier deliveries, and inventories. This comprehensive view helps understand the

different dimensions of economic activity and can reveal potential bottlenecks or strengths within the sector.

- PMI data is also available for many countries around the world and hence can be compared across different regions.

Disadvantages of the PMI

- PMI readings can be volatile from month to month due to various factors such as seasonal variations, supply chain disruptions, or changes in market sentiment. This volatility can make it challenging to discern longer-term trends. PMI data can also be subject to revisions as more accurate information becomes available.
- The PMI might not fully capture the influence of external factors such as geopolitical events, changes in trade policies, or natural disasters. These factors can have significant impacts on economic activity but might not be explicitly reflected in the PMI. For this reason, the PMI may not truly reflect all potential implications.

How Do Policymakers Use PMI Data for Decision-Making?

- Policymakers, including central banks, consider PMI data when formulating economic policies. If the PMI indicates a slowdown, they might consider loosening monetary policy to stimulate growth.
- Conversely, if it suggests overheating, they might tighten policy to curb inflation. PMI data thus helps guide policy adjustments.

Oil Market

Crude oil price – Monthly Review

The rapid decline in global oil demand growth in recent months, led by China, has fuelled a sharp sell-off in oil markets. Brent crude oil futures have plunged from a high of more than \$82/bbl in early August to a near three-year low at just below \$70/bbl on 11 September, despite hefty supply losses in Libya and continued crude oil inventory draws.

Hedge funds and money managers continued their bearish stance on crude oil in August, following significant reductions in net long positions in July. This contributed to oil price volatility and accelerated the decline in oil futures prices. Net long positions in ICE Brent were reduced to their lowest levels since at least 2011. The selling pressure was particularly strong for NYMEX WTI, where a substantial number of long positions were closed and short positions increased only slightly. Between 30 July and 27 August, hedge funds and money managers sold an equivalent of 23 mb.

Crude oil futures experienced elevated volatility in August, largely influenced by substantial selloffs from non-commercial participants in the oil futures markets. The decline in oil prices was further fuelled by market sentiment, reflecting a potential easing of geopolitical developments and the uncertain economic outlook in China.

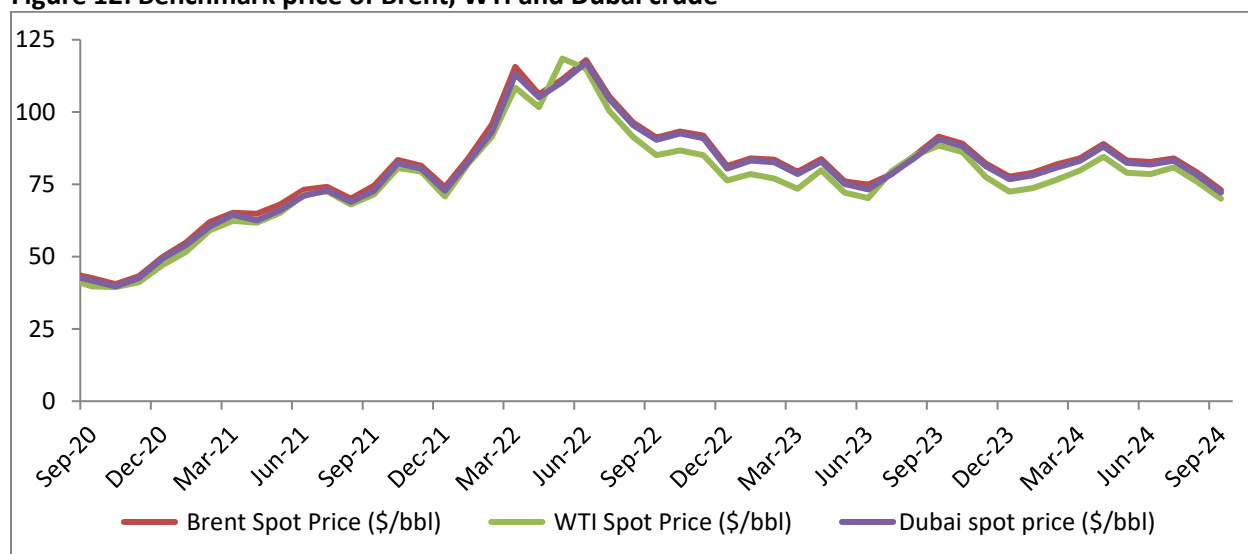
Crude spot prices averaged lower in August, undermined by selling pressure in the oil futures market and changes in traders' perceptions regarding short-term oil market outlooks. Spot prices were also pressured by weaker refining margins in all major hubs. Gasoline, diesel and fuel oil weakened in almost all markets. However, spot prices of light sweet grades found some support as supply outages in North Africa triggered rising demand for alternative prompt loading cargoes, including in the Mediterranean and North Sea, although ample availability of WTI crude in the Atlantic Basin limited the support.

The premium of light sweet crude over medium sour crude widened further in Asia and Europe, while little changed in the USGC, as light sweet crudes continued to perform better compared to heavy/medium sour crudes. The surge of demand for light sweet crude, particularly in the Atlantic Basin, following outages boosted the value of sweet grades. Stronger light distillate margins, particularly with naphtha, contributed to the widening of the spread between sweet and sour crude.

In August, the OPEC Reference Basket (ORB) value fell by \$6.02, or 7.1%, m-o-m, to stand at \$78.41/b, as all ORB component-related crude benchmarks dropped, particularly medium sour benchmarks.

Brent crude ranged an average to \$72.90 a barrel and WTI ranged to \$69.82 per barrel in the month of September 2024.

Figure 12: Benchmark price of Brent, WTI and Dubai crude



Source- World Bank

- Brent crude price averaged \$72.90 per bbl in September 2024, down by 7.7% on a month on month (MoM) and by 20.3% on year on year (YoY) basis, respectively.
- WTI crude price averaged \$69.82 per bbl in September 2024, down by 7.9% on a month on month (MoM) and by 21.0% on year on year (YoY) basis, respectively.
- Dubai crude price averaged \$72.02 per bbl in September 2024, down by 7.8% on a month on month (MoM) and by 20.5% on year on year (YoY) basis, respectively.

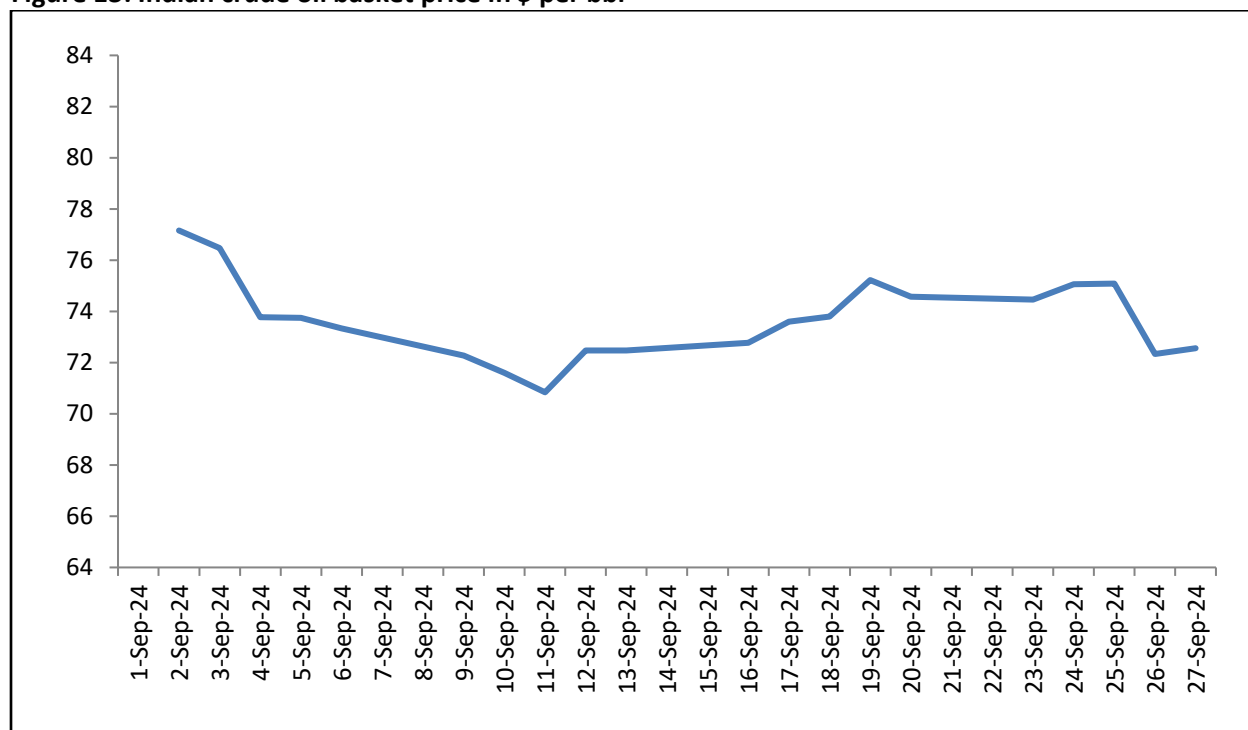
Table 2: Crude oil price in September, 2024

Crude oil	Price (\$/bbl)	MoM (%) change	YoY (%) change
Brent	72.90	-7.7%	-20.3%
WTI	69.82	-7.9%	-21.0%
Dubai	72.02	-7.8%	-20.5%

Source- World Bank

Indian Basket Crude oil price

Figure 13: Indian crude oil basket price in \$ per bbl



Source- PPAC

- Indian crude basket price averaged \$73.72 per barrel in September 2024, down by 5.8% on Month on Month (M-o-M) and by 20.2% on a year on year (Y-o-Y) basis, respectively.

Oil production situation

- Non-DoC liquids supply (i.e. liquids supply from countries not participating in the Declaration of Cooperation) is expected to grow by 1.2 mb/d in 2024, unchanged from last month's assessment. The main growth drivers are expected to be the US, Canada, and Brazil. The non-DoC liquids supply growth forecast for 2025 is also unchanged at 1.1 mb/d. The growth is anticipated to be mainly driven by the US, Brazil, Canada, and Norway.
- Natural gas liquids (NGLs) and non-conventional liquids from countries participating in the DoC is forecast to grow by about 0.1 mb/d to average 8.3 mb/d in 2024, followed by an increase of about 60 tb/d to reach 8.4 mb/d in 2025. Crude oil production by the countries participating in the DoC decreased by 304 tb/d in August compared with the previous month, averaging about 40.66 mb/d, as reported by available secondary sources.

Table 3: Non-DoC liquids production in 2024, mb/d

Non-OPEC liquids production	2023	1Q24	2Q24	3Q24	4Q24	2024
Americas	26.67	26.91	27.58	27.53	27.58	27.40
<i>of which US</i>	20.97	21.02	21.80	21.60	21.50	21.48
Europe	3.65	3.66	3.58	3.65	3.78	3.67
Asia Pacific	0.45	0.46	0.44	0.46	0.43	0.45
Total OECD	30.77	31.03	31.59	31.64	31.80	31.52
China	4.52	4.62	4.63	4.53	4.48	4.56
India	0.79	0.80	0.79	0.80	0.79	0.80
Other Asia	1.61	1.62	1.62	1.60	1.59	1.61
Latin America	6.96	7.28	7.19	7.29	7.53	7.32
Middle East	2.02	2.00	2.00	2.00	2.02	2.01
Africa	2.22	2.24	2.26	2.27	2.27	2.26
Other Eurasia	0.37	0.37	0.37	0.37	0.37	0.37
Other Europe	0.10	0.10	0.10	0.10	0.10	0.10
Total Non-OECD	18.60	19.03	18.96	18.96	19.16	19.03
Total Non-DoC production	49.37	50.06	50.56	50.60	50.95	50.55
Processing gains	2.47	2.52	2.52	2.52	2.52	2.52
Total Non-DoC liquids production	51.84	52.58	53.08	53.12	53.47	53.07

Note. *2024 = Forecast. Totals may not add up due to independent rounding

Source- OPEC monthly report, September 2024

- From the above table, it can be inferred, that the total non-DoC liquids production is expected to reach 53.07 mb/d by 2024.
- The non-DoC liquids supply (i.e. liquids supply from countries not participating in the Declaration of Cooperation) is expected to grow by 1.2 mb/d in 2024 to average 53.1 mb/d.

Oil demand situation

- The world oil demand growth forecast for 2024 is revised down slightly to about 2.0 mb/d, which is still well above the historical average of 1.4 mb/d seen prior to the COVID-19 pandemic. This minor adjustment of 80 tb/d reflects mainly actual data received year-to-date. OECD oil demand is expected to grow by around 0.1 mb/d in 2024, with OECD Americas accounting for the entire growth. Non - OECD oil demand is expected to grow by around 1.9 mb/d.
- The forecast for world oil demand growth in 2025 is also slightly revised down by a mere 40 tb/d to stand at 1.7 mb/d. Non-OECD demand is set to drive next year's growth, increasing by about 1.6 mb/d, led by contributions from China, the Middle East, Other Asia, and India. OECD demand is forecast to expand by about 0.1 mb/d, with OECD Americas contributing the most.

Table 4: World Oil demand, mb/d

	2023	1Q24	2Q24	3Q24	4Q24	2024	Growth	%
Total OECD	45.65	44.80	45.80	46.28	46.21	45.78	0.13	0.28
~ of which US	20.36	19.92	20.46	20.67	20.85	20.48	0.11	0.56
Total Non-OECD	56.56	58.11	57.81	58.53	59.40	58.47	1.90	3.37
~ of which India#	5.34	5.66	5.66	5.48	5.65	5.61	0.27	5.02
~ of which China	16.36	16.66	16.88	17.24	17.25	17.01	0.65	3.99
Total world	102.21	102.90	103.61	104.81	105.61	104.24	2.03	1.99

Source- OPEC monthly report, September 2024

Note: 2024* = Forecast. Totals may not add up due to independent rounding

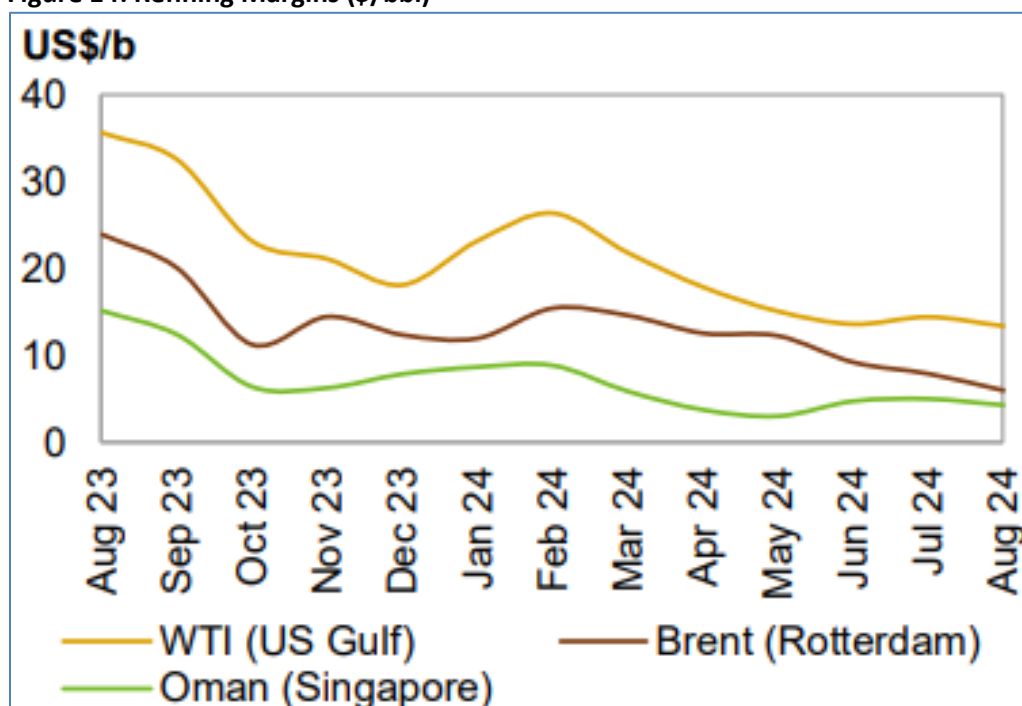
Global petroleum product prices

USGC refining margins against WTI receded from the previous month's rebound. Sizeable drops in jet/kerosene and gasoil crack spreads offset the limited gains seen elsewhere across the barrel. Jet/kerosene crack spreads in August fell to the lowest level registered since 2021, and inventories reached a new multi-year high in August. The rising product availability and possibly less optimistic market sentiment amid the approaching end of the summer season led to a notable product price decline across the barrel, m-o-m. This product price drop was most pronounced for jet/kerosene, which was \$10.01/b lower in August compared to the previous month. Although diesel exports to Europe and South America were strong over the month, slow domestic demand and firm imports led to inventory builds.

Refinery intakes in the USGC were 60 tb/d higher, m-o-m, averaging 16.95 mb/d in August. USGC margins against WTI averaged \$13.27/b in August, down by \$1.05, m-o-m, and by \$22.39, y-o-y.

Refinery margins in Rotterdam against Brent retracted further in August and showed the largest decline compared to what was registered in USGC against WTI and Singapore against Oman. Strong product output levels caused weakness all across the barrel with the exception of naphtha and low-sulphur fuel oil. The strongest negative crack spread performer was jet/kerosene, although the m-o-m loss nearly equaled that of gasoil. This was a result of a softer domestic middle distillate market amid lower European products exports from Rotterdam.

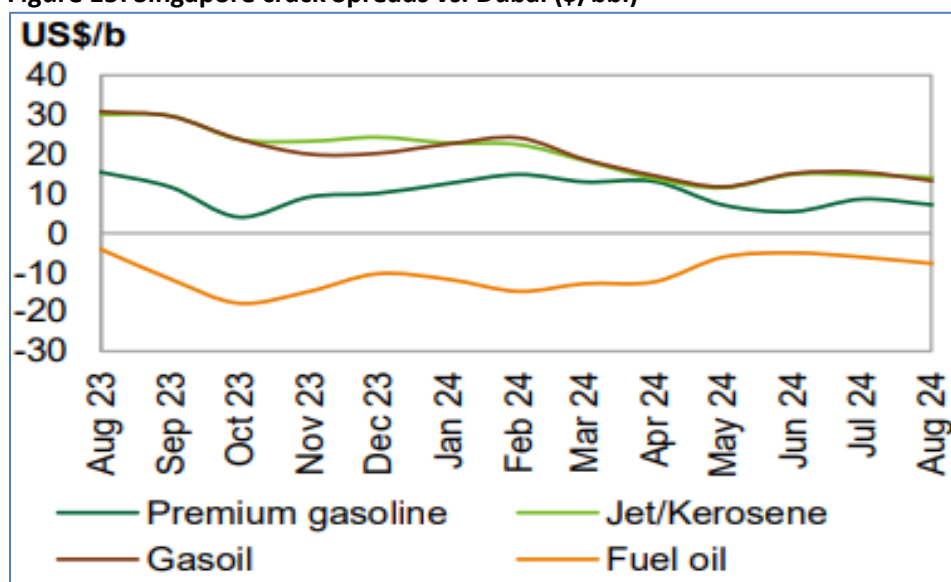
Figure 14: Refining Margins (\$/bbl)



Source- Argus and OPEC

The Southeast Asian gasoline 92 crack spread against Dubai reversed direction to shed some of the gains attained in the previous month. This was a result of challenging export opportunities as Western markets were generally well-supplied. In addition, within the region, lower demand from China, and fewer Japanese imports pressured the gasoline market. Towards the end of the month, Asian gasoline balances showed a tightening tendency, with healthy demand from India and concerns over lower Chinese gasoline supplies in the near term in line with announcements made by key Chinese refiners. China plans to increase jet/kerosene but diminishes gasoline yields due to weak gasoline margins. Moreover, refinery maintenance in Mexico during the month provided a transatlantic arbitrage opening providing support. The product's margin averaged \$7.05/b in August. This was down \$1.43, m-o-m, and \$8.33, y-o-y.

Figure 15: Singapore crack Spreads vs. Dubai (\$/bbl)



Source- Argus and OPEC

The Singapore gasoil crack spread trended downwards as weak gasoil demand continued to pose a challenge and contributed to an oversupply even beyond the region. In China, a crisis in the property market amid lower growth in the manufacturing sector weighed on gasoil consumption levels. Consequently, some Chinese refiners have opted to reduce gasoil output due to low margins. Sinopec’s Shanghai Petrochemical, generally representative of China’s integrated state-owned refineries, was reported to have reduced its gasoil production by 24.9%, y-o-y, to 1.39 mMt in the first six months of the year, as domestic demand for the fuel declined, while it raised jet fuel production by 51% to 1.23 mMt during the period (Platts). The Singapore gasoil crack spread against Dubai averaged \$13.09/b, down \$2.20, m-o-m, and \$17.60, y-o-y.

Table 5: Singapore FOB, refined product prices (\$/bbl) in August 2024

Singapore product prices	Price (\$/b)	MoM (%) change	YoY (%) change
Naphtha	72.78	-2.7%	2.9%
Premium gasoline (unleaded 95)	88.95	-7.7%	-17.0%
Regular gasoline (unleaded 92)	84.61	-8.2%	-16.9%
Jet/Kerosene	91.54	-6.9%	-21.5%
Gasoil/Diesel (50 ppm)	92.01	-7.1%	-22.6%
Fuel oil (180 cst 2.0% S)	90.26	-8.5%	-22.2%
Fuel oil (380 cst 3.5% S)	69.23	-10.8%	-16.1%

Source- OPEC

Petroleum products consumption in India

Monthly Review:

- Overall consumption of all petroleum products in August 2024 with a volume of 18.35 MMT registered de-growth of 1.18% on volume of 18.57 MMT in August 2023.
- MS (Petrol) consumption during the month of August 2024 with a volume of 3.36 MMT recorded a growth of 8.63% on volume of 3.09 MMT in August 2023.
- HSD (Diesel) consumption during the month of August 2024 with a volume of 6.50 MMT recorded de-growth of 2.52% on volume of 6.67 MMT in the month of August 2023.
- LPG consumption during the month of August 2024 with a volume of 2.65 MMT registered growth of 7.66% over the volume of 2.46 MMT in the month of August 2023.
- ATF consumption during August 2024 with a volume of 0.732 MMT registered a growth of 8.11% over the volume of 0.677 MMT in August 2023.
- Bitumen consumption during August 2024 with a volume of 0.415 MMT registered de-growth of 25.14% over volume of 0.554 MMT in the month of August 2023.
- Kerosene consumption registered de-growth of 33.51% during the month of August 2024 as compared to August 2023.

Table 6: Petroleum products consumption in India, August 2024 and Year till Date (YTD) 2024

Consumption of Petroleum Products (P)	Monthly			Year till Date	
	Consumption in '000 MT	MoM (%) change	YoY (%) change	Consumption in '000 MT	YoY (%) change
LPG	2,649	0.7%	7.7%	12363	6.73%
Naphtha	1,161	0.6%	3.0%	5697	5.36%
MS	3,360	1.9%	8.6%	16701	8.07%
ATF	732	0.7%	8.1%	3651	10.37%
SKO	35	-15.4%	-33.5%	169	-26.63%
HSD	6,502	-9.6%	-2.5%	38019	1.36%
LDO	80	31.2%	5.4%	319	-3.96%
Lubricants & Greases	363	-2.2%	12.1%	1948	27.96%
FO & LSHS	525	-0.9%	-0.3%	2738	-1.28%
Bitumen	415	-17.9%	-25.1%	3475	4.31%
Petroleum coke	1,615	-6.6%	7.2%	8492	11.92%
Others	912	-35.8%	-39.2%	5677	1.28%
TOTAL	18,349	-6.7%	-1.2%	99250	4.86%

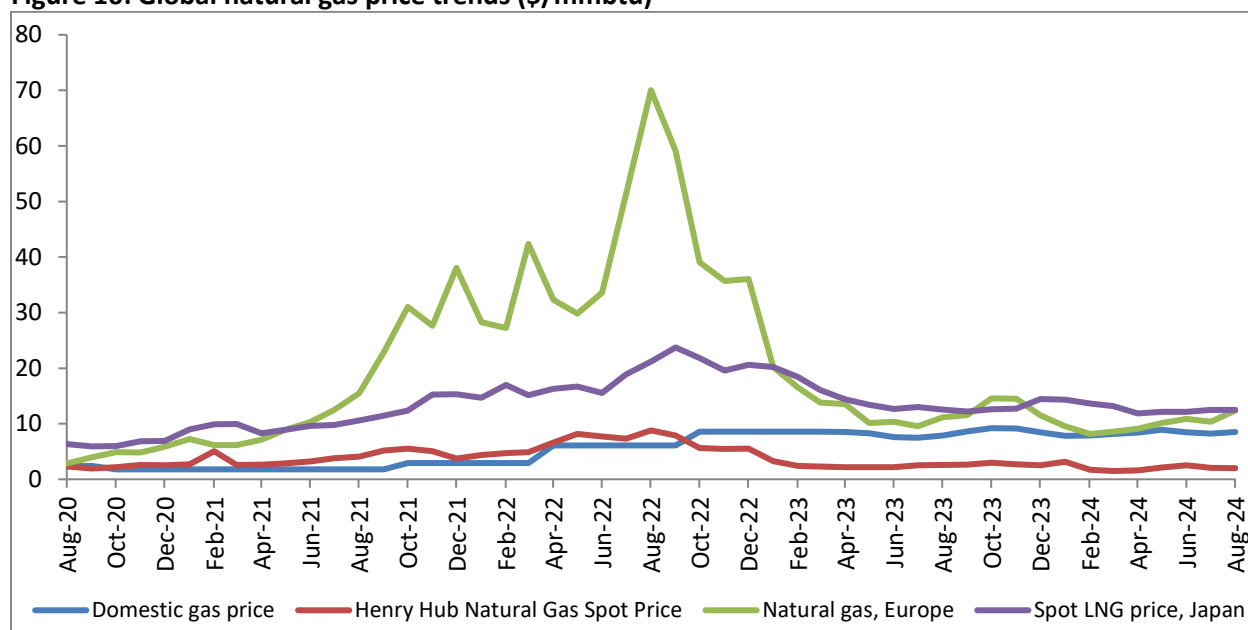
Source- PPAC

Fiscal Year: 1st April 2024 – 31st March 2025

Natural Gas Market

Natural Gas Price – Monthly Review

- Natural gas spot prices at the US Henry Hub benchmark averaged \$1.98 per million British thermal units (MMBtu) in August 2024. Henry Hub's natural gas prices fell again in the month of August, falling by 4.3%, m-o-m. Reports of elevated storage levels remained a drag on prices. According to data from the US Energy Information Administration, as of 23 August, underground storage was 2.6% higher, m-o-m, 7.3% higher y-o-y, and 12.1% above the five-year average. Nonetheless, ongoing production cutbacks coupled with higher LNG exports partially offset losses, as terminals returned to normalcy amid limited disruptions from the hurricane season. Prices were down by 23.3%, y-o-y.
- The natural gas spot price at the Title Transfer Facility (TTF) in the Netherlands in Europe traded at an average of \$12.37 per MMBtu. Natural gas prices in the EU rebounded in August. The average Title Transfer Facility (TTF) price went from \$10.4/mmbtu in July to \$12.4/mmbtu in August, a 19.6%, m-o-m, increase. Prices rose on the back of geopolitical developments, despite data from Gas Infrastructure Europe showing that EU storage levels were above 90% capacity as of 31 August. Supply risk concerns were further exacerbated by higher US LNG demand from the Asian region, which diverted cargoes away from Europe amid high price premiums. Prices were up by 10.6%, y-o-y.
- Japan Liquefied Natural Gas Import Price averaged at \$12.47 per MMBtu for August 2024. There is a change of -0.2% from last month and -0.6% from one year ago.
- 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% of the price of basket of crude oil that India imports. The rate such arrived at however will be capped at US\$ 6.5 per MMBTU. The price such arrived at will also have a floor of US\$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. Gas price ceiling was further revised for the period 1st October, 2023 – 31st March, 2024 was notified as US\$9.96/MMBTU on Gross Calorific Value (GCV) basis as per notification dated 30th September 2023. Gas price ceiling was further revised for the period 1st April, 2024 – 30th September, 2024 was notified as US\$9.87/MMBTU on Gross Calorific Value (GCV) basis as per notification dated 31st March 2024.

Figure 16: Global natural gas price trends (\$/mmbtu)


Source- EIA, World Bank

Table 7: Gas price, August 2024

Natural Gas	Price (\$/MMBTU)	MoM (%) change	YoY (%) change
India, Domestic gas price (Sep'24)	7.85	-7.76	-8.72
India, Gas price ceiling – difficult areas (Apr-Sep'24)	9.87	-0.90%	-18.56%
GIXI (Gas index of India) price*	12.7	-4%	21%
Henry Hub	1.98	-4.3%	-23.3%
Natural Gas, Europe	12.37	19.5%	10.5%
Liquefied Natural Gas, Japan	12.47	-0.2%	-0.6%

Source- EIA, PPAC, World Bank, IGX

*Prices are weighted average prices (excluding ceiling price gas)

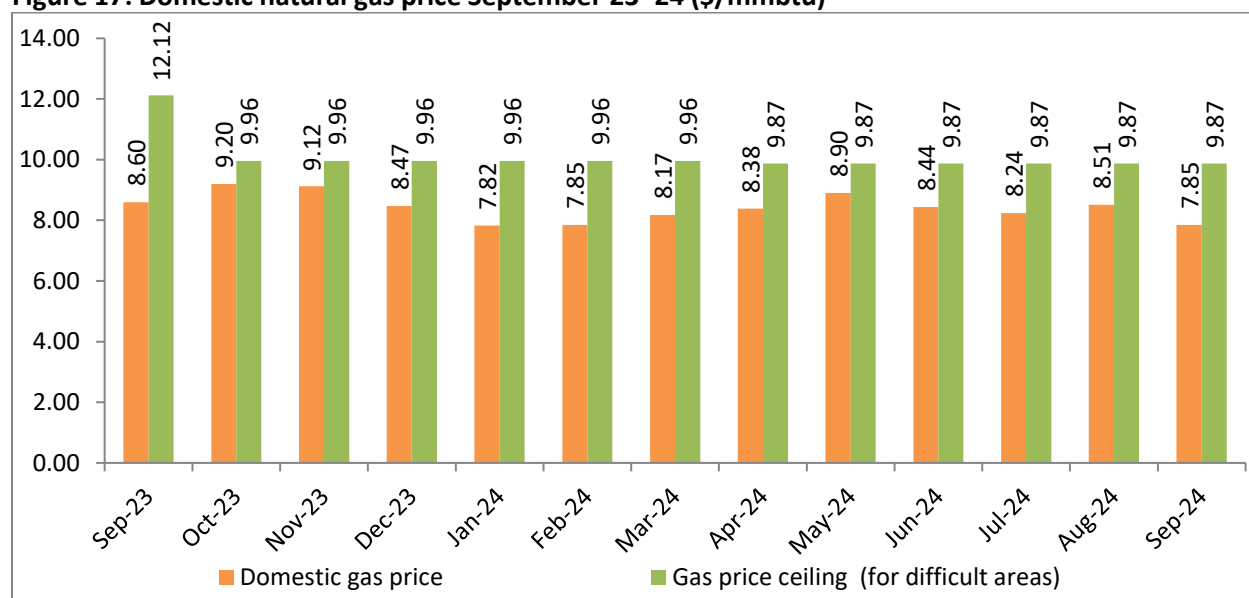
Table 8: Gas price, GCV Basis

Period	Domestic Gas calculated price in US\$/MMBTU	Gas price ceiling – difficult areas price in US\$/MMBTU
1-31 May 2023	8.27	12.12
1-30 June 2023	7.58	12.12
1-31 July 2023	7.48	12.12
1-31 August 2023	7.85	12.12
1-30 September 2023	8.60	12.12
1-31 October 2023	9.20	9.96
1-30 November 2023	9.12	9.96
1-31 December 2023	8.47	9.96

Period	Domestic Gas calculated price in US\$/MMBTU	Gas price ceiling – difficult areas price in US\$/MMBTU
1-31 January 2024	7.82	9.96
1-29 February 2024	7.85	9.96
1-31 March 2024	8.17	9.96
1-30 April 2024	8.38	9.87
1-31 May 2024	8.90	9.87
1-30 June 2024	8.44	9.87
1-31 July 2024	8.24	9.87
1-31 August 2024	8.51	9.87
1-30 September 2024	7.85	9.87

Source- PPAC

Figure 17: Domestic natural gas price September'23–24 (\$/mmbtu)



Source- PPAC

Indian Gas Market

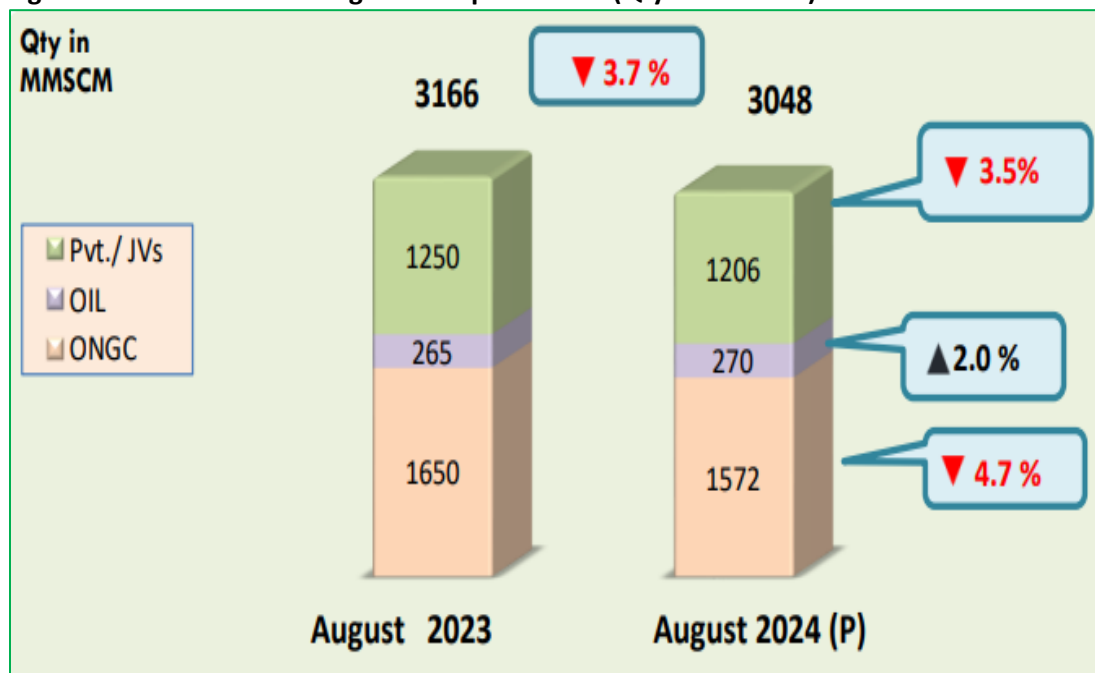
- Gross production of natural gas for the month of August 2024 (P) was 3048 MMSCM which was lower by 3.7% compared with the corresponding month of the previous year.
- Total import of LNG (provisional) during the month of August 2024 was 2794 MMSCM (P) (increase of 17.4 % over the corresponding month of the previous year).
- Natural gas available for sale during August 2024 was 5437 MMSCM (increase of 1.2% over the corresponding month of the previous year).
- Total consumption during August 2024 was 5971 MMSCM (provisional). Major consumers were fertilizer (29%), City Gas Distribution (CGD) (20%), Power (12%), Refinery (8%) and Petrochemicals (4%).

Monthly Report on Natural gas production, imports, and consumption – August 2024

1. Domestic Natural Gas Gross Production:

Domestic natural gas gross production for the month of August 2024 was 3048 MMSCM (decrease of 3.7% over the corresponding month of the previous year).

Figure 18: Domestic natural gas Gross production (Qty in MMSCM)

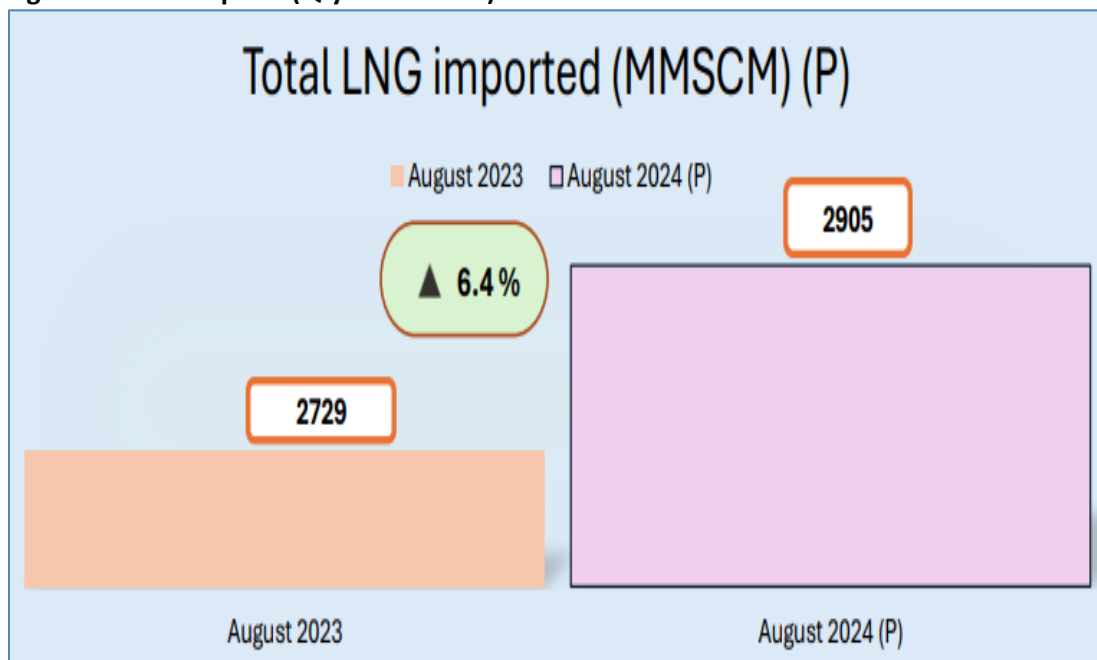


Source- PPAC

2. LNG imports:

Total import of LNG (provisional) during the month of August 2024 was 2794 MMSCM (P) (increase of 17.4 % over the corresponding month of the previous year).

Figure 19: LNG imports (Qty in MMSCM)

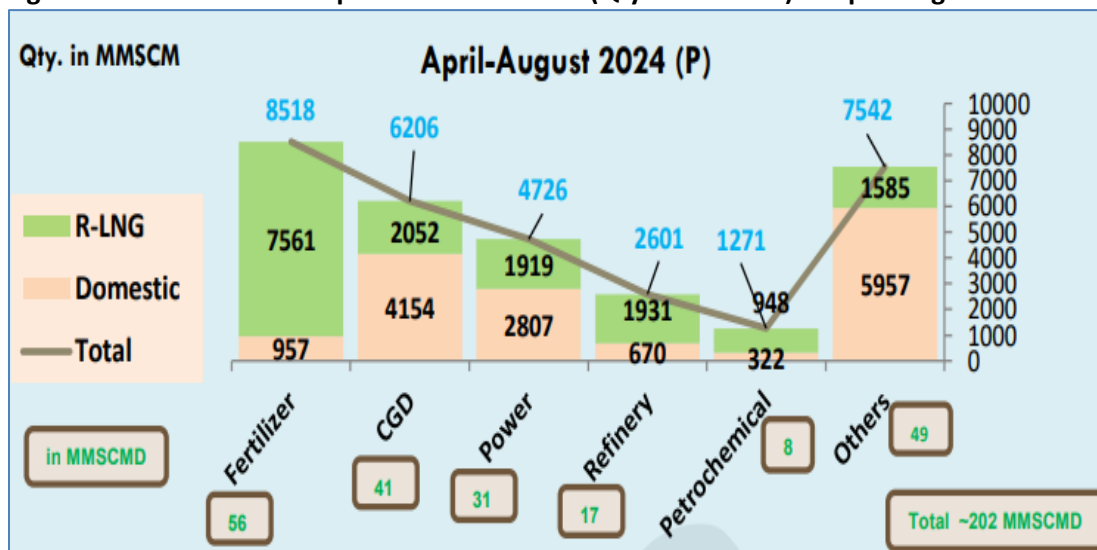


Source- PPAC

3. Sectoral Consumption of Natural Gas:

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

Figure 20: Sectoral Consumption of Natural Gas (Qty in MMSCM) in April-August 2024



Source- PPAC

Key developments in Oil & Gas sector

- **Monthly Production Report for August, 2024**

1. **Production of Crude Oil**

Indigenous crude oil and condensate production during August 2024 was 2.4 MMT. OIL registered a production of 0.3 MMT, ONGC registered a production of 1.6 MMT whereas PSC/RSC registered production of 0.5 MMT during August 2024. There is a de-growth of 2.9% in crude oil and condensate production during August 2024 as compared with the corresponding period of the previous year.

2. **Production of Natural Gas**

Gross production of natural gas for the month of August 2024 (P) was 3048 MMSCM which was lower by 3.7% compared with the corresponding month of the previous year. The cumulative gross production of natural gas of 15183 MMSCM for the current financial year till August 2024 was higher by 2.2% compared with the corresponding period of the previous year.

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

Total Crude oil processed during August 2024 was 21.5 MMT which is 1.9% lower than August 2023, where PSU/JV refiners processed 14.4 MMT and private refiners processed 7.2 MMT of crude oil. Total indigenous crude oil processed was 1.9 MMT and total Imported crude oil processed was 19.6 MMT by all Indian refineries (PSU+JV+PVT). There was a growth of 1% in total crude oil processed in April-August FY 2024 – 25 as compared to same period of FY 2023 – 24.

4. **Production of Petroleum Products**

Production of petroleum products was 22.7 MMT during August 2024 which is 1% lower than August 2023. Out of 22.7 MMT, 22.4 MMT was from refinery production & 0.3 MMT was from fractionator. There was a growth of 1.8% in production of petroleum products in April-August FY 2024 – 25 as compared to same period of FY 2023 – 24. Out of total POL production, in August 2024, share of major products including HSD is 40.3%, MS 17.6%, Naphtha 6.5%, ATF 6.3%, Pet Coke 5.5%, LPG 4.6%, and rest is shared by Bitumen, FO/LSHS, LDO, Lubes & others.

Key Policy developments/Significant news in Energy sector

Govt. slashed windfall tax on crude petroleum to nil

The government slashed windfall tax on domestically produced crude oil to 'nil' per tonne with effect from September 18.

The Special Additional Excise Duty (SAED) on export of diesel, petrol and jet fuel or ATF has been retained at 'nil'.

India initially introduced the windfall tax in July 2022 in response to the escalating price of crude oil. This tax is imposed by governments when an industry unexpectedly generates substantial profits, typically attributed to an unprecedented event. A windfall tax is imposed on domestically produced crude oil when the rates of the global benchmark exceed \$75 per barrel. For the export of diesel, aviation turbine fuel (ATF), and petrol, the levy is applicable when the product cracks, or margins, surpass \$20 per barrel.

Minister Hardeep S Puri Highlights India's Ambition to Lead Global Green Hydrogen Market at 2nd International Conference on Green Hydrogen

Shri Hardeep Singh Puri, Minister of Petroleum and Natural Gas, addressed the inaugural session of the 2nd International Conference on Green Hydrogen (ICGH), highlighting India's commitment to becoming a global leader in green hydrogen production and export. The conference, which took place from September 11-13, 2024, at Bharat Mandapam, was organized by the Ministry of New and Renewable Energy, the Office of Principal Scientific Advisor, the Department of Scientific and Industrial Research, the Department of Science and Technology, and the Ministry of Petroleum and Natural Gas.

In his address, Minister Shri Hardeep Singh Puri expressed his strong belief in green hydrogen's potential as the "fuel of the future" and emphasized India's capacity to lead in both production and export of green hydrogen and its derivatives. He outlined several initiatives by the Ministry of Petroleum and Natural Gas (MoP&NG) to boost hydrogen production in India. Currently, he said that around 54% of the country's annual hydrogen consumption is used in the petroleum refining sector. The Ministry is ensuring uptake of Green Hydrogen into refineries and City Gas Distribution (CGD) systems through public and private sectors, he said. Minister further informed that the Public Sector Undertakings (PSUs) under MoP&NG have set a target to produce over 1 million metric tons (MMT) of green hydrogen by 2030 and are in the process of floating tenders for its procurement on a Build-Own-Operate (BOO) basis, with an initial capacity of ~42 kilo tons per annum (KTPA), expected to rise to 165 KTPA.

Additionally, the Minister said that Cochin International Airport Limited (CIAL) has signed a Memorandum of Understanding (MoU) with Bharat Petroleum Corporation Limited (BPCL) to develop the first Green Hydrogen plant in the aviation sector. Indian Oil Corporation Limited (IOCL) has also handed over a state-of-the-art green hydrogen fuel cell bus to the Indian Navy, and Gas Authority of India Limited (GAIL) has established a plant in Vijaipur, Madhya Pradesh, capable of producing 4.3 tons per day (TPD) of hydrogen using a 10 MW Proton Exchange Membrane (PEM) Electrolyser, he said.

Highlighting the significant progress in the hydrogen sector since the last edition of the International Conference on Green Hydrogen, Shri Puri said that since the last conference, India has secured an electrolyser manufacturing capacity of approximately 3,000 MW, achieved 412,000 tonnes per annum (TPA) in green hydrogen production, and issued tenders for 450,000 TPA of green hydrogen and 739,000 TPA of green ammonia. He emphasized that green hydrogen offers higher efficiency and zero direct CO₂ emissions compared to fossil fuels and traditional energy sources.

Outlining India's strategic vision and potential in green hydrogen production, Shri Hardeep Singh Puri emphasized that India is uniquely positioned to meet the global hydrogen demand, which is expected to reach 200 million tonnes by 2030. With abundant natural resources and a robust infrastructure, India is set to become a key player in the green hydrogen sector. Shri Puri highlighted India's competitive advantage due to its low-cost solar energy and significant investments in the power grid. The country's installed solar capacity has surged from 2.6 GW in 2014 to 85.5 GW in 2024, supported by one of the largest synchronous grids in the world capable of managing intermittent renewable energy. This positions India as a leading producer of green hydrogen, ready to cater to both domestic and global markets.

The Minister detailed India's ambitious Green Hydrogen Policy and National Green Hydrogen Mission. The Green Hydrogen Policy aims for a production target of 5 million tonnes by 2030, supported by incentives such as a 25-year waiver of inter-state transmission charges for projects commissioned before June 2025. The National Green Hydrogen Mission, with an initial investment of Rs. 19,744 crores, is expected to significantly reduce fossil fuel imports by Rs. 1 lakh crores by 2030. This initiative will likely generate over 6 lakh jobs and attract investments totalling more than Rs. 8 lakh crores. Additionally, the Minister noted that several states including Maharashtra, Uttar Pradesh, Madhya Pradesh, Kerala, Odisha, Andhra Pradesh, and Tamil Nadu are developing policies to further incentivize green hydrogen usage, reinforcing India's commitment to becoming a global leader in green energy.

In his concluding remarks, Shri Hardeep Singh Puri emphasized that while the global green hydrogen value chain is still developing, India must address challenges including green financing, trade routes, and human resource upskilling. He expressed confidence in India's ability to create a thriving hydrogen hub, benefiting economic development and energy security.

Joint Statement on meeting between Minister of Petroleum and Natural Gas of India and Minister of Mines and Energy of Brazil on Cooperation between India and Brazil in the Energy Sector

The Minister of Petroleum & Natural Gas of the Republic of India, H.E. Mr. Hardeep S Puri, paid an official visit to the Federative Republic of Brazil from September 19th – 21st on the invitation of the Minister of Mines & Energy of the Federative Republic of Brazil, H.E. Mr. Alexandre Silveira. H.E. Hardeep Puri was accompanied by Indian Oil & Gas Companies representing both the upstream and downstream sector.

During the visit, the sides reviewed the existing collaboration in the energy sector including Indian upstream investment, mutually beneficial relationship in bilateral trade and cooperation in sustainable fuels, particularly biofuels.

In the oil & gas sector, the sides recognised the trust reposed by Indian companies in the Oil & gas sector which has resulted in Brazil being one of the largest destinations for investments by Indian Oil & Gas companies in the world. The sides also reaffirmed their commitment to identify new possible mechanism for increasing the presence of Indian companies in the country, including through new investment opportunities in producing assets. The sides, while recognising the complementarities in the trade sector, committed to identifying ways of enhancing the trade between the two countries, including through innovative mechanisms.

As founding members of the Global Biofuels Alliance, both sides reiterated the crucial role the Alliance will play in positioning biofuels as a key component of the global energy transition, contributing not only to environmental sustainability but also to socioeconomic growth.

The Indian side congratulated the Brazilian side on the hosting of the G20 and welcomed the emphasis being placed on sustainable fuels and social dimensions of energy transition. The Indian side expressed confidence that Brazil's leadership would further the G20's agenda of inclusive and sustainable development, building on the momentum generated by India's presidency in 2023.

The sides looked forward to co-hosting an India-Brazil Clean Cooking Ministerial Meeting on the sidelines of India Energy Week 2025 in February 2025, which would provide an opportunity to explore collaborative pathways for enhancing clean cooking access globally.

Both sides discussed collaboration in the domain of deep and ultradeep explorations in the Indian offshore Acreages.

The two sides also initiated a discussion on cooperation in the area of critical minerals and their value chains.

Joint Statement on Biofuels and Sustainable Aviation Fuels (SAF)

The sides noted that India and Brazil, as two leading biofuel producers, are well-positioned to collaborate on production and use of Sustainable Aviation Fuels (SAF), by leveraging their existing ethanol and biodiesel production infrastructure, growing aviation market and vast feedstock potential, including their agricultural resources.

In the context of SAF, the sides noted that currently SAF remains the major mature and viable pathway to decarbonise the aviation sector. At the same time, SAF only accounts for 0.3% of the current fuel use for aviation.

The sides reaffirmed that the goal of net zero in the aviation sector would require joint and collaborative action between the two countries to resolve some of the major hurdles to SAF production, namely, feedstock-related challenges, high cost of SAF compared to other technologies, infrastructure for large - scale production and efficient waste management systems, low maturity of production pathways, etc.

The sides highlighted the importance of the establishment of consistent international standards, such as the sustainability criteria defined within the scope of Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA/ICAO) and reinforced the principle of technological neutrality with regards to the different technological pathways and raw materials used in the sustainable production of aviation fuels.

The sides recognised the role an India-Brazil partnership in SAF can play in the deployment and development of the Sustainable Aviation Fuel Sector through leveraging and catalysing of regional value chains to ramp up SAF production, trading, distribution, and certification, which *inter-alia* will support the enhancement of availability, affordability and reliability of SAF.

The sides noted that the modes for such cooperation could include the following:

1. Leverage Ethanol Production from all sources;
2. Promote technology exchange, joint research, and development initiatives, in order to optimize SAF production processes;
3. Share regulatory and policy experience, with a view to create frameworks that encourage investment in SAF production;
4. Cooperate in RD&I with a view to enhance the Technology Readiness Level (TRL) of production pathways;
5. Collaborate in multilateral forums, such as ICAO, in order to promote the development of SAF.

The sides acknowledged that collaboration between the two countries represents a strategic partnership in line with the sustainable development and carbon reduction goals of both countries. By combining resources, expertise, and technology, India and Brazil can lead the global transition towards lower emission aviation. This collaboration will not only address pressing environmental challenges but also open new avenues for economic and technological advancement in the biofuels sector.

The sides therefore reaffirmed their desire to strengthen cooperation between the two countries to usher in various advantages, which include economic growth, by creating jobs in the rural sector and fostering innovation in renewable energy technologies and energy security, by reducing reliance on imports. Importantly, bilateral cooperation in SAF production will contribute to global efforts to reduce the carbon footprint of aviation.

The ministers underscored that this comprehensive partnership represents a significant milestone in India-Brazil relations aligning with their shared sustainable development goals. By combining their resources, expertise, and technology, India and Brazil will not only lead the global transition towards lower emission aviation but also provide critical support to other Global Biofuels Alliance members in their decarbonization efforts, ultimately paving the way for a future with cleaner skies.

National Test House signs Memorandum of Understanding with Bureau of Energy Efficiency to promote energy efficiency in India

A Memorandum of Understanding was signed between National Test House (NTH), Department of Consumer Affairs and the Bureau of Energy Efficiency (BEE), Ministry of Power, aimed at strengthening the Standards & Labelling (S&L) Program, a crucial initiative designed to promote energy efficiency across the country. The MoU was signed in the presence of Smt. Nidhi Khare, Secretary, Department of Consumer Affairs, Government of India and Shri Pankaj Agarwal, Secretary, Ministry of Power.

Some of the salient features of the MoU are:

- BEE shall recognise NTH as referral laboratory and send its cases pertaining to technical disputes regarding the test results for consultation.
- BEE shall nominate Officers of NTH in their various Technical Committees in consideration of expertise with NTH Officers.
- NTH shall conduct Capacity Building Training to BEE Officers at the NTH Regional Laboratories / BEE Head Quarters at Delhi.
- Complete Review of existing S & L Programme of BEE including Check Testing Procedures.
- Any other technical matter pertaining to S & L Scheme with mutual consent.

While speaking on the occasion, Smt. Khare Secretary, DoCA said, “Product should be designed not to fail but to last. To facilitate consumers and to ensure their rights, this MoU will prove as a stepping stone towards an everlasting relationship between NTH and BEE.”

Shri Agarwal, Secretary Ministry of Power said Star Ratings of electrical appliances and products are provided by BEE. “We need to check whether an industry that has taken the star ratings from us is consistently delivering on the parameters. To ensure this, we have joined hands with Department of Consumer Affairs for market surveillance and for dependable testing”, he said.

It may be pertinent to mention that the MoU between the Departments of Government of India National Test House (a Premier Scientific & Testing Agency) and Bureau of Energy Efficiency (through its S&L Programme) will certainly help in the sustainable development of the country in respect of Conservation of Energy by saving electricity also thus reducing the carbon footprints. This will be a large leap in making of Atmanirbhar Bharat.

The MoU was signed by Shri Milind Deore, Secretary, BEE and Shri Alok Kumar Srivastava, DG, NTH.

Cabinet approved Modification of the scheme of Budgetary Support for the cost of Enabling Infrastructure for Hydro Electric Projects

The Union Cabinet chaired by the Prime Minister Shri Narendra Modi has approved the proposal of the Ministry of Power for modification of the scheme of budgetary support for the cost of Enabling Infrastructure for Hydro Electric Projects (HEP) with a total outlay of Rs.12461 crore. The scheme would be implemented from FY 2024-25 to FY 2031-32.

The Government of India has been taking several policy initiatives to address the issues impeding Hydro Power development, viz., remote locations, hilly areas, lack of infrastructure etc. To promote the hydro power sector and to make it more viable, the Cabinet in March, 2019, approved measures, namely declaring large hydro power projects as Renewable Energy sources, Hydro Power Purchase Obligations (HPOs), tariff rationalization measures through escalating tariff, budgetary support for flood moderation in storage HEP and budgetary support for the cost of enabling infrastructure, i.e., construction of roads and bridges.

For the faster development of Hydro Electric Projects and improvement of infrastructure in the remote project locations, the following modifications have been made in the earlier scheme:

a) To widen the ambit of the Budgetary Support for cost of Enabling Infrastructure by including four more items apart from construction of roads and bridges i.e., the cost incurred for the construction of: (i) transmission line from power house to the nearest pooling point including upgradation of pooling substation of State /Central Transmission Utility (ii) ropeways (iii) railway siding, and (iv) communication infrastructure. The strengthening of existing roads/bridges leading to the project will also be eligible for central assistance under this scheme.

b) The scheme has a total outlay of Rs.12,461 crore for cumulative generation capacity of about 31350 MW to be implemented from FY 2024-25 to FY 2031-32.

c) The scheme will be applicable to all Hydro Power Projects of more than 25 MW capacity including the private sector projects which have been allotted on a transparent basis. This scheme will also be applicable to all Pumped Storage Projects (PSPs) including Captive/Merchant PSPs, provided that the project has been allotted on a transparent basis. A cumulative PSP capacity of about 15,000 MW would be supported under the scheme.

d) The projects whose Letter of Award of first major package is issued upto 30.06.2028 would be considered under this scheme.

e) The limit of Budgetary Support for the cost of Enabling Infrastructure has been rationalized to Rs.1.0 crore/MW for projects up to 200 MW and Rs.200 crore plus Rs.0.75 crore per MW exceeding 200 MW, for projects above 200 MW. For exceptional cases the limit of budgetary support may go upto Rs.1.5 Crore/MW provided sufficient justification exists.

f) The Budgetary Support for cost of Enabling Infrastructure will be provided after appraisal of the cost of Enabling Infrastructure by the DIB/PIB and approval of the Competent Authority as per extant guidelines.

Benefits

This revised scheme would help in faster development of hydroelectric projects, improve infrastructure in the remote and hilly project locations and would provide large number of direct employment to the local people along with indirect employment / entrepreneurial opportunities through transportation,

tourism, small-scale business. It would encourage fresh investments into hydro power sector and incentivize timely completion of new projects.

Government's Commitment to Renewable Energy Gets a Significant Boost: CEA concurred two more Hydro Pumped Storage Projects (2500 MW)

In a landmark step towards realizing India's renewable energy goals, Central Electricity Authority (CEA) is making significant strides in addressing the growing need for large-scale energy storage in the nation's power grid.

In line with its commitment to ensuring a sustainable energy future, CEA has achieved another major milestone by concurring two more Pumped Storage Projects (PSPs) in Maharashtra viz. 1500 MW Bhavali PSP being developed by JSW Energy Ltd. and 1000 MW Bhivpuri PSP being developed by Tata Power Co. Ltd.

These PSPs are concurred with the support of the Central Water Commission (CWC), Geological Survey of India (GSI), and Central Soil and Materials Research Station (CSMRS) and were concurred within 10 days of completion of the DPRs i.e. the date on which the complete DPRs were submitted on the ONLINE portal by the developers.

The project developers of these PSPs have indicated that they will fast track the commissioning and complete them in 44 to 46 months i.e. by 2028. These PSPs will collectively provide a storage capacity of more than 15 GWh (Gigawatt hours). This large-scale energy storage is crucial for meeting the peak demand during non-solar hour in addition to inertia to the grid, leading to grid stability. It will help in faster renewable energy integration, and supporting the transition to a greener energy system.

CEA targets to concur at least two PSPs each month during the current year depending upon the completion of the DPRs by the developers. During 2024-25, CEA has targeted to concur 15 Hydro PSPs of 25,500 MW capacity, out of this 4 PSPs of 5,100 MW capacity have already been concurred.

Under ease of doing business, CEA has developed an ONLINE portal "Jalvi-store" which will bring more transparency in processing of the chapters at pre DPR stage of PSPs. Further, some chapters have been done away with for expeditious concurrence of the DPRs. The check list is also incorporated in guidelines of PSPs which gives clarity on the information needed for respective chapters. GSI and CWC have made multiple teams for faster clearances of design chapters of PSPs.

The approval of these projects, spearheaded by private developers, underscores the growing role of the private sector in driving India's energy transition. This marks a shift towards a collaborative energy ecosystem where public and private sectors converge to achieve national goals. This partnership will accelerate progress towards India's renewable energy targets. CEA is confident that these projects will play a pivotal role in enhancing the reliability and sustainability of India's electricity grid, paving the way for a robust and resilient energy future.

India is asserting its emerging dominance in the Green Hydrogen Sector: Pralhad Joshi at the curtain raiser of ICGH 2024

The Government of India is organising the 2nd International Conference on Green Hydrogen from 11-13 September at the Bharat Mandapam, New Delhi.

At the curtain-raiser ceremony, Shri Pralhad Joshi, Union Minister of New & Renewable Energy; Consumer Affairs, Food & Public Distribution highlighted the conference's significance in advancing India's Green Hydrogen ecosystem.

"The second edition of International Conference on Green Hydrogen (ICGH 2024) marks a significant milestone in our endeavour towards making India the global hub for the production of Green Hydrogen and its derivatives. This year, the three-day event will bring together thought leaders, policymakers, industry experts, and innovators from around the world to explore the latest advancements in Green Hydrogen technology."

Shri Joshi, further said, "We are committed to making India a world leader in this crucial sector. Under Honourable Prime Minister Shri Modi's leadership, we are sending a clear message about India's aspirations for a leadership position in clean energy and assert its emerging dominance in the Green Hydrogen sector. Through the National Green Hydrogen Mission, we expect to position India as the global hub to produce Green Hydrogen and its derivatives. The conference will provide a platform for showcasing products, services and technologies to a global audience. The conference will also discuss green financing, human resource upskilling and start-up initiatives. After the successful completion of the first edition of the International Conference on Green Hydrogen last year, we are presenting the second edition, and it is bigger this time, just like the ambition in the Green Hydrogen sector. 2000 registrations have already taken place, and we are expecting over 6000 registrations from International and national scientists, and 120+ exhibitors."

As part of its quest towards energy transition, the first edition of the International Conference on Green Hydrogen (ICGH) 2023 was successful in bringing together stakeholders from India and across the world, to explore establishing a Green Hydrogen ecosystem and foster a systemic approach for meeting the global goals for decarbonization through Green Hydrogen.

Since the inaugural edition, the Indian mission has achieved significant progress namely awarding capacity of 3000 MW for electrolyser manufacturing; 4,12,000 TPA (Tonnes Per Annum) for Green Hydrogen production; issued tenders for 4,50,000 TPA of Green Hydrogen capacity and 7,39,000 TPA of Green Ammonia production. Pilot projects are likely to be initiated in the steel, shipping and mobility sector. The government has also launched the R&D scheme with an outlay of Rs. 400 crores to support the research activities in the Green Hydrogen ecosystem.

The timing of the conference is particularly significant as nations worldwide intensify their efforts to combat climate change and reduce dependence on fossil fuels. Developing Green Hydrogen technologies

offer a promising pathway to meet this demand sustainably while achieving the country's ambitious climate goals.

The minister highlighted several innovative components of the conference, including a Green Hydrogen Hackathon, *GH2THON*, a youth session, *Green Hydrogen for Youth*, and poster and quiz competitions. These initiatives are designed to engage a wide range of participants and foster innovation in the field.

"Our GH2thon hackathon will challenge bright minds to develop solutions for the Green Hydrogen ecosystem. We are looking for innovative indigenous solutions to drive technological breakthroughs in the Green Hydrogen ecosystem of India. Whether it's enhancing energy efficiency, optimizing the supply chain, or integrating hydrogen technology with existing infrastructure, your ideas can make a difference!" Minister Joshi explained."

The #GH2thon Hackathon engaging students, researchers, entrepreneurs, and startups to develop innovative solutions for challenges in the Green Hydrogen sector offers prize money of Rs. 1.5 Lakhs to the winner, Rs. 75, 000 to the first runner-up and Rs. 50, 000 to the second runner-up

The Scientific Poster Competition Finals on Hydrogen & Fuel Cells Research scheduled for 12 September has attracted more than 100 abstracts. The competition offers prize money: ₹50,000 for first place, ₹30,000 for second, and ₹20,000 for third.

Additionally, five finalist teams selected through an intense preliminary round, will compete for prizes of ₹50,000, ₹35,000, and ₹15,000 for first, second, and third places, respectively, in the #ICGH2024 Green Hydrogen Quiz Finale.

Shri Joshi further added, "We're particularly excited about the youth session, which will provide a platform for the next generation of renewable energy leaders to share their ideas and perspectives."

The special session "Green Hydrogen for Youth" is slated for the second day of the conference, underlining the crucial role of young people in addressing climate change. This session aims to engage and educate the student community about Green Hydrogen as the fuel of the future. This session will bring together eminent celebrities and young environmental activists to share insights about Green Hydrogen and inspire youngsters.

"We have invited brilliant global minds along with the national stakeholders to join us at ICGH-2024. This is an unparalleled opportunity to deepen our understanding about the Green Hydrogen landscape and engage with India's rapidly growing Green Hydrogen sector and to contribute to shaping a sustainable energy future for our planet", Shri Joshi concluded.

A highlight of the event will be the CEOs' Roundtable, to be held at The Ashok on 11th September 2024. This exclusive gathering will bring together CEOs and investors from leading companies in the Green Hydrogen space, fostering high-level dialogue on industry challenges and opportunities.

Gracing the occasion, Shri Bhupinder S. Bhalla, Secretary, Ministry of New & Renewable Energy, Government of India, said "This year's focus is on fostering international collaboration, exploring practical applications in sectors like transportation and energy, and discussing strategies for scaling up Green Hydrogen production. With key sessions on financing, infrastructure development, and youth engagement, the conference serves as a dynamic platform for knowledge-sharing, innovation, and driving global progress towards a sustainable energy future. As we embark on the Second International Conference on Green Hydrogen, we stand at the forefront of a transformative journey towards a sustainable future. This platform unites global minds to advance cutting-edge innovations in Green Hydrogen, fostering collaboration across sectors. Together, we will explore new technologies, strategic partnerships, and pathways to make Green Hydrogen a cornerstone of our clean energy transition. We are excited to witness the growing momentum and eagerly anticipate the impactful outcomes that will shape the future of energy." US will be the partner country for ICGH-2024.

"From policy discussions to technological showcases, ICGH-2024 is designed to accelerate India's Green Hydrogen journey," Secretary Shri Bhalla, further stated.

The event will draw over 6,000 attendees, including delegates from the private sector, public sector undertakings, government ministries, academic institutions, and state governments. Strong international participation is also on the cards, reflecting India's commitment to global cooperation in addressing climate change and energy security challenges.

The curtain raiser event was also graced by Shri Sudeep Jain, Additional Secretary, Ministry of New & Renewable Energy, Government of India, Shri R P Gupta, Chairman & Managing Director, Solar Energy Corporation of India Limited; Shri Abhay Bakre, Mission Director, National Green Hydrogen Mission, Ministry of New & Renewable Energy, Government of India.

Shri Ajay Yadav, Joint Secretary, Ministry of New & Renewable Energy, Government of India, welcomed the dignitaries. He reiterated that climate change and energy transition have taken centre stage at the global public policy discourse and highlighted the importance of energy transition, positioning Green Hydrogen as the fuel of the future to decarbonise key sectors. The goal is to become a global hub for production, utilization and export of Green Hydrogen. It will not only reduce carbon emissions but would also reduce dependence on imported fossil fuel.

India to be the Exclusive Partner for European Hydrogen Week in November 2024

The second day of the International Conference on Green Hydrogen (ICGH-2024), held at Bharat Mandapam, New Delhi, witnessed the announcement of India's exclusive partnership with the European Hydrogen Week, scheduled to be held in November 2024. The day highlighted India's intent to address the green regulations of EU to boost exports. In addition, a Letter of Intent (LoI) was signed between Chane Terminal from Netherlands and ACME Cleantech from India for Ammonia import terminals.

The event also saw sessions bringing out the perspectives of the EU, Australia, and the Netherlands about the scope and challenges in the Green Hydrogen sector. The EU session chaired by Pankaj Agarwal,

Secretary, Ministry of Power, Government of India with Jorgo Chatzimarkakis, CEO of Hydrogen Europe focused on the role of green hydrogen as a crucial component in global decarbonization efforts. The discussion highlighted that the European Union (EU) is focused on reforming its Emission Trading System (ETS) to help price carbon effectively, to encourage the scaling up of hydrogen as a competitor to fossil fuels.

Following this, Pankaj Jain, Secretary, Ministry of Petroleum and Natural Gas, Government of India spoke to Dr. Patrick Hartley, Leader of the CSIRO Hydrogen Industry Mission who shared that collaboration, both domestically and internationally, is essential, particularly with countries like India, to drive industry scale-up, technology advancement, and workforce development. Regulatory frameworks, storage solutions, and large-scale renewable energy access remain critical challenges for the hydrogen sector.

The Netherlands session chaired by Dr. Abhay Karandikar, Secretary, Department of Science and Technology, Government of India provided an in-depth overview of the Netherlands' comprehensive strategy for advancing global hydrogen advancements. The session was attended by Han Feenstra, Coordinator of the Hydrogen International Programme and Senior Policy Advisor at the Ministry of Economic Affairs and Climate Policy; Mark-Simon Benjamins, Business Manager at Havenbedrijf Rotterdam N.V; and HE Ms. Marisa Gerards, Ambassador of the Kingdom of the Netherlands to India, Nepal, and Bhutan.

In addition to the plenary sessions, the day featured a range of engaging activities, with the Youth Session being a highlight. Shri Ajay Yadav, Secretary of MNRE, delivered a welcome address emphasizing the role of energy in empowering economies and societies. He encouraged the youth to innovate and take leadership roles in the green hydrogen sector, highlighting their potential to shape India's energy future. Professor Ajay K. Sood, Principal Scientific Adviser to the Government of India, added special remarks, noting, *"As we look toward the future, the green hydrogen sector stands out as a key driver of progress, with projections indicating that it will create over four crore jobs by 2050. This remarkable growth not only highlights the sector's potential to significantly advance environmental sustainability but also underscores its crucial role in fueling economic development and innovation."*

Proceeding with the session, Ms. Saina Nehwal, Indian badminton player and Olympic Medallist & World Champion, captured the essence of the conversation by delivering an inspiring address stating *"In our pursuit of a sustainable future, it's essential to think about the world we are leaving behind for the generations to come. The impact of climate change is a pressing reality, and as athletes and leaders, we have a responsibility to inspire positive change. Just as our sport has grown and thrived, so too can our commitment to a healthier environment."*

As part of the youth session, a panel of leaders, including Ms. Shriya Rai, Mr. Sailesh Singhal, Mr. Abhiir Bhalla, Ms. Viveka Jani, Mr. Ashley Wilkinson, and Ms. Sneha Shahi, moderated by Ms. Priyanka Sahasrabudhe, highlighted the crucial role of youth in climate action and sustainability. They discussed the significance of green hydrogen, decarbonization, and renewable energy, aligning with India's goal to become the third-largest producer of renewable energy by 2030.

In his address, Shri Bhupinder S. Bhalla, Secretary, MNRE inspired the audience by saying, *"Our goal is to ignite a passion for sustainability and innovation among the youth. By working together and embracing new technologies, we can drive meaningful change and build a brighter, greener future for all."* Echoing this commitment, Mr. Nishaanth Balashanmugam, Director of GH2 India highlighted the transformative potential of green hydrogen, noting, *"Green hydrogen is the only solution to almost 18 to 20% of the world's carbon emissions,"* and urged, *"Together, we should all work towards a cleaner future, and you can contribute by playing your role in this."* These remarks reflect a unified dedication to advancing sustainable practices and engaging youth in the global effort against climate change. The session concluded with a vote of thanks from Shri Abhay Bakre, Mission Director of NGHM, MNRE.

In parallel to this, a GH2Thon Hackathon was also organized, where participants presented their innovative solutions for advancing green hydrogen technology. Nandlal Gupta from IIT Bombay was named the winner. Addressing the session, Shri Ajay Yadav, Secretary, MNRE remarked that *"GH2THON is a visionary initiative, harnessing the innovation of startups, researchers, and technical experts to shape the future of hydrogen technology. As a first-of-its-kind event, it reflects our commitment to the Green Hydrogen Mission, empowering the next generation to lead India's transition toward a sustainable, green energy future."*

Over 100 stalls from industry players and public companies is showcasing latest technologies and innovation in the field of green hydrogen value chain. The event is graced by over 2000 national and international delegates involving academicians, industry experts start-ups, policy makers and diplomats. On the sidelines of the exhibition, the day also witnessed a national poster competition where participants showcased their ideas and innovation in building a sustainable future.

The day also featured two Country Roundtables on Singapore & South Korea, an industry roundtable for the India-US Hydrogen Taskforce, and a breakthrough roundtable on Hydrogen, all of which fostered deeper international collaboration and strategic dialogues.

As ICGH-2024 progresses, it continues to be a significant platform for driving forward green hydrogen technologies and establishing vital partnerships for a sustainable future.

Prime Minister Shri Narendra Modi inaugurated 4th Global Renewable Energy Investor's Meet and Expo (RE-INVEST) in Gandhinagar, Gujarat

The Prime Minister, Shri Narendra Modi inaugurated the 4th Global Renewable Energy Investor's Meet and Expo (RE-INVEST) at Mahatma Mandir, Gandhinagar in Gujarat. The 3-day summit honours the important contributors to India's remarkable achievement of over 200 GW of installed non-fossil fuel capacity. Shri Modi also took a walkthrough of the exhibition showcasing cutting-edge innovations from public and private sector companies, start-ups, and major industry players.

The Prime Minister said that India's diversity, scale, capacity, potential and performance are all unique and pave the way for Indian solutions for global applications. *"Not just India, the whole world believes that India is the best bet of the 21st century"*, exclaimed the Prime Minister. Recounting the global events

hosted by India in the last one month, Shri Modi said that Global Fintech Fest was organized earlier in this month, people from across the globe participated in the First International Solar Festival, Global Semiconductor Summit, India also hosted the 2nd Asia-Pacific Civil Aviation Ministerial Conference and today India is hosting a conference of Green Energy.

The Prime Minister said India is the first G20 nation to achieve the climate commitments set in Paris, that too 9 years before the deadline. Shri Modi outlined the nation's goals to achieve the target of 500 GW of renewable energy by 2030 and said that the government has turned the green transition into a people's movement. He suggested studying India's unique scheme for Rooftop Solar - PM Surya Ghar Free Electricity Scheme where the government funds a Rooftop Solar Setup for every family and helps in installation. Through this scheme, the Prime Minister said, every household in India becomes a power producer. He informed that more than 1 crore 30 lakh families have registered under the scheme and installation work has been completed in 3.25 lakh houses so far. Shri Modi further added that PM Surya Ghar scheme is becoming a medium of employment generation and environment protection generating around 20 lakh jobs. PM Modi informed that the government aims to prepare 3 lakh youth as skilled manpower under this scheme. Out of these, one lakh youth will be Solar PV Technicians. "Every 3 kilowatts of solar electricity generated will prevent emission of 50-60 tonnes of carbon dioxide", he said, noting the contributions of every family in fighting climate change.

Addressing the gathering Union Minister for New and Renewable Energy, Shri Prahlad Joshi made the inaugural address and emphasized how under Shri Narendra Modi's leadership India is claiming a leading position in the global renewable energy sector. He also made an appeal to all stakeholders to invest in India's vibrant and rapidly growing RE sector. He reiterated our commitment to harness the immense potential of renewables that India offers.

Shri Joshi expressed deepest gratitude to participating States in the RE INVEST Meet. He said, our States not only highlight the collective vision of India for a greener future but also play a key role in attracting and nurturing investments in the renewable sector. Shri Prahlad Joshi also felicitated states and industries for their remarkable contribution in surpassing 200 GW of installed non-fossil power capacity in the country. Urge other States to learn from the success stories in the renewable sector and adopt it suiting their own requirements.

Make in India Powers Energy Transition: Fuels renewable energy equipment boom

As "Make in India" initiative of Government of India completes 10 years, it has been proven to be a driving force in promoting investment, fostering innovation, and building world-class infrastructure to transform India into a hub for manufacturing, design, and innovation. It continues to play a pivotal role in developing a robust manufacturing sector for renewable energy in the country. One of the key focuses of the Government is to support and incentivize domestic manufacturing in the renewable energy sector. The renewable energy equipment manufacturing sector in India is well-positioned to meet domestic demand and serve the global market through exports, establishing India as a key player in the renewable energy manufacturing space.

Union Minister for New and Renewable Energy Shri Pralhad Joshi posted on X " India's renewable energy sector has contributed immensely to the #10YearsOfMakeInIndia. From PLI to VGF, we are extending all possible support to our domestic industries. We are committed to establishing India as a major global player in the complete value chain of clean energy solutions."

Measures taken to promote domestic renewable energy equipment manufacturing

Several measures have been taken by the Union Government to promote the domestic manufacturing of renewable energy equipment, such as solar PV modules, cells, and upstream components like ingots, wafers, and polysilicon. These efforts also include the manufacturing of wind turbines, electrolysers for green hydrogen production, and battery energy storage systems for utility-scale electricity storage applications.

The Government's efforts span financial, fiscal, and policy measures aimed at bolstering domestic production. Financial incentives include the Production Linked Incentive (PLI) scheme for setting up fully or partially integrated manufacturing units for solar PV modules and upstream components. Additional support measures include Viability Gap Funding (VGF) for stationary Battery Energy Storage System projects and incentives for manufacturing electrolysers and green hydrogen production under the National Green Hydrogen Mission. Fiscal incentives include concessional customs duties on inputs required for domestic manufacturing, waivers on import duties for specific capital goods needed for solar PV cell and module production, and impositions of basic customs duties on imports of solar PV modules, cells, and inverters.

Under Union Minister for New and Renewable Energy Shri Pralhad Joshi, policy measures have been taken through provisions such as the Domestic Content Requirement (DCR) in schemes like PM Surya Ghar: Muft Bijli Yojana, PM-KUSUM, and CPSU Scheme Phase-II, where Government subsidies are provided. Other policies include linking PLI amounts to local value addition, Quality Control Orders for solar equipment, and approved lists of models and manufacturers for solar and wind technologies.

Boost to Solar PV manufacturing

Solar PV manufacturing remains a significant focus of the Government's efforts. The Government is committed to making India self-reliant (Atmanirbhar) in solar PV manufacturing and establishing India as a major player in the global value chain. This commitment is demonstrated by the Rs. 24,000 crores outlay for the PLI Scheme for High-Efficiency Solar PV Modules and additional policy interventions, such as the imposition of basic customs duties and domestic content requirements.

Since 2014, India's installed solar PV module manufacturing capacity has grown from 2.3 GW to approximately 67 GW, thanks to various measures under the "Make in India" initiative. This increase makes India capable of meeting domestic demand while also catering to exports. The country has seen rapid growth in solar PV module production capacity, jumping from 8 GW in 2021 to 67 GW per year in the last 3.5 years alone.

Furthermore, over 48 GW of fully or partially integrated solar PV module manufacturing projects are currently under implementation under the solar PLI scheme. Once completed, these projects will attract an investment of approximately Rs. 1.1 lakh crores and create direct employment for around 45,000 people. The solar PLI scheme will also bring cutting-edge solar PV module manufacturing technology to India, reducing the country's dependence on imports. With the solar PLI scheme and the Government's supportive policy framework, India is projected to achieve 100 GW per year of solar module production capacity by 2026, which will not only satisfy domestic demand but also contribute to earning foreign exchange through exports.

Union Environment Minister Sh. Bhupender Yadav Addresses Plenary Session on India's Pathway to Net-Zero Emissions in Re-Invest Summit 2024

Union Minister for Environment, Forest and Climate Change, Sh. Bhupender Yadav addressed the Plenary Session on India's Pathway to Net-Zero Emissions in Re-Invest Summit 2024 at Mahatma Mandir Gandhinagar, Gujarat in the presence of Union Minister for New and Renewable Energy Sh. Pralhad Joshi. Three-day Summit was inaugurated by Prime Minister, Sh. Narendra Modi on September 16 at Mahatma Mandir, Gandhinagar in Gujarat.

Addressing the summit, Sh. Bhupender Yadav said, “the path of Sustainability has to be chosen for conservation of ecosystem, biodiversity, development of society and for best utilization of human resources. To ensure sustainability, a proper technological and management system has to be created for the world through policy, technological intervention and capacity building”. Countries should develop action plans that prioritize equity, ensuring that health, justice, and prosperity are available to everyone. This approach will promote social equity and facilitate inclusive, sustainable economic growth while safeguarding natural resources for future generations, he further added.

Union Minister Sh. Yadav highlighted that India represents 17% of the world's population but only accounts for 5% of global emissions. In comparison, 17% of the population in developed countries contributes to 60% of emissions. India's per capita consumption remains low and the energy needs of developing countries must be considered. India has made significant progress in reducing carbon emissions, despite facing challenges such as its diverse geography, he further said.

Sh. Bhupender Yadav stated that under Prime Minister Sh. Narendra Modi's leadership, India is the only G20 country to have achieved two out of three quantitative Nationally Determined Contributions (NDCs) targets of the Paris Agreement nine years ahead of schedule. India has taken climate action for development growth and to achieve human development outcomes.

He said that the Ideas for life under the Mission LiFE of the ministry have been identified in the first 100 days of the government namely, Save Water, Save Energy, Reduce Waste, Reduce E-Waste, Say No to Single-Use Plastics, Adopt Sustainable Food Systems, and Adopt Healthy Lifestyles.

Union Minister said that Private sector engagement would hold the key for achieving the Net Zero ambition by 2070 by strengthening renewable grids, developing low carbon technology, and managing

demand side issues. There is a need for rational utilization of fossil fuel resources with due diligence and development of integrated efficient & inclusive low carbon transport systems, and sustainable urbanization, keeping in view inclusive, economic, and ecological aspects.

Union Minister said that the government has initiated more bio-based policy interventions and is also working on fuel switching, recycling, circular economy, and promotion of green hydrogen technology, along with empowering the MSME sector. India is working on international cooperation to empower the global south and assessment of financial requirements with new quantifiable goals being the focus areas at COP29. He mentioned that for capacity building, climate finance must be defined accordingly. The Ministry of Energy has put forth the idea of a carbon market and initiated the Green Climate fund to build capacity. He further said that the economic viability of capacity building and technology transfer holds the key to developing renewable energy markets.

The Summit was attended by the former Secretary of MoEFCC and Chairman & Managing Director of Solar Energy Corporation of India, Sh. R P Gupta, Officer on Special Duty of Government of India, Sh. P K Singh, Stakeholders, Subject Experts and dignitaries.

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