FIPI

Federation of Indian Petroleum Industry

POLICY & ECONOMIC REPORT

OIL & GAS MARKET January 2025

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Executive Summary

According to IMF, global growth is projected at 3.3 percent both in 2025 and 2026, below the historical (2000–19) average of 3.7 percent. The forecast for 2025 is broadly unchanged from that in the October 2024 IMF's World Economic Outlook (WEO), primarily on account of an upward revision in the United States offsetting downward revisions in other major economies.

In the United States, underlying demand remains robust, reflecting strong wealth effects, a less restrictive monetary policy stance, and supportive financial conditions. Growth is projected to be at 2.7 percent in 2025. In the euro area, weaker-than-expected momentum at the end of 2024, especially in manufacturing, and heightened political and policy uncertainty explain a downward revision of 0.2 % point to 1.0 percent in 2025. In 2026, growth is set to rise to 1.4 percent, helped by stronger domestic demand.

Global headline inflation is expected to decline to 4.2 percent in 2025 and to 3.5 percent in 2026, converging back to target earlier in advanced economies than in emerging market and developing economies.

As far as India is concerned, the National Statistics Office (NSO), Ministry of Statistics and Programme Implementation (MoSPI), released the First Advance Estimates of Annual Gross Domestic Product (GDP) for the Financial Year (FY) 2024-25 on 7th January 2025. The key highlights of the same are as under: -

Real GDP has been estimated to grow by 6.4% in FY 2024-25 as compared to the growth rate of 8.2% in Provisional Estimate (PE) of GDP for FY 2023-24. Nominal GDP has witnessed a growth rate of 9.7% in FY 2024-25 over the growth rate of 9.6% in FY 2023-24. Real GVA has grown by 6.4% in FY 2024-25 over the growth rate of 7.2% in FY 2023-24.

Real GVA of Agriculture and allied sector has been estimated to grow by 3.8% during 2024-25 as compared to the growth of 1.4% witnessed during the last year that is 2023-24. Real GVA of 'Construction' sector and 'Financial, Real Estate & Professional Services' sector has been estimated to observe good growth rates of 8.6% and 7.3%, respectively during the FY 2024-25. Private Final Consumption Expenditure (PFCE) at Constant Prices, has witnessed a growth rate of 7.3% during FY 2024-25 over the growth rate of 4.0% in the previous financial year.

Year-on-year inflation rate based on All India Consumer Price Index (CPI) for the month of December, 2024 over December, 2023 is 5.22% (Provisional). Corresponding inflation rates for rural and urban are 5.76% and 4.58%, respectively. Year-on-year inflation rate based on All India Consumer Food Price Index (CFPI) for the month of December, 2024 over December, 2023 is 8.39% (Provisional). Corresponding inflation rate for rural and urban are 8.65% and 7.90%, respectively.

The 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 registered 57.9 in January 2025.

On the external front, India's foreign exchange reserves fell to $623.98 billion, down by $ 1.8 billion as of week ending January 17, 2025 according to data from the Reserve Bank of India (RBI). The primary contributor of this decline were the foreign currency assets that declined by $2.87 billion to settle at $533.13 billion. Gold reserves saw an increase of $1.06 billion, rising to $68.94 billion during the same week, the Reserve Bank of India (RBI) reported. While the Special Drawing Rights (SDRs) increased by $1 million to $17.78 billion, the India reserve position with IMF was down by $74 million to $4.12 billion.

Also, India’s total exports (Merchandise and Services combined) for December 2024 is estimated at USD 70.67 Billion, registering a growth of 0.92 percent vis-à-vis December 2023. Total imports (Merchandise and Services combined) for December 2024 are estimated at USD 77.44 Billion, registering a growth of 6.40 percent vis-à-vis December 2023.

As far as oil and gas industry is concerned, benchmark crude oil prices rallied in early January as US sanctions on Iran and Russia intensified and freezing temperatures swept across large parts of the Northern Hemisphere. Brent crude futures hit a four-month high of $81/bbl by mid-January, up $8/bbl from a month-ago. Following a relatively mild start to the winter heating season, the weather turned decidedly colder in December in Canada, the northern and central regions of the United States, much of Europe, Russia, China and Japan. Average heating degree days were significantly higher than a year ago and slightly above the five-year average, boosting oil demand. OECD oil demand for 4Q24 has been raised by 250 kb/d, underpinning a 90 kb/d upward adjustment to our global growth estimate for 2024. Oil demand trends in non-OECD economies were mixed. While China posted modest y-o-y growth in November, the latest data for Saudi Arabia, Brazil and India were all below expectations. Estimated growth of 940 kb/d in 2024 and 1.05 mb/d in 2025 will push world oil demand to 104 mb/d.

Hedge funds and other money managers closed a large volume of short futures and option positions in the NYMEX WTI futures market and raised long positions in both ICE Brent and NYMEX WTI futures and option contracts. Between the weeks of 26 November and 31 December, hedge funds and other money managers bought an equivalent of 144 mb of oil in Brent and WTI futures and options.

Sweet-sour crude differentials narrowed in the US Gulf Coast (USGC) and Europe in December, primarily driven by the elevated availability of light sweet crude in the Atlantic Basin, including from the US. In Asia, however, sweet-sour crude differentials widened in December, as the sweet crude market outperformed medium sour crudes.

Natural gas spot prices at the US Henry Hub benchmark averaged $3.01 per million British thermal units (MMBtu) in December 2024. Henry Hub's natural gas prices rebounded in December after two consecutive months of declines. Prices experienced a sharp increase in the second half of the month, rising by 43.6%, m-o-m, on the back of expectations of colder weather across the US. Reports of a decline in underground storage levels in December underscored the increase in demand. According to data from the US Energy Information Administration (EIA), weekly average underground storage decreased in December by 9.5%, m-o-m. Henry Hub prices were up by 19.4%, y-o-y.

Economy in Focus

1. A snapshot of the global economy

Global economic growth

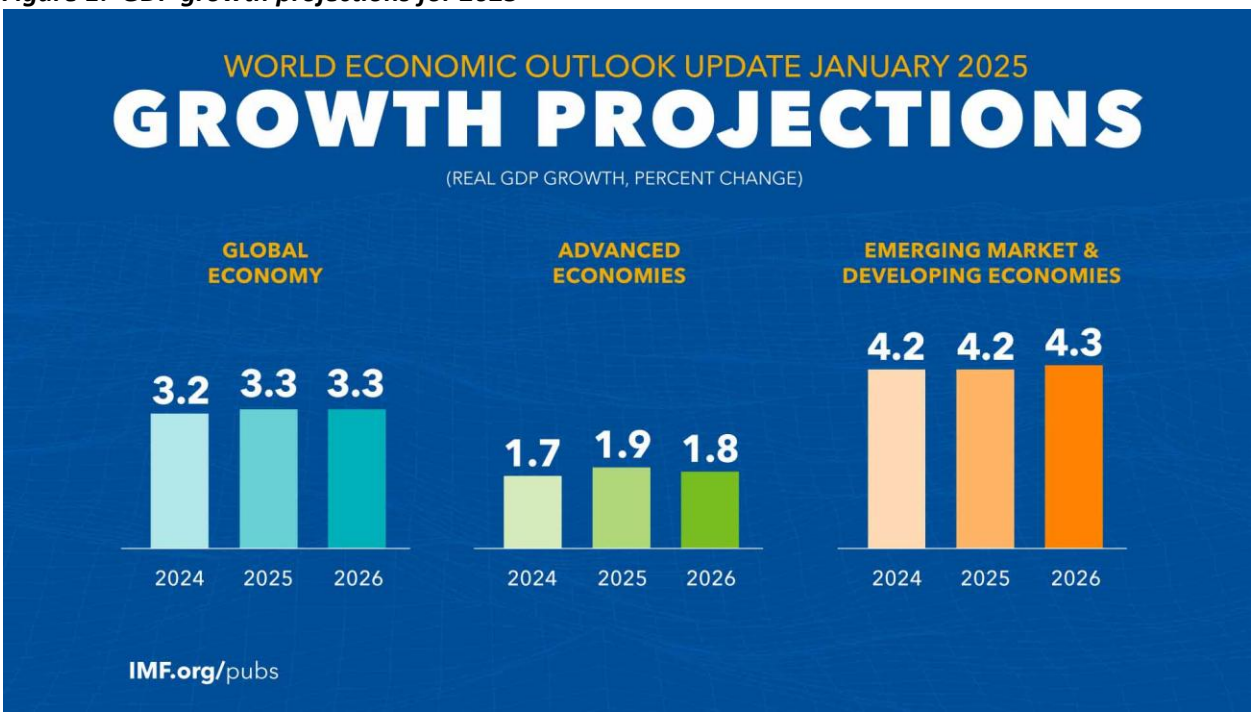
According to IMF, global growth is projected at 3.3 percent both in 2025 and 2026, below the historical (2000–19) average of 3.7 percent. The forecast for 2025 is broadly unchanged from that in the October 2024 IMF's World Economic Outlook (WEO), primarily on account of an upward revision in the United States offsetting downward revisions in other major economies.

- In the United States, underlying demand remains robust, reflecting strong wealth effects, a less restrictive monetary policy stance, and supportive financial conditions. Growth is projected to be at 2.7 percent in 2025.

- In the euro area, weaker-than-expected momentum at the end of 2024, especially in manufacturing, and heightened political and policy uncertainty explain a downward revision of 0.2 % point to 1.0 percent in 2025. In 2026, growth is set to rise to 1.4 percent, helped by stronger domestic demand, as financial conditions loosen, and confidence improves.

- Growth in 2025 for China is marginally revised upward by 0.1 % point to 4.6 percent. This revision reflects carryover from 2024 and the fiscal package announced in November largely offsetting the negative effect on investment from heightened trade policy uncertainty and property market.

Figure 1: GDP growth projections for 2025



Source- IMF

- In India, growth is projected to be robust at 6.5 percent in 2025 and 2026, as projected in October and in line with potential.

- In Latin America and the Caribbean, overall growth is projected to accelerate slightly in 2025 to 2.5 percent, despite an expected slowdown in the largest economies of the region.

Figure 2: GDP growth projections for 2025

(Real GDP, annual percent change)	ESTIMATE 2024	PROJECTIONS 2025	2026
World Output	**3.2**	**3.3**	**3.3**
Advanced Economies	**1.7**	**1.9**	**1.8**
United States	2.8	2.7	2.1
Euro Area	0.8	1.0	1.4
Germany	-0.2	0.3	1.1
France	1.1	0.8	1.1
Italy	0.6	0.7	0.9
Spain	3.1	2.3	1.8
Japan	-0.2	1.1	0.8
United Kingdom	0.9	1.6	1.5
Canada	1.3	2.0	2.0
Other Advanced Economies	2.0	2.1	2.3
Emerging Market and Developing Economies	**4.2**	**4.2**	**4.3**
Emerging and Developing Asia	5.2	5.1	5.1
China	4.8	4.6	4.5
India	6.5	6.5	6.5
Emerging and Developing Europe	3.2	2.2	2.4
Russia	3.8	1.4	1.2
Latin America and the Caribbean	2.4	2.5	2.7
Brazil	3.7	2.2	2.2
Mexico	1.8	1.4	2.0
Middle East and Central Asia	2.4	3.6	3.9
Saudi Arabia	1.4	3.3	4.1
Sub-Saharan Africa	3.8	4.2	4.2
Nigeria	3.1	3.2	3.0
South Africa	0.8	1.5	1.6
Memorandum			
Emerging Market and Middle-Income Economies	4.2	4.2	4.2
Low-Income Developing Countries	4.1	4.6	5.4

Source- IMF

Global Inflation

- Global headline inflation is expected to decline to 4.2 percent in 2025 and to 3.5 percent in 2026, converging back to target earlier in advanced economies than in emerging market and developing economies.

- Nominal wage growth is showing signs of moderation, alongside indications of continuing normalization in labor markets. Although core goods price inflation has fallen back to or below trend, services price inflation is still running above pre–COVID-19 averages in many economies, most notably the United States and the euro area.

Global PMI

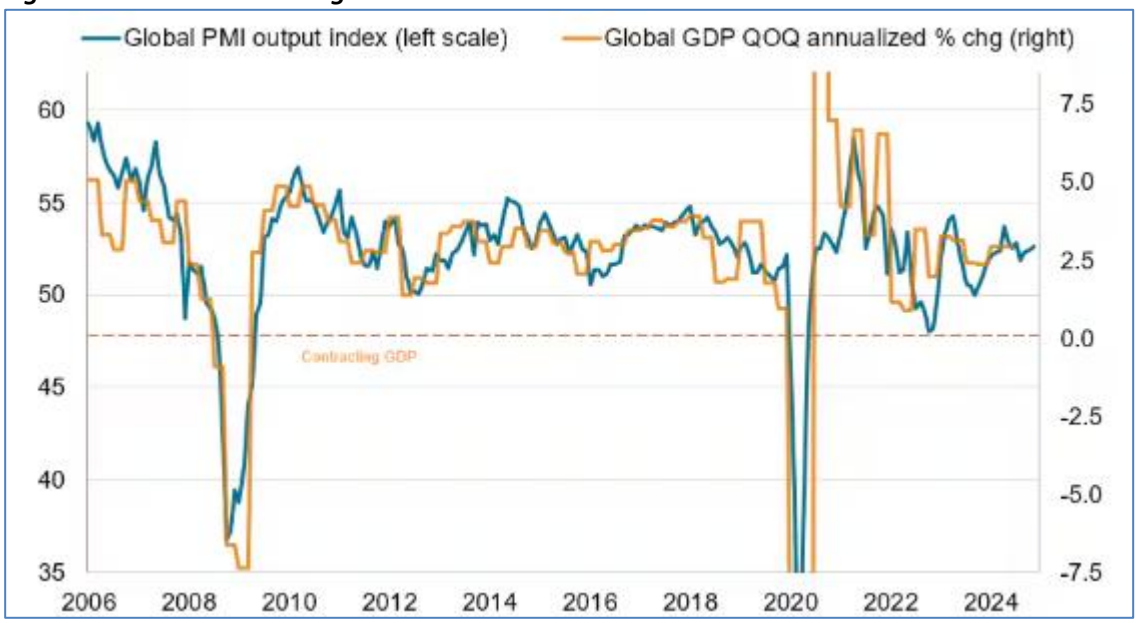
- The J.P.Morgan Global PMI Composite Output Index - produced by S&P Global - registered 52.6 in December 2024, up from 52.4 in November 2024. The latest reading was the highest in four months and signaled a pace of growth consistent with a growing global economy.

- The latest expansion remained uneven, with growth limited to the service sector while manufacturing output contracted for the first time in three months. The latest downturn in the goods producing sector reflected a lack of demand for goods, particularly export demand, amid concerns over the impact of potential US tariffs on global trade.

- By region, developed market growth accelerated in December, driven mainly by improvements in the US. Although marginal output gains were also reported in Japan, UK and Australia, other major developed economies reported largely stalled growth.

- Across emerging markets, growth remained broad-based but decelerated from November. India remained the leader among the BRIC economies, while the rest witnessed output growth cooling into the end of year, with mainland China notably reporting only modest growth and the weakest output expansion for three months.

Figure 3: Global economic growth & PMI



Source- S&P Global

2. EIA forecasts lower oil price in 2025 amid significant market uncertainties

- According to EIA, benchmark Brent crude oil prices are expected to fall from an average of $81 per barrel in 2024 to $74/bbl in 2025 and $66/bbl in 2026, as strong global growth in production of petroleum and other liquids and slower demand growth put downward pressure on prices and help offset heightened geopolitical risks and voluntary production restraint from OPEC+ members.

- It is forecasted that prices will fall to an average of $66/bbl in 2026 mainly because of growing production in countries outside OPEC+ and demand growth that is less than the pre-pandemic average. These factors reduce forecast oil prices because production outpaces consumption, increasing global oil inventories.

- Ultimately, lower prices will reduce drilling activity and investment in U.S. production of crude oil and other liquids, leading to a small increase in production in 2026.

- In both 2023 and 2024, oil production outside of OPEC+ was strong enough to largely offset the increase in global oil consumption despite reduced production from OPEC+. Members of OPEC+ reduced production by an estimated 1.3 million barrels per day (b/d) in 2024, while production by countries outside the group increased by 1.8 million b/d.

- Further EIA forecasts growth in global oil production over the last two years has been led primarily by countries in North and South America, especially the United States, Canada, Guyana, and Brazil. Those four countries alone increased their total liquids production by a combined 1.1 million b/d in 2024. EIA forecast that these countries will increase their production by an additional 1.0 million b/d in 2025 and 0.9 million b/d in 2026.

3. Solar power overtakes coal in EU energy mix: Report

- Solar power surpassed coal as a source of electricity in the European Union (EU) for the first time in 2024, according to a report released by climate think tank Ember.
- Solar energy has become the EU's fastest-growing power source, contributing 11% to its supply. Overall, strong growth in solar and wind has boosted the share of renewables to 47%, up from 34% in 2019.
- Only 10% of the bloc's power was generated with coal. The report highlighted a continued decline in fossil fuel dependency, with gas generation falling for the fifth consecutive year and overall fossil-fueled power dropping to a historic low of 29%.
- The European Green Deal, enacted in 2019, has been pivotal in accelerating the EU's transition to clean energy. Soaring gas prices following Russia's invasion of Ukraine also forced Europe to turn to renewable energy, seeking cheaper, cleaner alternatives.
- Falling gas demand in the EU significantly reduced reliance on Russian gas. With the increasing use of new wind and solar capacity, the region has avoided fossil fuel imports worth almost $61 billion (€58.6 billion) since 2019.

4. FDI dipped by 8% in 2024, presenting a challenge to progress on Sustainable Development Goals: UNCTAD

- Global Foreign Direct Investments (FDI) dipped by eight per cent in 2024. This dip in FDI endangers the progress on the Sustainable Development Goals (SDGs) that rely on international project finance, according to the latest Global Investment Trends Monitor.
- This assessment was released by United Nations Trade and Development (UNCTAD) on January 20, 2025.
- International project finance, a key driver for infrastructure and energy investments, faced challenges, with the number of deals falling by 26 per cent and their value declining by nearly a third.
- International project finance deals in developed economies witnessed a dip by 29 per cent, continuing the downward trend observed in 2023. This decline was widespread across all industries and countries with very few exceptions.
- In developing economies, international project finance dropped by 23 per cent in number and 33 per cent in value, mainly due to fewer deal announcements in Asia. Several large emerging markets, including Brazil, China, Indonesia, and Mexico experienced declines in project numbers significantly larger than the global average.

Infrastructure trends

- International project finance, especially critical for infrastructure development, continued the decline that started in 2023 due to high interest rates. Deals fell by 31 per cent in number and 26 per cent in value.

- International project finance in renewable energy, a major driver of growth in project finance in recent years, further slowed by 16 per cent in both number and value, following the decline in 2023.

- By region, international project finance in renewable energy generation fell by 22 per cent in North America, 18 per cent in developing Asia, and 14 per cent in Latin America and the Caribbean. Africa was the only region to see an increase of eight per cent.

SDG-related investments

- The global investment environment remains challenging for sectors critical to achieving the SDGs in developing countries, which rely especially on international project finance.

- The number of SDG-related investments fell by 11 per cent in 2024.

- While there has been some growth in renewable energy and health and education, three sectors – infrastructure, agrifood systems, and water and sanitation saw fewer internationally financed projects in 2024 than in 2015, when the SDGs were adopted.

5. Climate emergency: 2025 declared international year of glaciers- United Nations

- As glaciers disappear at an alarming rate due to climate change, the UN General Assembly has declared 2025 the International Year of Glaciers' Preservation.

- Co-facilitated by the UN Educational, Scientific and Cultural Organization (UNESCO) and the World Meteorological Organization (WMO), this global initiative seeks to unite efforts worldwide to protect these vital water sources, which provide freshwater to more than 2 billion people.

- Glaciers and ice sheets hold around 70 per cent of the world's freshwater and their rapid loss presents an urgent environmental and humanitarian crisis.

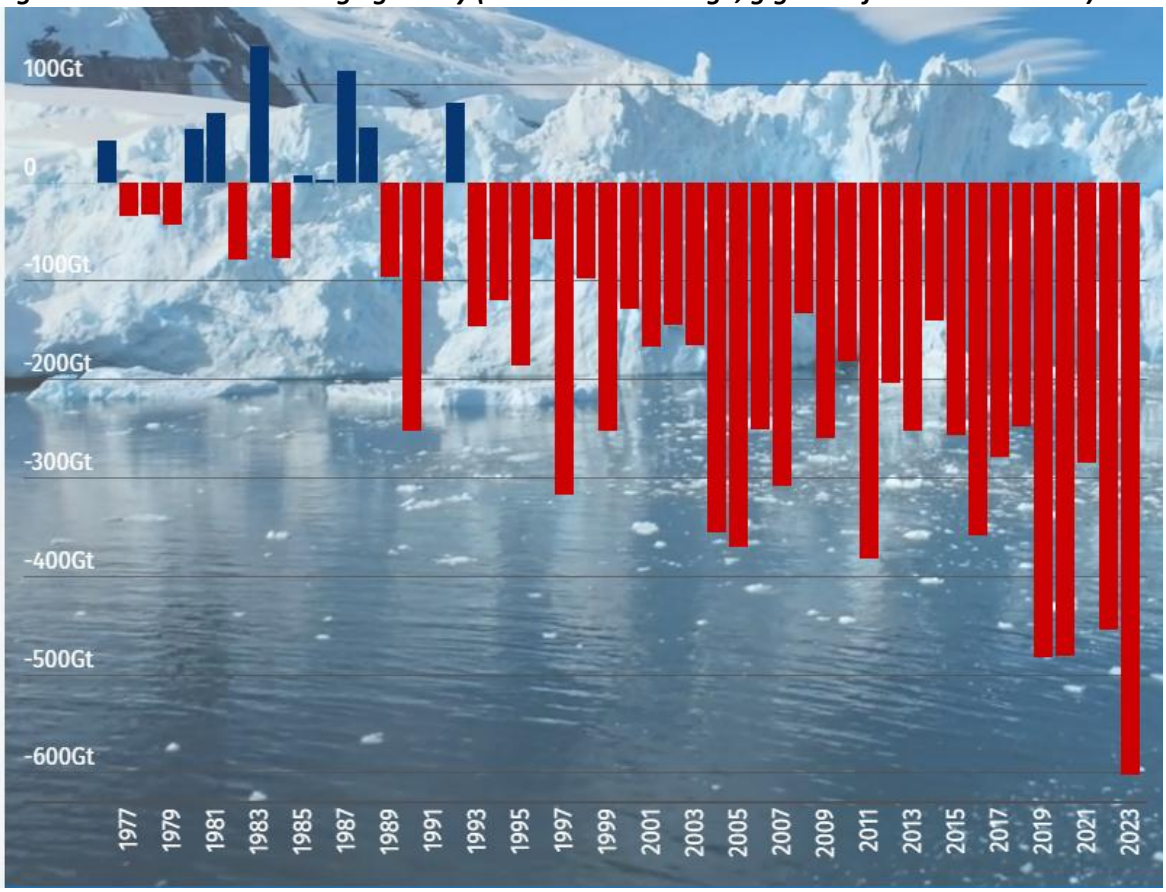
- In 2023, glaciers experienced their greatest water loss in over 50 years, marking the second consecutive year in which all glaciated regions worldwide reported ice loss.

- Switzerland, for instance, saw their glaciers lose 10 per cent of their total mass between 2022 and 2023, according to the WMO.

- According to UNESCO, 50 UNESCO heritage sites with glaciers represent almost 10 per cent of Earth's glacier area. However, a recent study warned that glaciers in one-third of these sites are projected to disappear by 2050.

- With 2024 confirmed as the hottest year on record, the need for immediate and decisive action has never been more critical.

Figure 4: Glacier Mass change globally (Annual mass change, gigatons from 1976 to 2023)



Source- United Nations

2025 key initiatives

- A key focus, the panel explained, is raising global awareness about the essential role glaciers, snow, and ice play in regulating the climate and supporting ecosystems and communities.

- The initiative also aims to enhance scientific understanding through programmes like the Global Cryosphere Watch, ensuring that data guides effective climate action.

- Strengthening policy frameworks is another priority, with the integration of glacier preservation into global and national climate strategies, such as the Paris Agreement.

- Mobilising financial resources is another priority – essential to support vulnerable communities and fund adaptation and mitigation efforts – alongside engaging youth and local communities.

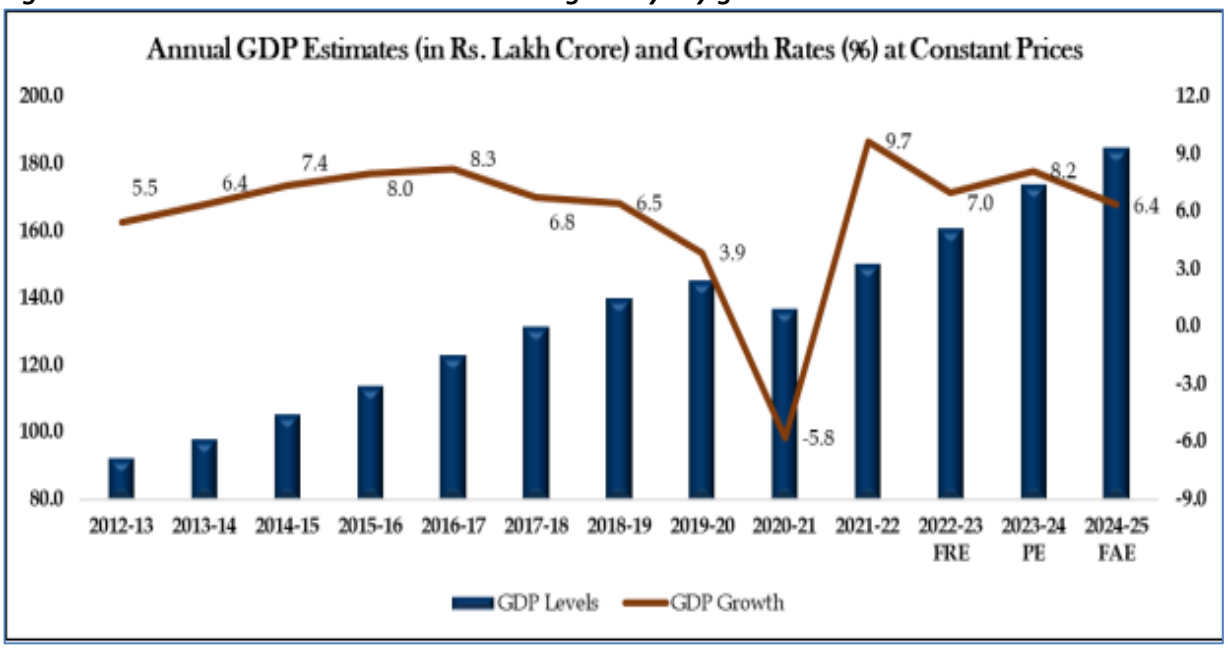
6. Indian Economy

India's economic growth

The National Statistics Office (NSO), Ministry of Statistics and Programme Implementation (MoSPI), released the First Advance Estimates of Annual Gross Domestic Product (GDP) for the Financial Year (FY) 2024-25 on 7th January 2025. The key highlights of the same are as under: -

- Real GDP has been estimated to grow by 6.4% in FY 2024-25 as compared to the growth rate of 8.2% in Provisional Estimate (PE) of GDP for FY 2023-24. Nominal GDP has witnessed a growth rate of 9.7% in FY 2024-25 over the growth rate of 9.6% in FY 2023-24.
- Real GVA has grown by 6.4% in FY 2024-25 over the growth rate of 7.2% in FY 2023-24.
- Nominal GVA has shown a growth rate of 9.3% in FY 2024-25 as compared to the growth rate of 8.5% in FY 2023-24.

Figure 5: Annual GDP and GVA estimates along with y-o-y growth rates



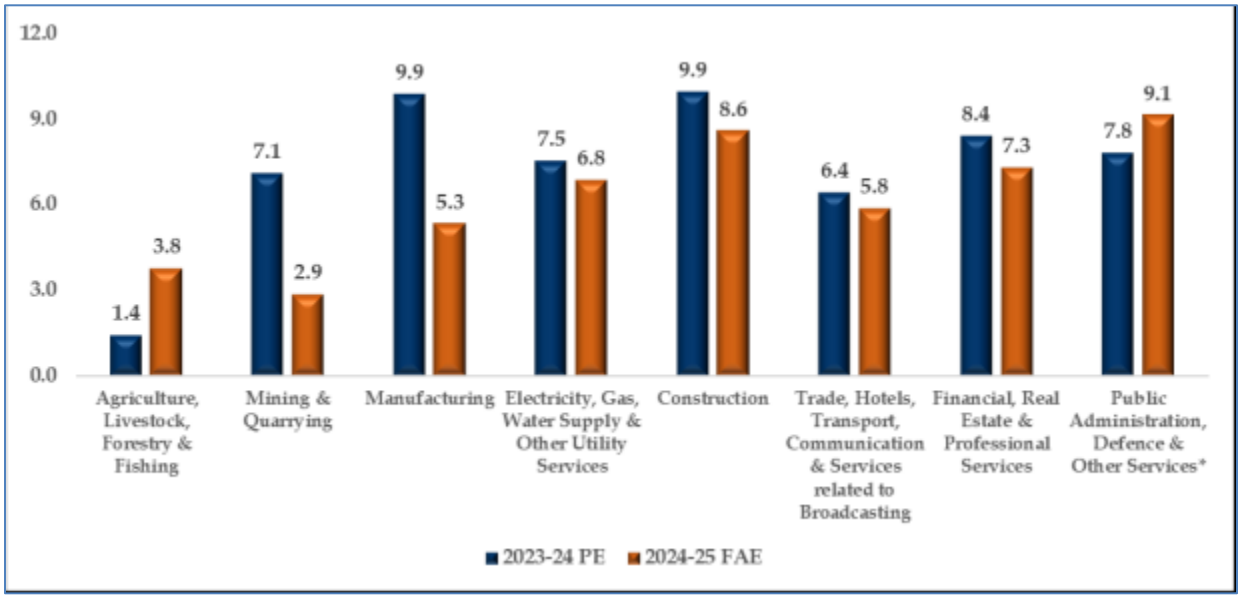
Source- NSO, MoSPI

- Real GVA of Agriculture and allied sector has been estimated to grow by 3.8% during 2024-25 as compared to the growth of 1.4% witnessed during the last year that is 2023-24.
- Real GVA of 'Construction' sector and 'Financial, Real Estate & Professional Services' sector has been estimated to observe good growth rates of 8.6% and 7.3%, respectively during the FY 2024-25.

- Private Final Consumption Expenditure (PFCE) at Constant Prices, has witnessed a growth rate of 7.3% during FY 2024-25 over the growth rate of 4.0% in the previous financial year.

- Government Final Consumption Expenditure (GFCE) at Constant Prices, has rebounded to a growth rate of 4.1% as compared to the growth rate of 2.5% in previous Financial Year.

Figure 6: Sector-wise Growth rates (%) of Real GVA in FY 2023-24 and 2024-25



Source- NSO, MoSPI

Inflation in India

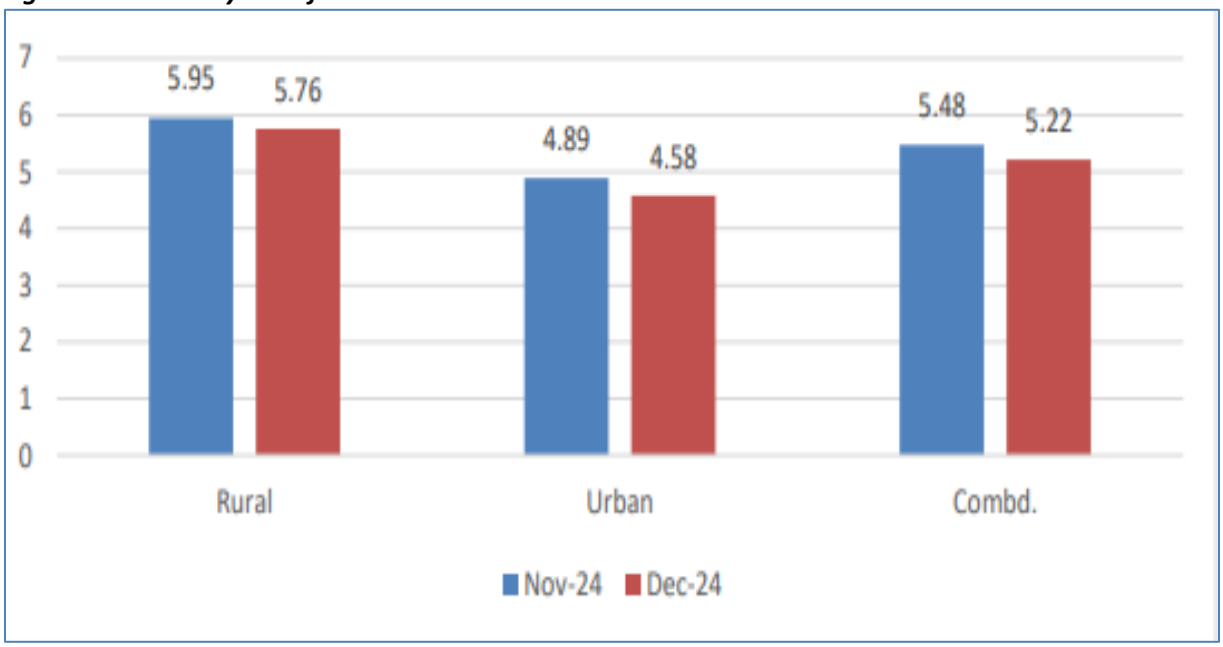
- Year-on-year inflation rate based on All India Consumer Price Index (CPI) for the month of December, 2024 over December, 2023 is 5.22% (Provisional). Corresponding inflation rates for rural and urban are 5.76% and 4.58%, respectively.

- Year-on-year inflation rate based on All India Consumer Food Price Index (CFPI) for the month of December, 2024 over December, 2023 is 8.39% (Provisional). Corresponding inflation rate for rural and urban are 8.65% and 7.90%, respectively.

- It can be observed that CPI(General) reached to its lowest point during this period in July 2024. However, the CPI(General) and food inflation in December, 2024 is the lowest in last four months.

- Year-on-year Housing inflation rate for the month of December, 2024 is 2.71%. Corresponding inflation rate for the month of November, 2024 was 2.87%. The housing index is compiled for urban sector only.

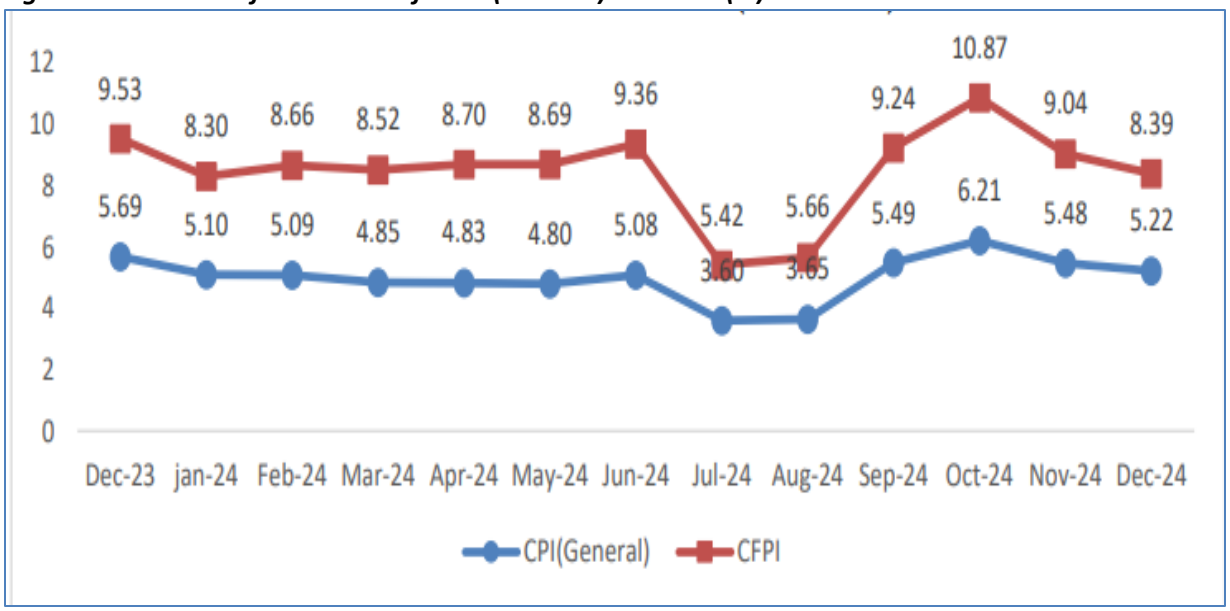
Figure 7: Year-on-year inflation rate based on CPI



Source- MoSPI

- During the month of December, 2024 significant decline in inflation is observed in Vegetables, Pulses & Products, Sugar and Confectionary, Personal care & effects, and Cereals and Products etc.

Figure 8: All India Inflation Rates for CPI(General) and CFPI (%)



Source- MoSPI

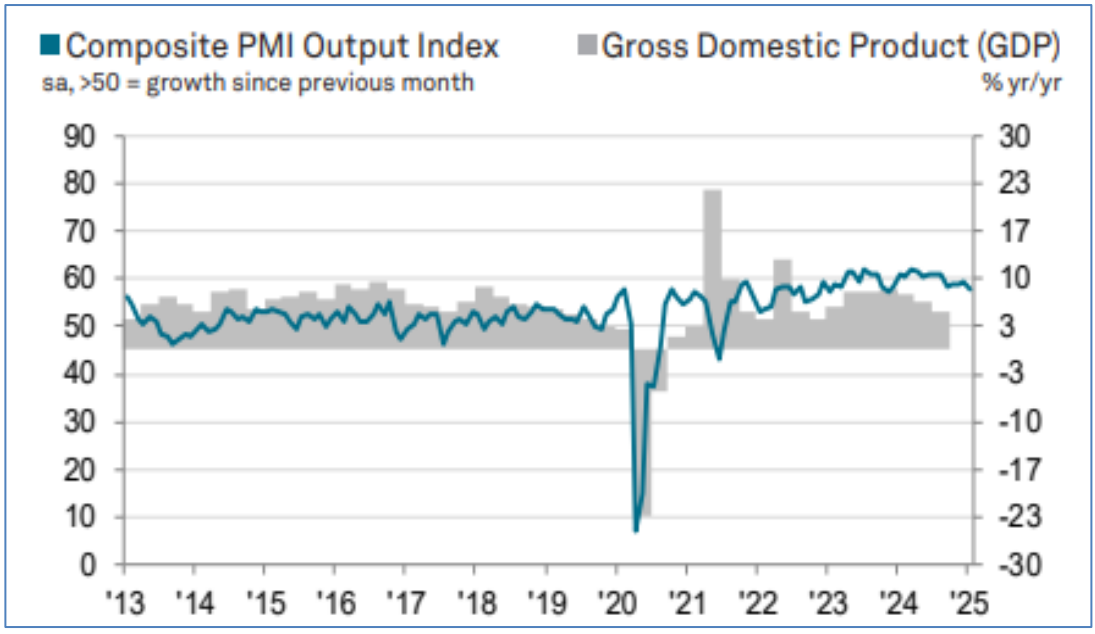
Manufacturing PMI – India

- The 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 registered 57.9 in January 2025. The latest reading highlighted the strongest growth rate for four months. There were quicker increases in output at both goods producers and service providers.

- The latest HSBC 'flash' PMI® data, compiled by S&P Global, showed that a stronger expansion in the manufacturing industry was more-than-offset by a loss of growth momentum in the service economy. The prices charged for goods and services rose at a faster rate than in December as cost pressures intensified.

- 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 – increased from 56.4 in December to 58.0 in January, highlighting the best improvement in the health of the sector since July 2024.

Figure 9: India PMI



Source- S&P Global

India's external position

India's forex reserves

- India's foreign exchange reserves fell to $623.98 billion, down by $ 1.8 billion as of week ending January 17, 2025 according to data from the Reserve Bank of India (RBI).

- The primary contributor of this decline were the foreign currency assets that declined by $2.87 billion to settle at $533.13 billion.

- Gold reserves saw an increase of $1.06 billion, rising to $68.94 billion during the same week, the Reserve Bank of India (RBI) reported.

- While the Special Drawing Rights (SDRs) increased by $1 million to $17.78 billion, the India reserve position with IMF was down by $74 million to $4.12 billion.

India's foreign trade position

- India's total exports (Merchandise and Services combined) for December 2024 is estimated at USD 70.67 Billion, registering a growth of 0.92 percent vis-à-vis December 2023.

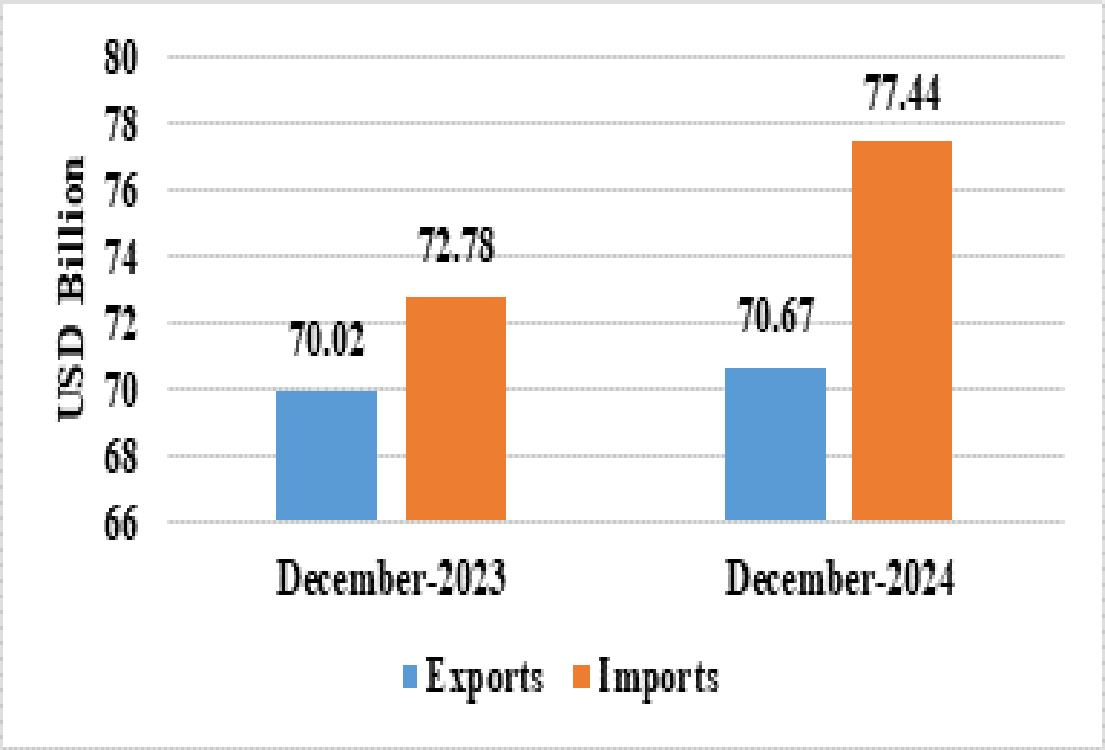
- Total imports (Merchandise and Services combined) for December 2024 are estimated at USD 77.44 Billion, registering a growth of 6.40 percent vis-à-vis December 2023.

Table 1: Trade during December 2024

		December 2024 (USD Billion)	December 2023 (USD Billion)
Merchandise	Exports	38.01	38.39
	Imports	59.95	57.15
Services	Exports	32.66	31.63
	Imports	17.50	15.63
Overall Trade (Merchandise + Services)	Exports	70.67	70.02
	Imports	77.44	72.78
	Trade Balance	**-6.78**	**-2.76**

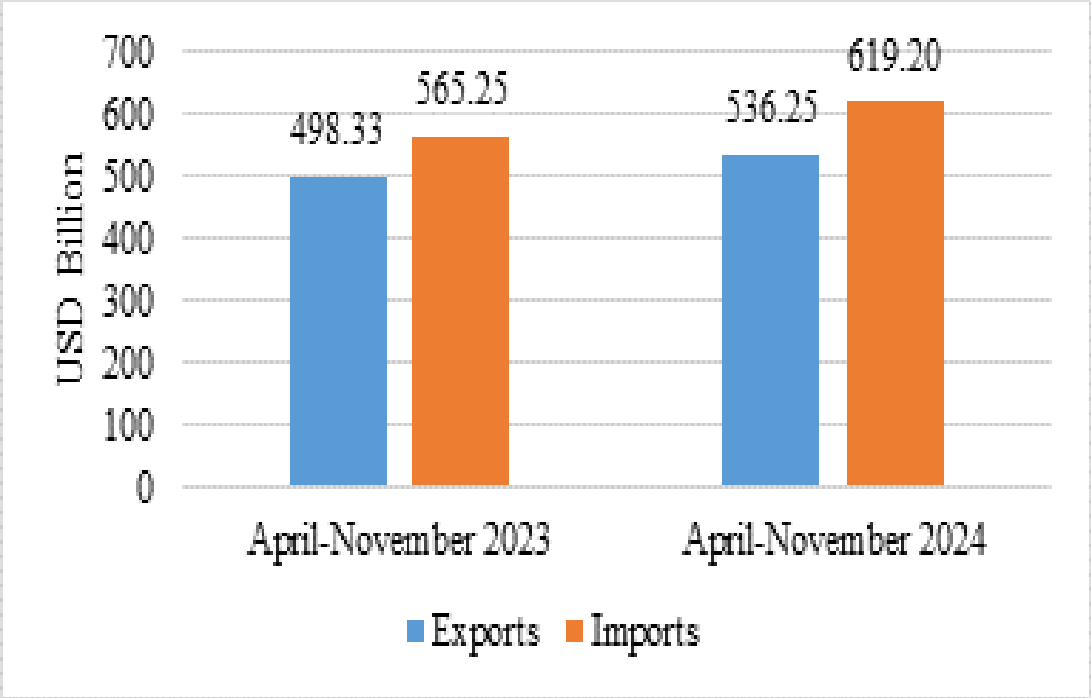
Source- Ministry of Commerce & Industry

Figure 10: Overall Trade during November 2024



Source- RBI

Figure 11: Total Trade during April- November 2024



Source- RBI

- India's total exports during April- December 2024 is estimated at USD 602.64 Billion registering a growth of 6.03 percent.

- Total imports during April- December 2024 is estimated at USD 682.15 Billion registering a growth of 6.91 percent.

- Exports of Other Cereals (67.89%), Rice (64.03%), Jute Mfg. Including Floor Covering (51.63%), Cashew (45.7%), Coffee (36.88%), Electronic Goods (35.11%), Tobacco (23.96%), Mica, Coal & Other Ores, Minerals Including Processed Minerals (23.4%), Meat, Dairy & Poultry Products (17.87%), Marine Products (15.83%), Handicrafts Excl. Hand Made Carpet (14.9%), Rmg Of All Textiles (12.89%), Man-Made Yarn/Fabs./Made-Ups Etc. (12.53%), Cotton Yarn/Fabs./Made-Ups, Handloom Products Etc. (11.98%), Tea (11.26%), Cereal Preparations & Miscellaneous Processed Items (9.57%), Carpet (9.15%), Engineering Goods (8.35%), Ceramic Products & Glassware (8.02%), Plastic & Linoleum (6.02%), Leather & Leather Products (4.28%), Fruits & Vegetables (3.77%), Spices (1.73%) and Drugs & Pharmaceuticals (0.63%) record positive growth during December 2024 over the corresponding month of last year.

- Imports of Coal, Coke & Briquettes, Etc. (-43.42%), Pearls, Precious & Semi-Precious Stones (-42.02%), Iron & Steel (-18.58%), Project Goods (-12.4%), Leather & Leather Products (-12.33%), Newsprint (-9.52%), Artificial Resins, Plastic Materials, Etc. (-3.8%), Transport Equipment (-0.96%), Fertilizers, Crude & Manufactured (-0.89%) and Non-Ferrous Metals (-0.47%) record negative growth during December 2024 over the corresponding month of last year.

- Services exports is estimated to grow by 11.61 percent during April-December 2024 over April-December 2023.

- Top 5 export destinations, in terms of change in value, exhibiting growth in December 2024 vis a vis December 2023 are U S A (8.49%), Saudi Arab (50.46%), France (67.37%), Bangladesh Pr (33.58%) and Sri Lanka (83.68%).

- Top 5 export destinations, in terms of change in value, exhibiting growth in April-December 2024 vis a vis April-December 2023 are USA (5.57%), Netherland (14.71%), U Arab Emts (8.87%), Singapore (16.45%) and U K (14.08%).

- Top 5 import sources, in terms of change in value, exhibiting growth in December 2024 vis a vis December 2023 are China P Rp (9.14%), Switzerland (85.65%), Thailand (71.7%), Germany (28.63%) and U S A (9.88%).

- Top 5 import sources, in terms of change in value, exhibiting growth in April-December 2024 vis a vis April-December 2023 are U Arab Emts (37.08%), China P Rp (9.38%), Russia (8.32%), Taiwan (41.7%) and Thailand (22.46%).

7. Nine years of Startup India

- On January 16, 2025, India marks nine years of Startup India, a transformative journey that began in 2016. Designated as National Startup Day, this occasion celebrates the nation's strides in fostering a robust and inclusive entrepreneurial ecosystem.
- With more than 1.59 lakh startups recognized by the Department for Promotion of Industry and Internal Trade (DPIIT) as of January 15, 2025, India has firmly established itself as the third-largest startup ecosystem in the world. This vibrant ecosystem, driven by over 100 unicorns, continues to redefine innovation and entrepreneurship on the global stage.
- Major hubs like Bengaluru, Hyderabad, Mumbai, and Delhi-NCR have led this transformation, while smaller cities have increasingly contributed to the nation's entrepreneurial momentum.

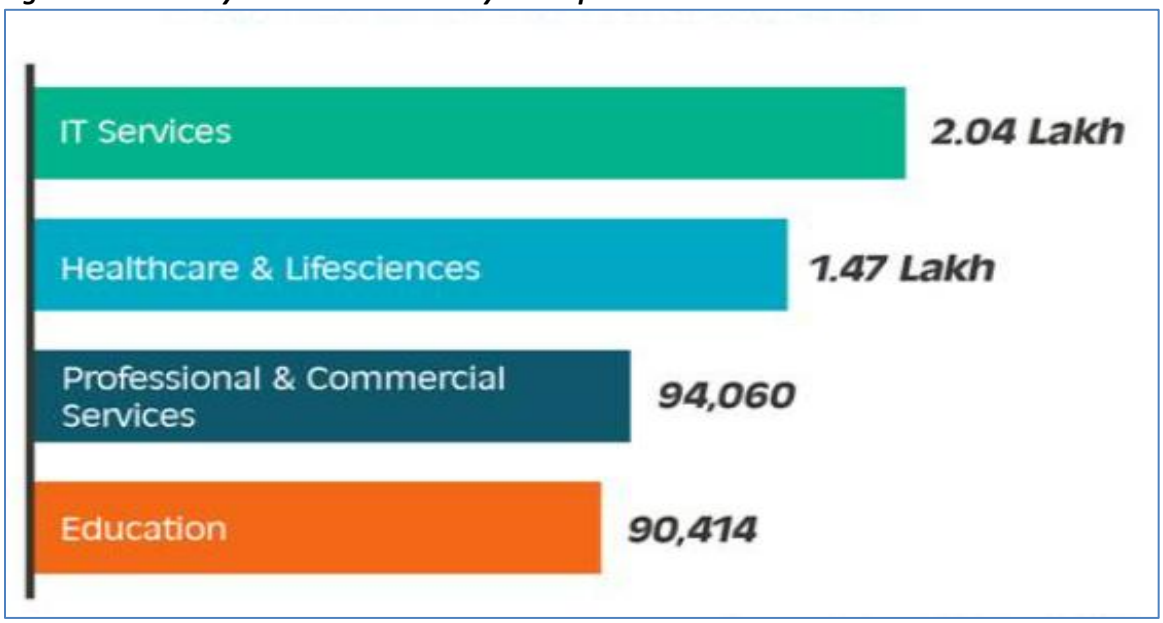
Key Milestones of Startup India

- The number of DPIIT-recognised startups has grown from around 500 in 2016 to 1,59,157 as of January 15, 2025.
- As of October 31, 2024, a total of 73,151 recognised startups includes at least one-woman director, showcasing the rise of women entrepreneurs in India.
- From 2016 to October 31, 2024, recognised startups have reportedly created over 16.6 lakh direct jobs, significantly contributing to employment generation.

Core Features of the Startup India Initiative

- Ease of Doing Business: Simplified compliance, self-certification, and single-window clearances streamline processes for startups.
- Tax Benefits: Eligible startups enjoy tax exemptions for three consecutive financial years.
- Funding Support: The ₹10,000 crore Fund of Funds for Startups (FFS) supports early-stage funding.
- Sector-Specific Policies: Focused policies for sectors like biotechnology, agriculture, and renewable energy foster targeted growth.

Figure 12: Industry-wise Jobs Created by Startups



Source- Ministry of Commerce & Industry

8. India at Davos 2025

The 2025 Annual Meeting of the World Economic Forum (WEF) was held at Davos-Klosters from January 20 to 24. The India Pavilion at the 55th World Economic Forum annual conference in Davos, Switzerland, showcased the participation of eight states, each aiming to attract investment opportunities from global business executives.

The states represented at WEF 2025 are Kerala, Telangana, Uttar Pradesh, Andhra Pradesh, Maharashtra, Tamil Nadu, Karnataka, and West Bengal.

The theme for Davos 2025 is 'Collaboration for the Intelligent Age', with the event organized around five sub-themes:

- Reimagining growth
- Industries in the intelligent age
- Investing in people
- Safeguarding the planet
- Rebuilding trust

The five-day event saw India presenting a united front, with the largest-ever delegation led by Union Minister Ashwini Vaishnaw (Railways, Information & Broadcasting, and Electronics & IT), comprising five Union ministers, three state chief ministers, and several other officials.

The delegation was engaged in panel discussions, roundtables, and Government-to-Business (G2B) and Government-to-Government (G2G) meetings at the Davos Congress Centre. The discussions emphasized themes such as sustainability, economic partnerships, innovation, and AI-driven transformations.

- Maharashtra stood out as a key player, securing investment commitments worth ₹15.70 lakh crore through 61 Memorandums of Understanding (MoUs). Chief Minister Devendra Fadnavis announced that these agreements have the potential to generate 16 lakh new jobs, focusing on sectors such as infrastructure, manufacturing, and technology.
- Telangana delegation, led by CM Revanth Reddy, secured 20 MoUs worth Rs 1.79 lakh crore, focusing on data centres, green energy, and cutting-edge technologies, which is expected to generate nearly 50,000 jobs.
- Kerala emphasized its transformation into an industrial hub driven by progressive government policies. Kerala Industries Minister P Rajeeve held over 30 one-to-one meetings at the Invest Kerala Pavilion and showcased the state's investment potential across diverse sectors.
- Uttar Pradesh showcased its ambitious vision to transform into a USD 1 trillion economy and secured investment commitments of several thousand crores of rupees.

India's presence at Davos reinforced its image as a stable, inclusive, and forward-looking economy. The collaborative effort by states and the central government underlined the nation's commitment to fostering global partnerships and attracting investment.

9. India at 2nd spot in future of work skills in emerging tech

- India has secured the second position in the QS Skills Index 2025, which assesses how well countries are preparing their job markets for future demands. With a score of 99.1 percent in the Future of Work Indicator, the country has shown a strong commitment to readying its workforce for emerging skills. This places India among the top countries globally in terms of recruitment preparedness for new in-demand roles.

- The QS World Future Skills Index, developed by Quacquarelli Symonds (QS), ranks countries on their readiness to meet evolving global job market demands emphasizing innovation, sustainability, and talent development.

- The QS Skills Index evaluates multiple aspects of job market readiness, including future job creation, the availability of skilled workers, and the effectiveness of skill development initiatives.

- The Index's findings are based on an assessment of 190 countries, over 280 million job postings, more than five million employers' skills demand, over 5,000 universities, and 17.5 million research papers.

- India's ranking reflects the country's ongoing efforts to develop a skilled workforce capable of meeting the needs of tomorrow's job market. The government has implemented several initiatives aimed at enhancing the skills of its population, such as the National Skills Development Corporation (NSDC), which helps bridge the gap between the demand for skilled professionals and the available talent pool.

- The rise of technology-driven sectors like information technology, digital services, and artificial intelligence has further boosted India's position in the global job market.

- With India doing exceptionally well in integrating AI into its workforce, the QS analysis underscores the country's readiness to adopt AI, digital, and green technologies, ahead of many countries.

10. India's digital economy set to drive one-fifth of GDP by 2030: (Ministry of Electronics and Information Technology) MeitY report

- India's digital economy is projected to grow nearly twice as fast as the overall economy, contributing close to one-fifth of the country's national income by 2030, according to a report from the Ministry of Electronics and Information Technology (MeitY).

- The report, titled Estimation and Measurement of India's Digital Economy, reveals that the digital sector accounted for 11.74% of national income, amounting to ₹31.64 lakh crore (approximately USD 402 billion) in GDP, in 2022-23.

- The report highlights the pivotal role of digital technologies in transforming India's economic landscape. It employs frameworks from the Organisation for Economic Cooperation and Development (OECD) and the Asian Development Bank (ADB) to measure the digital economy, placing India among a select group of nations globally—and the first among developing countries—to undertake such an extensive evaluation.

- In addition to covering core digital industries like ICT services, telecommunications, and electronics manufacturing, the study also factors in traditional sectors such as banking, financial services, insurance (BFSI), trade, and education—areas not typically included in conventional estimates.

- According to the findings, the digital-enabling industry contributed the largest share of the Gross Value Added (GVA), accounting for 7.83%. Emerging digital industries, including tech giants and online platforms, added 2%, while the digitalisation of traditional sectors such as BFSI and education also contributed 2%. This indicates a broader diffusion of digital technologies across India's economy, extending beyond the confines of the ICT sector.

- The report also sheds light on the employment potential of the digital economy, which supported 14.67 million workers in 2022-23, equivalent to 2.55% of the country's workforce.

Lessons from Economics

Prosperity Gap index

The World Bank's new measure for shared prosperity, the *Global Prosperity Gap,* represents the average factor by which incomes worldwide would need to increase to meet a prosperity standard of $25/day, expressed in 2017 PPPs.

The global prosperity standard is set at $25 per person per day—roughly equal to the per capita household income of a typical person living in a country that transitions to high-income status.

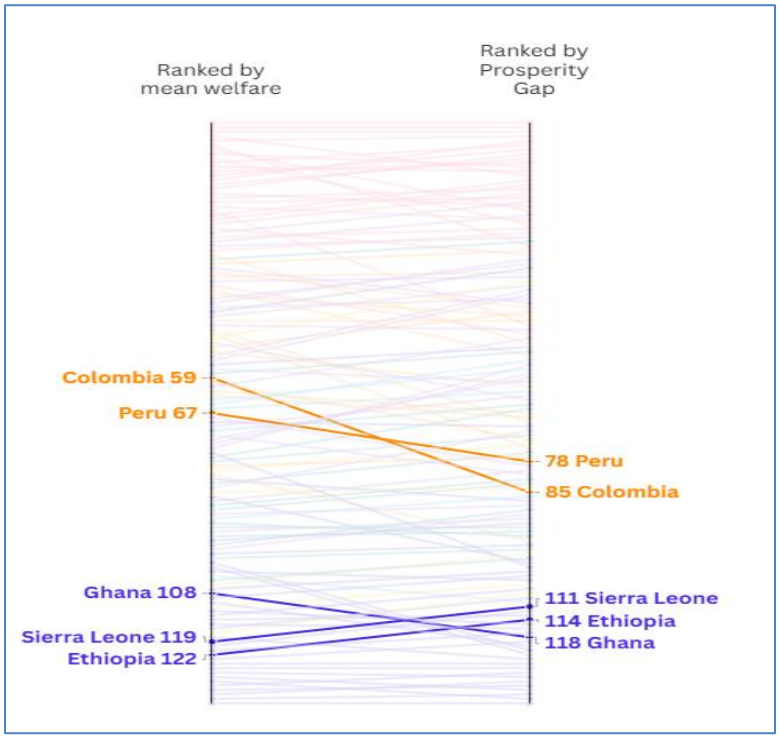
The measure includes the income of every person in the world, aligning with the principles of a shared prosperity metric. However, it places a significantly higher weight on the income shortfalls of the poor than those of the rich.

The Prosperity Gap decreases (improves) when incomes rise and increases (worsens) when incomes decline. There are three ways to use the Prosperity Gap index in country or regional analysis:-

- **Ranking across countries (or sub-groups within countries)**

Mean income is an important and widely used metric for assessing economic well-being. However, it does not reflect how income is distributed among individuals, an essential dimension of welfare. In contrast, the Prosperity Gap index captures both mean income and the degree of inequality in the distribution.

Figure 13: Ranking countries by mean income and Prosperity Gap from richest (top) to poorest (bottom)



Source- World Bank

In the above figure, countries are ranked based on their daily mean per capita income or consumption (left axis) and the Prosperity Gap (right axis). If countries had the same level of inequality, both rankings would align. However, the Prosperity Gap adjusts rankings by penalizing societies with higher inequality and rewarding those with lower inequality, leading to multiple line crisscrossing in the figure.

For example-: Ghana and Sierra Leone from Sub-Saharan Africa, and Colombia and Peru from Latin America. On average, Ghana and Colombia are wealthier than Sierra Leone and Peru, respectively. Nevertheless, the latter pair ranks higher on the Prosperity Gap measure due to their lower levels of inequality, which more than offset the higher average income of the former countries. In numbers, Colombia has an average daily per capita income of $17.31, compared to $12.40 in Peru. However, since inequality in Colombia is 1.8-times higher than the inequality in Peru, Colombia needs an average income of $22.60 (or 1.8-times higher than Peru's mean income) for it to have the same Prosperity Gap as Peru.

- **Defining a country-relevant prosperity standard**

The global prosperity standard of $25/day may be considered for country-specific discussions, particularly for short-term planning. For instance, based on their most recent household survey, Ethiopia, Ghana, and Sierra Leone have Prosperity Gaps close to 10. This means that incomes, on average, need to increase tenfold to meet the $25/day prosperity standard.

A key feature of the Prosperity Gap index is that the prosperity standard only affects the index's *level*, without influencing trends, rankings, or changes over time. As a result, the conclusions drawn from the exercises above remain unchanged even if a different threshold is applied consistently across all countries.

The below table illustrates this with results using a $10/day prosperity threshold for the three African countries mentioned earlier. Ethiopia's Prosperity Gap is 9.8 when using the $25/day threshold, but it drops to 3.9 with a $10/day threshold. This means that, on average, incomes in Ethiopia would need to increase 3.9-fold instead of 9.8-fold to meet the lower standard. Notably, the ratio of the Prosperity Gaps under the two thresholds (9.8/3.9 = 2.5) is equivalent to the ratio of the thresholds (25/10 = 2.5), showing that the threshold acts as a simple scaling factor. As a result, country rankings remain consistent regardless of the threshold used.

Country	Prosperity Gap using $25/day	Income shortfall from $10/day	Shortfall between thresholds, $25/$10
Ethiopia	9.80	3.90	2.50
Ghana	10.10	4.00	2.50
Sierra Leone	9.30	3.70	2.50

Source- World Bank

Oil Market

Crude oil price – Monthly Review

Benchmark crude oil prices rallied in early January as US sanctions on Iran and Russia intensified and freezing temperatures swept across large parts of the Northern Hemisphere. Brent crude futures hit a four-month high of $81/bbl by mid-January, up $8/bbl from a month-ago.

Following a relatively mild start to the winter heating season, the weather turned decidedly colder in December in Canada, the northern and central regions of the United States, much of Europe, Russia, China and Japan. Average heating degree days were significantly higher than a year ago and slightly above the five-year average, boosting oil demand. OECD oil demand for 4Q24 has been raised by 250 kb/d, underpinning a 90 kb/d upward adjustment to our global growth estimate for 2024. Oil demand trends in non-OECD economies were mixed. While China posted modest y-o-y growth in November, the latest data for Saudi Arabia, Brazil and India were all below expectations. Estimated growth of 940 kb/d in 2024 and 1.05 mb/d in 2025 will push world oil demand to 104 mb/d.

Prices also got a boost as traders considered multiple supply risks. Near-term, weather-related shut-ins in North America could have a significant impact, with Cushing crude inventories at decade lows. Last winter, oil production in the United States and Canada plunged by more than 1.8 mb/d from December to January due to an Arctic cold snap. A smaller seasonal drop in supply is expected this year, as the prolific Permian Basin has so far been spared major weather impacts.

Hedge funds and other money managers closed a large volume of short futures and option positions in the NYMEX WTI futures market and raised long positions in both ICE Brent and NYMEX WTI futures and option contracts. Between the weeks of 26 November and 31 December, hedge funds and other money managers bought an equivalent of 144 mb of oil in Brent and WTI futures and options.

Sweet-sour crude differentials narrowed in the US Gulf Coast (USGC) and Europe in December, primarily driven by the elevated availability of light sweet crude in the Atlantic Basin, including from the US. In Asia, however, sweet-sour crude differentials widened in December, as the sweet crude market outperformed medium sour crudes.

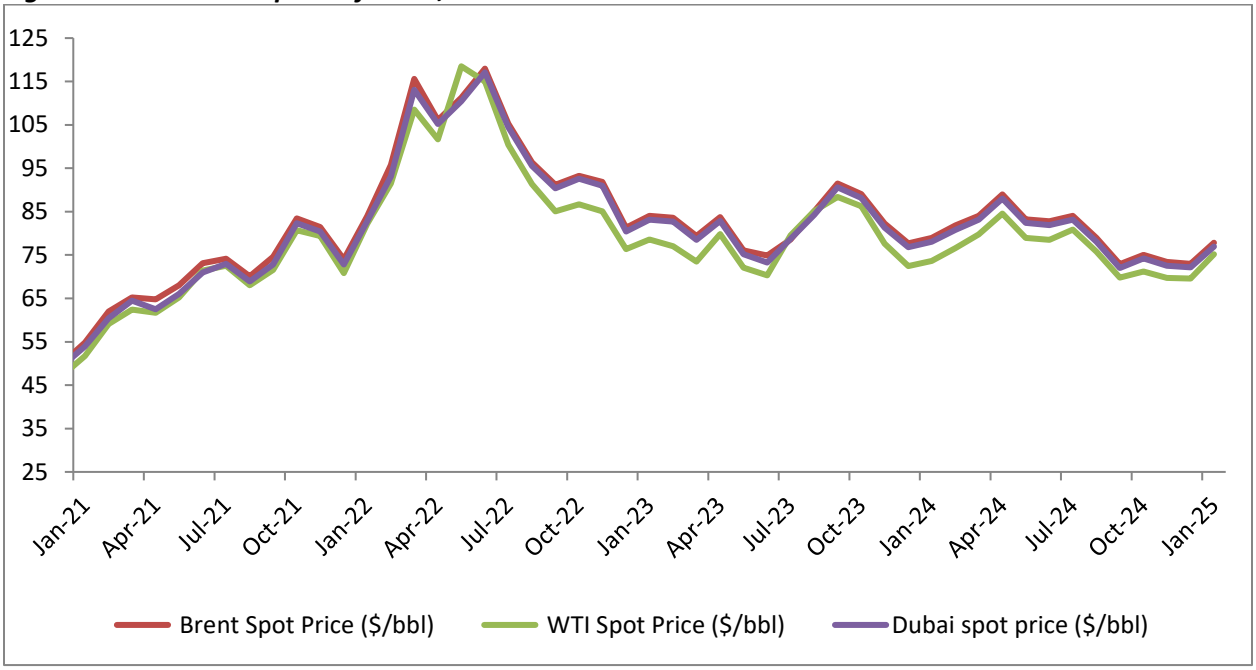
Crude spot prices showed mixed movements in December. This was despite signs of supportive physical crude market fundamentals, reflected in robust growth in the global refinery intake. The spot market witnessed firm buying interest, boosted by demand from European and Asia-Pacific buyers, which helped to clear January loading programmes. The strength of the market was also reflected in the continued decline in OECD commercial stocks in December, including in the US. The North Sea Dated price was little changed in December, averaging slightly lower, m-o-m, pressured by the high availability of light sweet crude from the USGC and West African markets. However, WTI and Dubai's first month contract rose.

In December, the ORB value rose slightly by 9¢, or 0.1%, m-o-m, to stand at $73.07/b, amid a mixed performance of ORB component-related crude benchmarks. A decline in most official selling prices (OSPs), the medium and heavy sour crudes exported to Asia, offset the higher OSP values of sweet grades and

contributed to the ORB value decline. In 2024, the ORB value averaged $79.89/b, representing a decline of $3.06, or 3.7%, compared to 2023.

Brent crude ranged an average to $77.84 a barrel and WTI ranged to $75.20 per barrel in the month of January 2025.

Figure 14: Benchmark price of Brent, WTI and Dubai crude



Source- World Bank

- Brent crude price averaged $77.84 per bbl in January 2025, up by 6.7% on a month on month (MoM) and down by 1.4% on year on year (YoY) basis, respectively.

- WTI crude price averaged $75.20 per bbl in January 2025, up by 8.0% on a month on month (MoM) and up by 2.1% on year on year (YoY) basis, respectively.

- Dubai crude price averaged $76.97 per bbl in January 2025, up by 6.7% on a month on month (MoM) and down by 1.4% on year on year (YoY) basis, respectively.

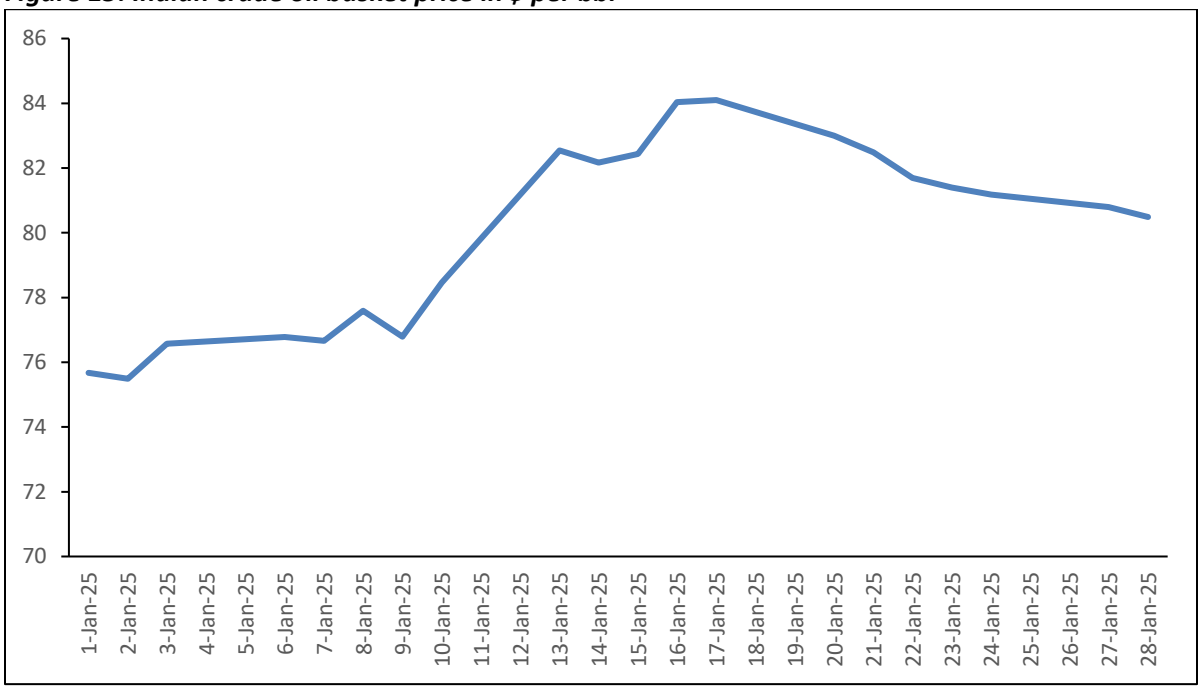
Table 2: Crude oil price in January, 2025

Crude oil	Price ($/bbl)	MoM (%) change	YoY (%) change
Brent	77.84	6.7%	-1.4%
WTI	75.20	8.0%	2.1%
Dubai	76.97	6.7%	-1.4%

Source- World Bank

Indian Basket Crude oil price

Figure 15: Indian crude oil basket price in $ per bbl



Source- PPAC

- Indian crude basket price averaged $80.02 per barrel in January 2025, up by 9.3% on Month on Month (M-o-M) and up by 1.2% 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) in 2025 is forecast to grow by 1.1 mb/d, y-o-y, unchanged from last month's assessment.
- The main growth drivers are expected to be the US, Brazil, Canada, and Norway. The non-DoC liquids supply growth in 2026 is also forecast to grow by at 1.1 mb/d, mainly driven by the US, Brazil and Canada. Meanwhile, natural gas liquids (NGLs) and non-conventional liquids from countries participating in the DoC are forecast to grow by about 90 tb/d, y-o-y, in 2025, to average 8.4 mb/d, followed by an increase of about 0.1 mb/d, y-o-y, in 2026 to average 8.5 mb/d. Crude oil production by the countries participating in the DoC dropped by 14 tb/d in December, m-o-m, averaging about 40.65 mb/d, as reported by available secondary sources.

Table 3: Non-DoC liquids production in 2025, mb/d

Non-OPEC liquids production	2024	1Q25	2Q25	3Q25	4Q25	2025
Americas	27.62	27.95	28.11	28.41	28.65	28.28
of which US	*21.71*	*21.84*	*22.24*	*22.35*	*22.41*	*22.21*
Europe	3.61	3.79	3.66	3.64	3.75	3.71
Asia Pacific	0.44	0.43	0.42	0.43	0.43	0.43
Total OECD	**31.66**	**32.16**	**32.19**	**32.48**	**32.83**	**32.41**
China	4.57	4.63	4.61	4.53	4.54	4.58
India	0.79	0.78	0.79	0.80	0.80	0.79
Other Asia	1.61	1.61	1.58	1.57	1.57	1.58
Latin America	7.24	7.41	7.44	7.52	7.64	7.50
Middle East	2.00	2.01	2.03	2.03	2.03	2.02
Africa	2.31	2.33	2.33	2.33	2.32	2.33
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	**18.99**	**19.24**	**19.26**	**19.25**	**19.36**	**19.28**
Total Non-DoC production	50.65	51.40	51.45	51.74	52.19	51.70
Processing gains	2.52	2.58	2.58	2.58	2.58	2.58
Total Non-DoC liquids production	**53.17**	**53.98**	**54.03**	**54.32**	**54.77**	**54.28**

Source- OPEC monthly report, January 2025

- From the above table, it can be inferred, that the total non-DoC liquids production is expected to reach 54.28 mb/d by 2025.
- The non-DoC liquids supply (i.e. liquids supply from countries not participating in the Declaration of Cooperation) in 2025 is forecast to grow by 1.1 mb/d, y-o-y.

Oil demand situation

- The global oil demand growth forecast for 2025 remains unchanged at 1.4 mb/d. The OECD is forecast to grow by about 0.1 mb/d, while the non-OECD is forecast to grow by about 1.3 mb/d. This robust oil demand growth is expected to continue in 2026.
- The global oil demand in 2026 is forecast to grow by 1.4 mb/d, y-o-y. The OECD is forecast to grow by about 0.1 mb/d, y-o-y, while demand in the non-OECD is forecast to grow by about 1.3 mb/d.

Table 4: World Oil demand, mb/d

	2024	1Q25	2Q25	3Q25	4Q25	2025	Growth	%
Total OECD	**45.77**	**44.90**	**45.62**	**46.51**	**46.47**	**45.88**	**0.11**	**0.23**
~ of which US	*20.48*	*19.95*	*20.50*	*20.72*	*20.89*	*20.52*	*0.04*	*0.21*
Total Non-OECD	**57.97**	**59.30**	**58.72**	**58.99**	**60.24**	**59.32**	**1.34**	**2.32**
~ of which India#	*5.55*	*5.88*	*5.86*	*5.55*	*5.89*	*5.79*	*0.24*	*4.31*
~ of which China	16.74	16.99	16.89	17.12	17.19	17.05	0.31	1.85
Total world	**103.75**	**104.20**	**104.34**	**105.50**	**106.71**	**105.20**	**1.45**	**1.40**

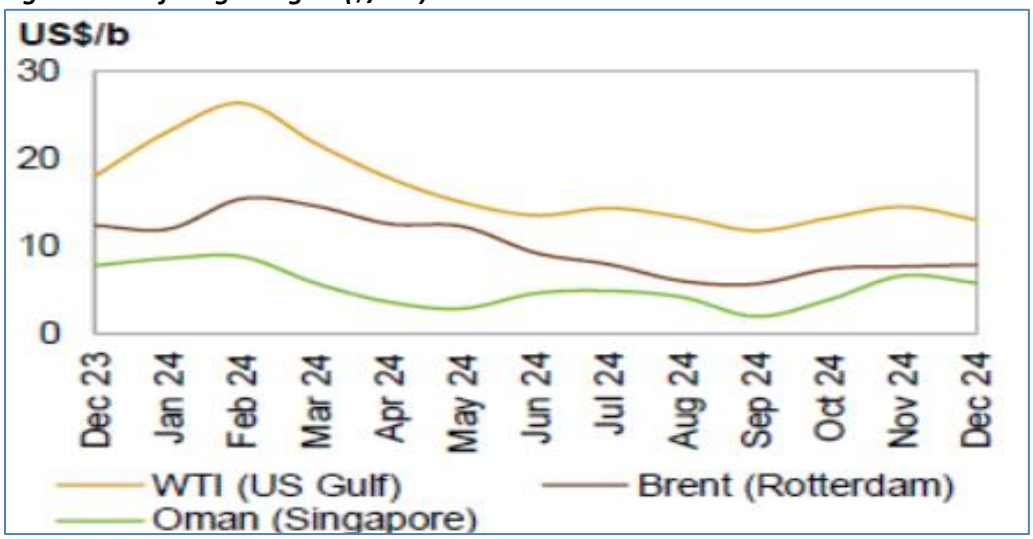
Source- OPEC monthly report, January 2025

Global petroleum product prices

USGC refining margins retracted in December after reaching a six-month high in the previous month. Markets for most products experienced weakness, to the greatest extent high-sulphur fuel oil (HSFO), despite solid jet/kerosene-related gains. Gasoline markets showed mixed performance, with gasoline 92 crack spreads exhibiting an increase and gasoline 95 slightly declining. According to preliminary data, refinery intake in the USGC was 210 tb/d higher, m-o-m, averaging 16.95 mb/d in December, which represented a 126 tb/d y-o-y decline. Downside risks for US refinery runs due to the potential severe temperatures and winter storms around January and February, could pressure refinery intakes. USGC margins against WTI averaged $13.00/b in December, down by $1.49, m-o-m, and $5.03 lower, y-o-y.

Refinery margins in Rotterdam against Brent managed to retain a slight upward momentum, in contrast to what was seen in other main trading hubs, with the modest monthly increase driving margins to a five-month high in December. Gasoline, gasoil and 1% fuel oil markets were supported by end-of-year travel activities on the back of limited diesel imports towards the beginning of the new year, despite product inventories at the Amsterdam-Rotterdam-Antwerp storage terminal showing a rise in December. Jet fuel inventories showed the largest stock draw in December compared to other key products in Northwest Europe. This reflected a boost in jet fuel crack spreads and demand particularly during the second half of the month, according to Argus. However, this short-lived support proved insufficient in helping European jet fuel crack spreads register a monthly gain.

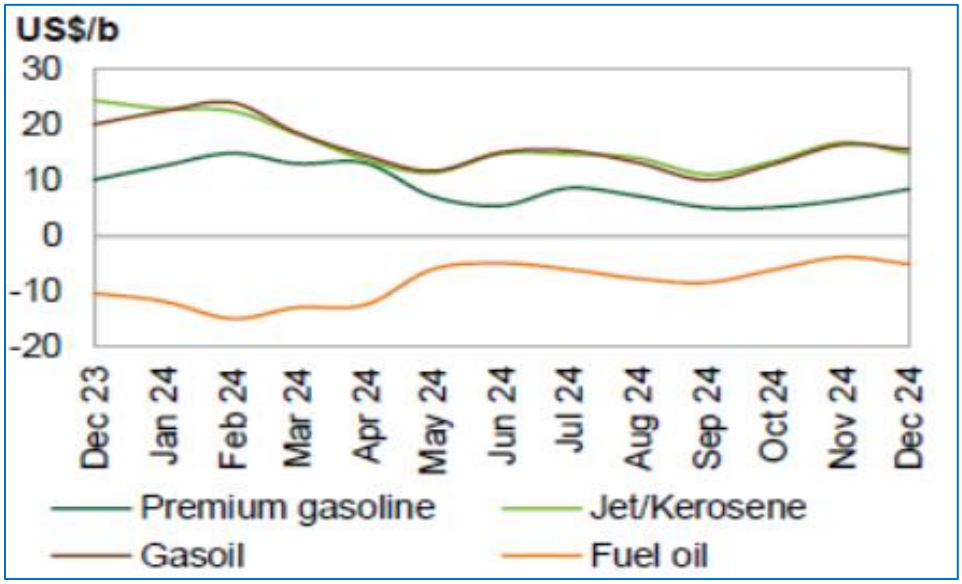
Figure 16: Refining Margins ($/bbl)



Source- Argus and OPEC

The Southeast Asia gasoline 92 crack spread against Dubai rose to a five-month high and benefitted from the policy changes in China that led to lower gasoline exports to Singapore, following the implementation of the export tax rebate cuts in early December. According to Argus, gasoline exports from China declined 50% in December. Moreover, firm gasoline demand from Indonesia provided further support. Going forward, seasonality, softening East-West flow incentives and solid upside potential for gasoline refinery output are all expected to put pressure on Asian gasoline markets. Any potential Asian gasoline market support, for the time being, will have to emerge from within the region, assuming all other factors remain unchanged. The product's margin averaged $8.28/b in December, up $1.98, m-o-m, but down $1.68, y-o-y.

Figure 17: Singapore crack Spreads vs. Dubai ($/bbl)



Source- Argus and OPEC

The Singapore gasoil crack spread eased with softening East-West arbitrage economics. The Singapore gasoil crack spread against Dubai averaged $15.49/b, down by 89¢, m-o-m, and by $4.58, y-o-y.

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

Singapore product prices	Price ($/b)	MoM (%) change	YoY (%) change
Naphtha	69.50	-0.6%	-4.4%
Premium gasoline (unleaded 95)	84.88	0.3%	-7.0%
Regular gasoline (unleaded 92)	81.32	3.0%	-6.8%
Jet/Kerosene	87.81	-1.8%	-13.6%
Gasoil/Diesel (50 ppm)	88.77	-0.4%	-10.7%
Fuel oil (180 cst 2.0% S)	88.32	-0.7%	-9.2%
Fuel oil (380 cst 3.5% S)	67.90	-1.2%	1.4%

Source- OPEC

Petroleum products consumption in India

Monthly Review:

- Overall consumption of all petroleum products in December 2024 with a volume of 20.67 MMT registered a growth of 3.06% on volume of 20.05 MMT in December 2023.
- MS (Petrol) consumption during the month of December 2024 with a volume of 3.31 MMT recorded a growth of 10.79% on volume of 2.99 MMT in December 2023.
- HSD (Diesel) consumption during the month of December 2024 with a volume of 8.06 MMT recorded growth of 5.94% on volume of 7.61 MMT in the month of December 2023.
- LPG consumption during the month of December 2024 with a volume of 2.78 MMT registered growth of 5.81% over the volume of 2.63 MMT in the month of December 2023.
- ATF consumption during December 2024 with a volume of 0.782 MMT registered a growth of 8.72% over the volume of 0.720 MMT in December 2023.
- Bitumen consumption during December 2024 with a volume of 0.792 MMT registered de-growth of 0.29% over volume of 0.794 MMT in the month of December 2023.
- Kerosene consumption registered de-growth of 13.90% during the month of December 2024 as compared to December 2023.

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

	Monthly			Year till Date	
Consumption of Petroleum Products (P)	**Consumption in '000 MT**	**MoM (%) change**	**YoY (%) change**	**Consumption in '000 MT**	**YoY (%) change**
LPG	2,781	4.0%	5.8%	23,200	6.69%
Naphtha	1,070	2.1%	-19.3%	10,000	1.16%
MS	3,312	-3.4%	10.8%	30,003	8.03%
ATF	782	4.6%	8.7%	6,664	9.87%
SKO	35	-2.8%	-13.9%	308	-18.92%
HSD	8,057	-1.3%	5.9%	68,250	2.22%
LDO	70	-13.1%	4.6%	609	4.34%
Lubricants & Greases	390	6.1%	18.5%	3,436	22.73%
FO & LSHS	571	8.2%	-0.4%	4,992	1.07%
Bitumen	792	12.3%	-0.3%	5,766	-4.91%
Petroleum coke	1,874	2.0%	17.3%	16,112	16.99%
Others	934	11.2%	-32.5%	9,127	-11.70%
TOTAL	**20,668**	**1.0%**	**3.1%**	**1,78,466**	**4.30%**

Source- PPAC

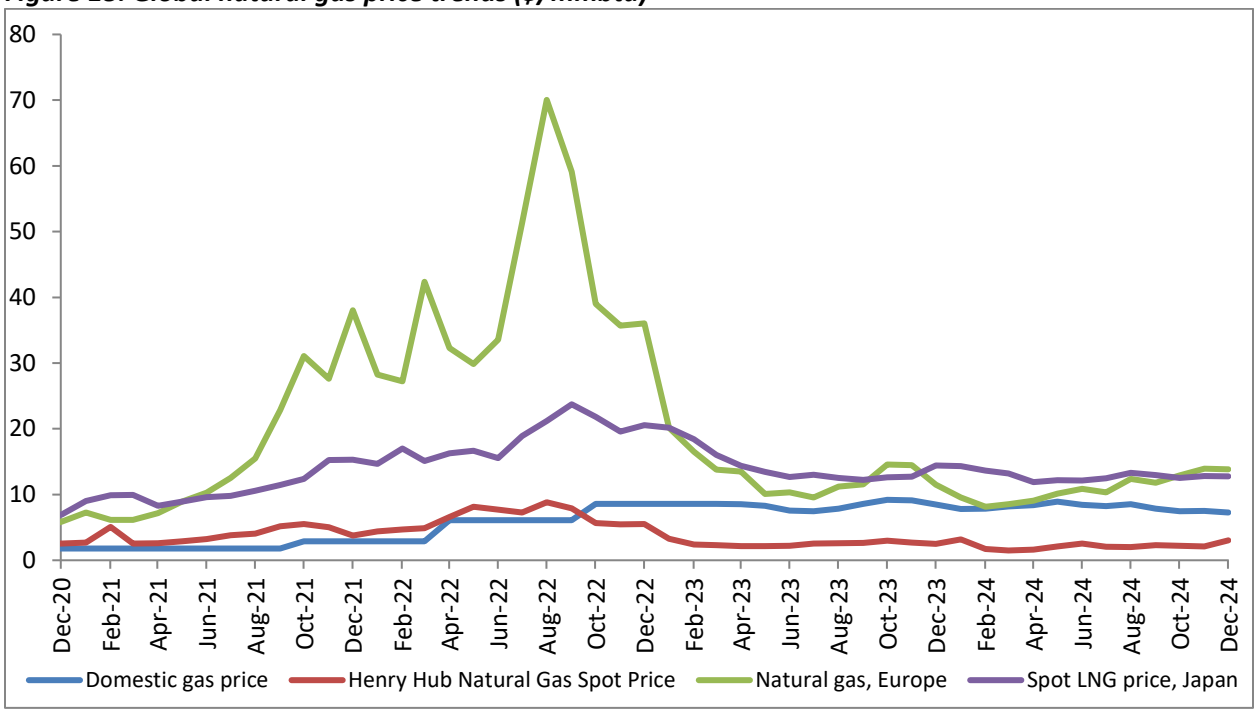
Fiscal Year: 1st April 2024 – 31st March 2025

Natural Gas Market

Natural Gas Price – Monthly Review

- Natural gas spot prices at the US Henry Hub benchmark averaged $3.01 per million British thermal units (MMBtu) in December 2024. Henry Hub's natural gas prices rebounded in December after two consecutive months of declines. Prices experienced a sharp increase in the second half of the month, rising by 43.6%, m-o-m, on the back of expectations of colder weather across the US. Reports of a decline in underground storage levels in December underscored the increase in demand. According to data from the US Energy Information Administration (EIA), weekly average underground storage decreased in December by 9.5%, m-o-m. Henry Hub prices were up by 19.4%, y-o-y.
- Natural gas spot price at the Title Transfer Facility (TTF) in the Netherlands in Europe traded at an average of $13.86 per MMBtu. The average Title Transfer Facility (TTF) receded in December after trending upwards for two consecutive months, falling by 0.5%, m-o-m. TTF prices experienced higher volatility in December amid renewed supply risk concerns. Prices fell earlier in the month, pressured by a combination of lower-than-expected demand and higher LNG intake. However, prices rose sharply in the second half of the month, partially offsetting losses in the first half, ultimately resulting in a moderate decline, m-o-m. Nonetheless, according to data from Gas Infrastructure Europe, EU storage levels were at about 72% of capacity as of 31 December, 13 percentage points below the previous month, but still expected to provide enough buffer during the winter demand season. Prices were up by 20.4%, y-o-y.
- Japan Liquefied Natural Gas Import Price averaged at $12.76 per MMBtu for December 2024. There is a change of -0.5% from last month and -11.6% from one year ago.
- The Union Cabinet has approved a new formula for pricing of natural gas and imposed cap or ceiling price on the same. Natural gas produced from legacy or old fields, known as APM gas, will now be indexed to crude oil prices. From April 1 2023, APM gas will be priced at 10% of the price of basket of crude oil that India imports. The rate such arrived at however will be capped at US$ 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. For the period 1st October, 2024 – 31st March, 2025 Gas price ceiling was further revised as US$10.16/MMBTU on Gross Calorific Value (GCV) basis as per notification dated 30th September 2024.

Figure 18: Global natural gas price trends ($/mmbtu)



Source- EIA, World Bank

Table 7: Gas price, December 2024

Natural Gas	Price ($/MMBTU)	MoM (%) change	YoY (%) change
India, Domestic gas price (Jan'25)	7.30	0.14	-6.65
India, Gas price ceiling – difficult areas (Oct'24-Mar'25)	10.16	2.94%	2.01%
GIXI (Gas index of India) price*	14.3	10.2%	11%
Henry Hub	3.01	42.0%	19.4%
Natural Gas, Europe	13.86	-0.5%	20.4%
Liquefied Natural Gas, Japan	12.76	-0.5%	-11.6%

Source- EIA, PPAC, World Bank, IGX

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

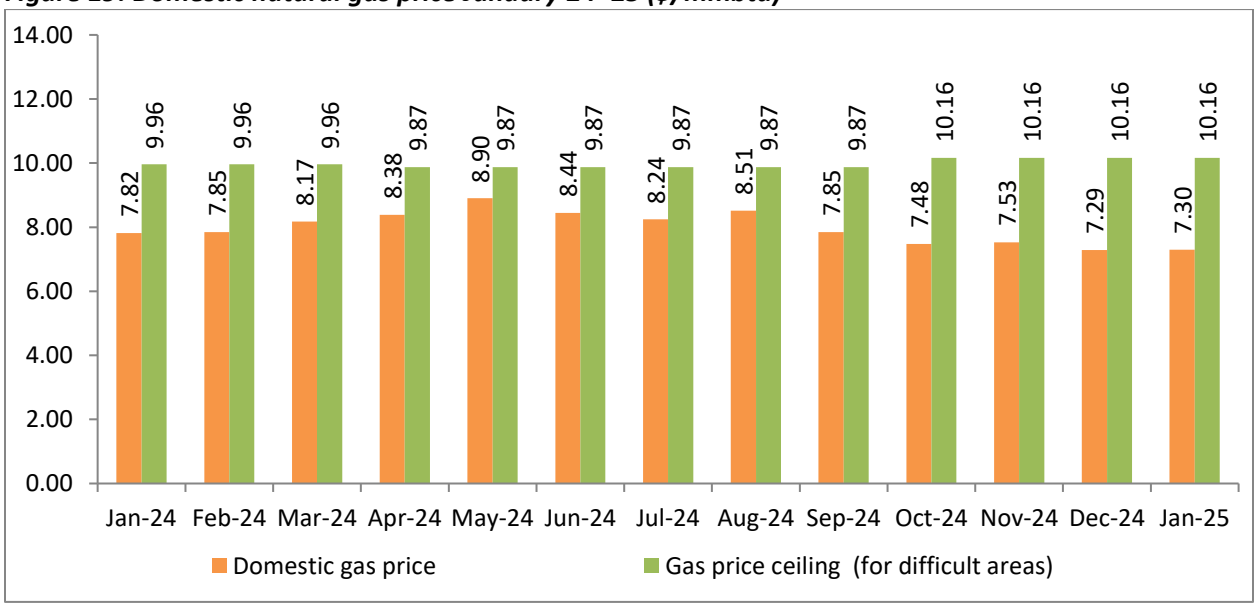
Table 8: Gas price, GCV Basis

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

Period	Domestic Gas calculated price in US$/MMBTU	Gas price ceiling – difficult areas price in US$/MMBTU
1-30 November 2023	9.12	9.96
1-31 December 2023	8.47	9.96
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
1-31 October 2024	7.48	10.16
1-30 November 2024	7.53	10.16
1-31 December 2024	7.29	10.16
1-31 January 2025	7.30	10.16

Source- PPAC

Figure 19: Domestic natural gas price January'24–25 ($/mmbtu)



Source- PPAC

Indian Gas Market *

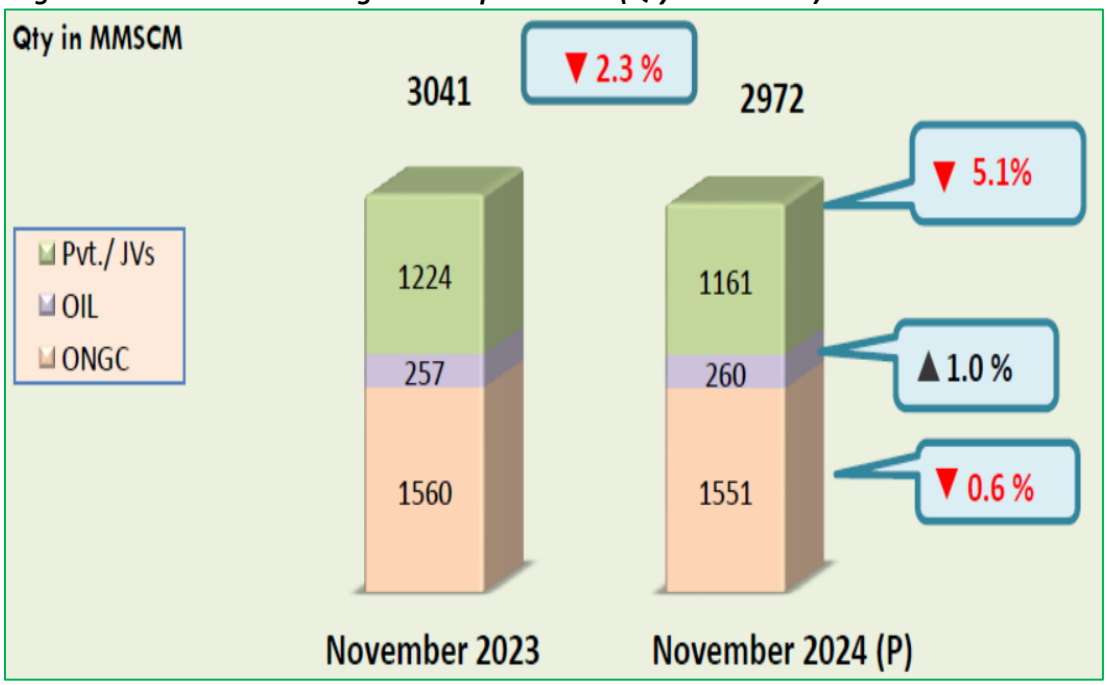
- Gross production of natural gas for the month of November 2024 (P) was 2972 MMSCM which was lower by 2.3% compared with the corresponding month of the previous year.
- Total import of LNG (provisional) during the month of November 2024 was 3022 MMSCM (P) (increase of 25.1% over the corresponding month of the previous year).
- Natural gas available for sale during November 2024 was 5494 MMSCM (increase of 10.8% over the corresponding month of the previous year).
- Total consumption during November 2024 was 5767 MMSCM (provisional). Major consumers were fertilizer (30%), City Gas Distribution (CGD) (21%), Power (9%), Refinery (8%) and Petrochemicals (6%).

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

1. Domestic Natural Gas Gross Production:

Domestic natural gas gross production for the month of November 2024 was 2972 MMSCM (decrease of 2.3% over the corresponding month of the previous year).

Figure 20: Domestic natural gas Gross production (Qty in MMSCM)



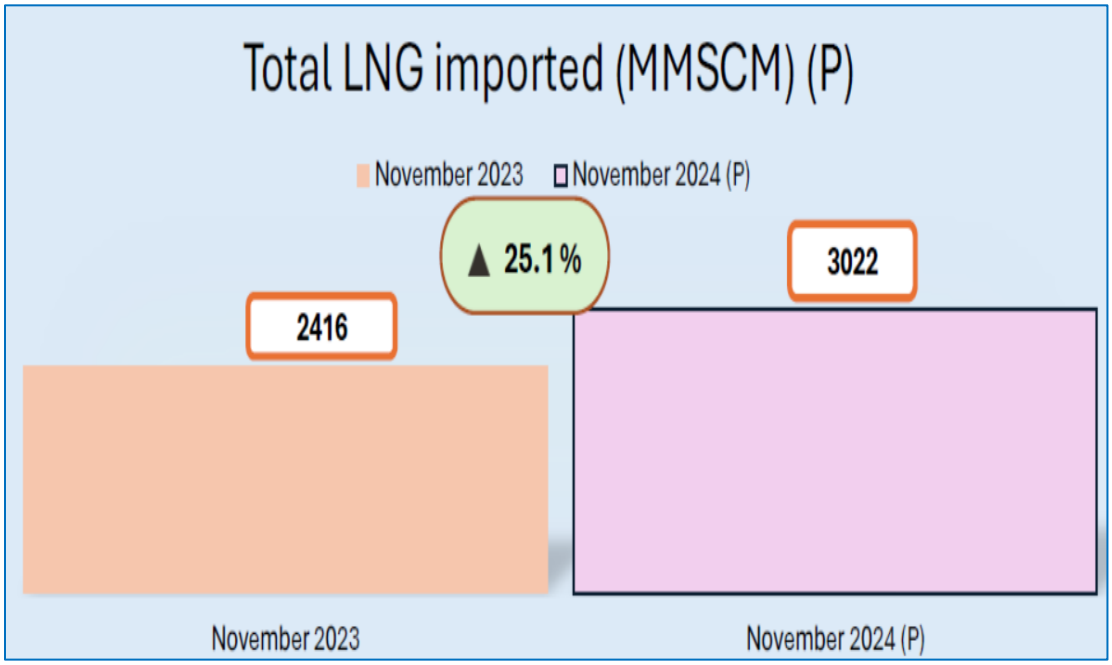
Source- PPAC

** **Latest Data for Natural gas is not available***

2. LNG imports:

Total import of LNG (provisional) during the month of November 2024 was 3022 MMSCM (P) (increase of 25.1% over the corresponding month of the previous year).

Figure 21: LNG imports (Qty in MMSCM)

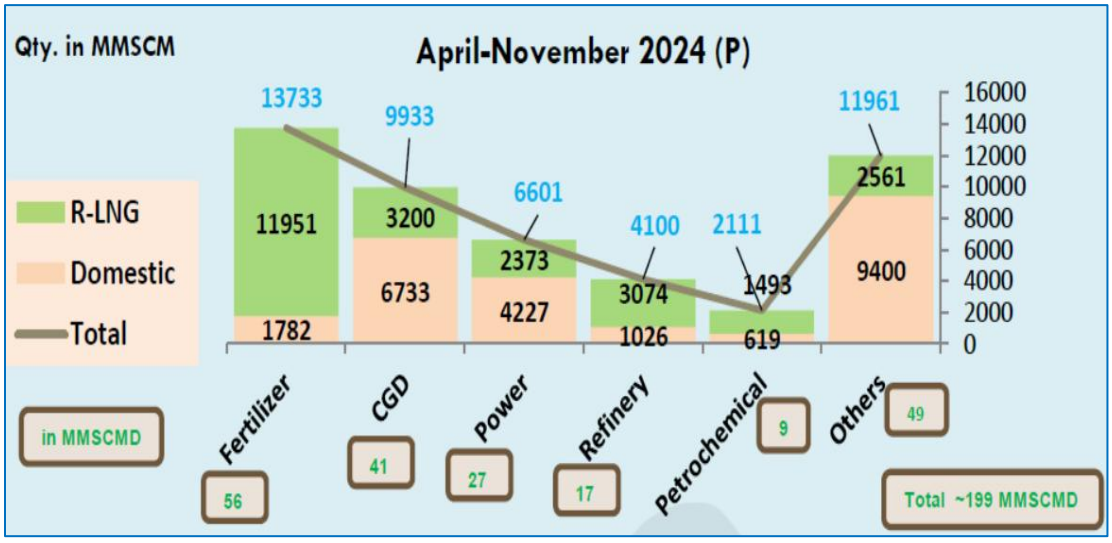


Source- PPAC

3. Sectoral Consumption of Natural Gas:

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

Figure 22: Sectoral Consumption of Natural Gas (Qty in MMSCM) in April-November 2024



Source- PPAC

Key developments in Oil & Gas sector

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

1. Production of Crude Oil

Indigenous crude oil and condensate production during December 2024 was 2.5 MMT. OIL registered a production of 0.3 MMT, ONGC registered a production of 1.6 MMT whereas PSC/RSC registered production of 0.6 MMT during December 2024. There is a growth of 0.6 % in crude oil and condensate production during December 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 December (P) was 3066 MMSCM which was lower by 2.1% compared with the corresponding month of the previous year. The cumulative gross production of natural gas of 27310 MMSCM for the current financial year till December 2024 was higher by 0.4% compared with the corresponding period of the previous year.

3. Crude Oil Processed (Crude Throughput)

Total Crude oil processed during December 2024 was 23.9 MMT which is 5.2% higher than December 2023, where PSU/JV refiners processed 16.4 MMT and private refiners processed 7.5 MMT of crude oil. Total indigenous crude oil processed was 2.1 MMT and total Imported crude oil processed was 21.8 by all Indian refineries (PSU+JV+PVT). There was a growth of 2.2% in total crude oil processed in April-December current Financial Year as compared to same period of previous Financial Year.

4. Production of Petroleum Products

Production of petroleum products was 25.3 MMT during December 2024 which is 2.9% higher than December 2023. Out of 25.3 MMT, 25.0 MMT was from refinery production & 0.3 MMT was from fractionator. There was a growth of 2.8% in production of petroleum products in April-December FY 2024 – 25 as compared to same period of FY 2023 – 24. Out of total POL production, in December 2024, share of major products including HSD is 41.8%, MS 17.3%, Naphtha 6.2%, ATF 6.6%, Pet Coke 5.2%, LPG 4.5%, and rest is shared by Bitumen, FO/LSHS, LDO, Lubes & others.

Key Policy developments/Significant news in Energy sector

Year End Review 2024 - Ministry of Petroleum and Natural Gas

The Ministry of Petroleum & Natural Gas is concerned with exploration and production of Oil & Natural Gas, refining, distribution and marketing, import, export and conservation of petroleum products. Oil and Gas being the important import for economy, many initiatives have been taken by the Ministry for increasing production and exploitation of all domestic petroleum resources to address the priorities like Energy Access, Energy Efficiency, Energy Sustainability and Energy Security. The progress of various schemes undertaken by Ministry in last one year is shares as follows:

1. PRADHAN MANTRI UJJWALA YOJANA (PMUY)

- Ujjwala is today a 10.33 crore strong family
- Since the inception of the Scheme about 222 crore LPG refills have been delivered to the PMUY households. Also, about 13 lakh refills are being taken daily.
- A targeted subsidy of Rs. 300/cylinder is being given to all Ujjwala beneficiaries.
- Government's efforts have led to uptick in LPG consumption by Ujjwala families. Per Capita Consumption, terms of number of 14.2 kg domestic LPG cylinder, has gone up from 3.01 in 2019-20 to 3.95 in 2023-24. In current year, which is still under progress, the PCC (per capita consumption) has reached 4.34 (Pro-rata basis refills till October 2024).

2. LPG COVERAGE

- Since April 2014, the number of LPG connections have gone up from 14.52 crores to 32.83 crores (as on 01.11.2024), a growth of above 100%.
- As on 01.11.2024, approx. 30.43 crore LPG consumers are enrolled under the PAHAL scheme. Till date, more than 1.14 crore customers have given up their LPG subsidy under 'GiveItUp' campaign.
- Since 2014, LPG Distributors have increased from 13,896 to 25,532 as on 01.11.2024 enhancing LPG access and availability. It is worth mentioning that more than 90% of new distributors are catering to rural areas.

3. FACILITIES

- Under Promotion of Digital Payment infrastructure at Retail Outlets (ROs), as on 01.12.2024, 1,03,224 e-wallet facilities have been provided at 84,203 ROs across the country. 84,203 ROs have been enabled with BHIM UPI.
- Under Swachchh Bharat Mission, toilet facilities are ensured at every retail outlets. As on 01.12.2024, 83618 ROs have toilet facility which includes 66026 ROs having separate toilet facility for male and female.
- As on 01.12.2024, Oil Marketing Companies (OMCs) have commissioned total 3,097 Door to Door Delivery (DDD) Bowsers through Dealers and Start-ups.
- Electric Vehicle Charging Stations (EVCS) are being provided at Oil Marketing Companies (OMCs) ROs. As on 01.12.2024, OMCs have installed 17,939 EV charging stations and 206 battery swapping Station across India.

4. NATURAL GAS PIPELINES

- The length of operational Natural Gas Pipeline in the country has increased from 15,340 Km in 2014 to 24,945 Kms as on 30.09.2024. Further, development of about 10,805 Kms Natural Gas Pipeline is under execution. With the completion of these pipelines authorized by PNGRB/GoI, the national gas grid would be completed and would connect all major demand and supply centre in India. This would ensure easy availability of natural gas across all regions and also help to achieve uniform economic and social progress.

5. UNIFIED PIPELINE TARIFF

- The Petroleum and Natural Gas Regulatory Board ("PNGRB") has amended PNGRB (Determination of Natural Gas Pipeline Tariff) Regulations to incorporate the regulations pertaining to Unified Tariff for natural gas pipelines with a mission of "One Nation, One Grid and One tariff".
- PNGRB has notified a levelized Unified Tariff of Rs.80.97/MMBTU w.e.f. 01.07.2024 and created three tariff zones for Unified Tariff, where the first zone is up to a distance of 300 kms from gas source, second zone is 300 – 1200 kms and third zone is beyond 1200 kms.
- The national gas grid covers all the interconnected pipeline networks owned and operated by entities viz. Indian Oil Corporation Limited, Oil and Natural Gas Corporation Limited, GAIL (India) Limited, Pipeline Infrastructure Limited, Gujarat State Petronet Limited, Gujarat Gas Limited, Reliance Gas Pipelines Limited, GSPL India Gasnet Limited and GSPL India Transco Limited.
- The reform will specially benefit the consumers located in the far-flung areas where currently the additive tariff is applicable and facilitate development of gas markets and vision of government to increase the gas utilisation in the country.

6. CITY GAS DISTRIBUTION (CGD) COVERAGE

- PNGRB has authorized 307 Geographical Areas for development of CGD infrastructure with a potential coverage of about 100% of country's area and 100% of the population. As on 30.09.2024, the total number of PNG (D) connections and CNG Stations in the country was 1.36 Cr and 7259, respectively.

7. SATAT INITIATIVES

- SATAT initiative was launched on 1st October 2018, to promote an ecosystem for production and utilization of Compressed Bio Gas (CBG).
  - As on 30.11.2024, 80 CBG plants have been commissioned and 72 CBG plants are at various stages of construction.
  - The Ministry has issued guidelines for synchronization of CBG with CNG in CGD Network;
  - A scheme for the development of pipeline infrastructure (DPI) for injection of CBG into the City Gas Distribution (CGD) network has been launched to provide financial support for extending pipeline connectivity from CBG plant to the city gas distribution grid.
  - Online portal for receiving application under DPI Scheme has been activated w.e.f. 1st September, 2024.

- Ministry has also issued detailed guidelines for procurement of Biomass Aggregation Machinery (BAM) on 2nd February 2024. The Scheme envisages financial support to the CBG producers for procuring Biomass Aggregation Machineries.
- Government has announced phase wise mandatory selling of CBG in CNG (T) and PNG (D) segment of CGD network to promote the production and utilization of CBG.CBG Obligation (CBO) is presently voluntary till FY 2024-2025 and mandatory selling obligation would start from FY 2025-26. CBO shall be kept as 1%, 3% and 4% of total CNG/PNG consumption for FY 2025-26, 2026-27 and 2027-28 respectively. From 2028-29 onwards CBO will be 5%.

8. REVIEW DOMESTIC GAS ALLOCATION FOR CGD ENTITIES

- To cater the growing demand of CGD sector and to protect the common people from price volatility, the Government has released new CGD sector Gas allocation Guidelines wherein the allocation of PNG (Domestic) segment was increased (i.e. 105% of PNGD consumption in the previous quarter) and balance available volume to be supplied to CNG (T) segment on prorate basis.
- The revised methodology has been helpful for the CGD entity as the lag between the allocation and reference period has been reduced from average of 6 months to average of 3 months which reflects a more realistic consumption data.

9. DOMESTIC GAS PRICING

- Revised guidelines have been issued in April 2023 for gas produced from nomination fields of ONGC/OIL, New Exploration Licensing Policy (NELP) blocks and pre-NELP blocks, where Production Sharing Contract (PSC) provides for Government's approval of prices.
- The price of such natural gas shall be 10% of the monthly average of Indian Crude Basket and shall be notified on a monthly basis and shall have a floor and a ceiling.
- The reduced gas price shall positively impact the domestic, Fertilizer and power consumers.

10. BIO FUELS AND ETHANOL BLENDING

- Under Ethanol Blended Petrol (EBP) Programme, supplies of ethanol has increased from 38 crore litres in Ethanol Supply Year (ESY) 2013-14 to 707.40 crore litres in ESY 2023-24, thereby achieving an average blending of 14.60% ethanol in Petrol. For the ongoing ESY (2024-2025), Ethanol blending have further improved to 16.23% as on 29.12.2024. The Public Sector OMCs have started dispensing E20 petrol (20% ethanol in petrol) at more than 17,400 retail outlets across the country.
- In the last ten years, EBP programme has translated into forex impact of over Rs.1,08,600/- crore, net CO2 reduction of 557 Lakh Metric Tonnes (LMT) and expeditious payment to farmers to a tune of over Rs. 92,400/- crores.
- During April to November 2024, OMCs have procured 36.68 crore litres of biodiesel for the bio-diesel blending programme as against 29.25 crore litres during April to November 2023.

- Green Hydrogen: Oil & Gas PSU have planned for 900 KTPA Green Hydrogen Projects (EPC & BOO mode) by 2030. 42 KTPA tenders have been floated by PSU refineries, which are likely to be awarded by March 2025. Approximately 128 KTPA tenders will be issued by PSU refineries based on the outcome of the ongoing tenders.
- The Government has set an indicative target of 1%, 2% and 5% blending of SAF in Aviation Turbine Fuel (ATF) initially for international flights with effect from 2027, 2028 and 2030, respectively.
- The PM JI-VAN Yojana has been amended vide notification dated 21.08.2024, incorporating key changes, such as Inclusion of advance biofuels in place of "2G ethanol.", Eligibility for bolt-on and brownfield projects and Extension of the scheme's timeline up to FY 2028-29.

11. REFINING CAPACITY

- The country has 22 operating refineries with a total refining capacity of 256.8 Million Metric Tonnes Per Annum (MMTPA).
- Eighteen refineries are in public sector, three are in private sector and one as a joint venture. Out of the total refining capacity of 256.8 MMTPA, 157.3 MMTPA is in the public sector, 11.3 MMTPA in joint venture, and the balance 88.2 MMTPA is in the private sector.
- Further, refining capacity is likely to increase from 256.80 MMTPA to 309.50 MMTPA by 2028 on account of refinery capacity expansion projects being implemented in 11 PSU refineries as well as setting up of new grassroot refinery.

12. EXPLORATION AND PRODUCTION

- Hydrocarbon Exploration Licensing Policy (HELP): To exploit the huge potential of oil and gas in Indian sedimentary basins, the government launched the Open Acreage Licensing Program (OALP) as a part of the Hydrocarbon Exploration Licensing Policy (HELP) in March 2016. The new exploration policy provides for a paradigm shift from Production Sharing Contract (PSC) regime to Revenue Sharing Contract (RSC) regime. Total 144 blocks covering more than 2,42,056 Sq. Km. area have been allocated to the companies in eight concluded OALP Bid Rounds with committed investment of ~ 3.137 billion USD. Till date, 13 hydrocarbon discoveries have been made in blocks awarded under OALP and one discovery is already producing gas (0.44 MMSCMD) in Gujarat while other discoveries are under appraisal phase. Further in round IX of OALP, area of approximately 1,36,596 Sq. Km. spread over 8 sedimentary basins was offered and the same has received a very good response from the bidders. The bids received are under evaluation and Blocks will be awarded to successful bidders very soon. Thereafter, an area of 1,91,986.21 Sq. Km. has been finalized for International Competitive Bidding in OALP Bid Round-X.
    - Further, a total of 741 (132 exploratory and 609 development) wells have been drilled in FY 2023-24. The gas production has increased from 34.45 BCM in FY 2022-23 to 36.44 BCM in FY 2023-24. A total of 12 discoveries have been made in nomination and contractual regimes in FY 2023-24. A total of 16645.31 LKM of 2D seismic and 15701.17 SKM of 3D seismic surveys have been conducted during FY 2023-24. Moreover, during FY 2023-24, under Airborne Gravity Gradiometry and Gravity Magnetic Survey (AGG & GM) Survey, a total of 42,944 Flight LKM 2D Seismic Data was also acquired.

- Discovered Small Field Policy (DSF) Policy: Government introduced DSF Policy in Year 2015. Three Rounds of DSF Bidding concluded till date and 85 Contracts signed whereas 55 Contracts are currently active. 5 fields are on Production and cumulative production till March 2024 is 520 Mbbl Oil and 138 MMSCM Gas. DSF Rounds has brought 15 New Players.
- CBM in India: With 15 Blocks and a production rate of 1.8 MMSCMD, CBM has achieved a cumulative production of ~6.38 BCM, with more than USD 2.46 billion investment received till date. More blocks are being identified for offer in future bid rounds.
- No-Go areas opened for E&P: Around 99% of erstwhile 'No-Go' area of the Exclusive Economic Zone (EEZ) which were blocked exploration for decades have been opened for E&P. After the release of 'No-Go' areas, so far bids/expression of interests for 1,52,325 Sq. Km. area have been received. Two gas discoveries have also been made by ONGC in Mahanadi offshore recently in a block having 94% area in 'No-Go' area. Andaman offshore area has also been opened for exploration and production activities after a long-time post removal of restrictions imposed by defense and space agencies.
- Government Funded Programs for E&P: The Government is committed to increase exploration in Indian sedimentary basins. An investment of around Rs. 7,500 crore is planned for acquisition of new seismic data, including that of the Exclusive Economic Zone (EEZ), financing stratigraphic wells and acquiring aerial survey data in difficult terrains in the recently launched Mission Anveshan and Extended Continental Shelf Survey Schemes.
- Stratigraphic Wells: Four offshore stratigraphic wells in Category-II and Category-III basins, namely Mahanadi, Bengal, Saurashtra and Andamans, with the outlay of Rs 3200 crores will help understand the sub surface geology better in these basins where prospectivity is yet to be commercially established. [figure Rs.3200 crore is included in the figure of Rs.7500 crore mentioned in the above point]
- National Data Repository: In July 2017, Government of India has set up an E&P data bank, National Data Repository (NDR), with state-of-the-art facilities and infrastructure for preservation, upkeep and dissemination of data to enable its systematic use for future exploration and development. Having an NDR for India has helped in enhancing prospects of petroleum exploration and facilitating the Bidding Rounds by improving the availability of quality data. National Data Repository (NDR) is being upgraded to a cloud based NDR, which will enable instant dissemination of seismic, well and production data. The project is expected to be completed by the end of this financial year.
- National Seismic Program: Government formulated National Seismic Programme (NSP) in October, 2016 to appraise the unappraised areas in all sedimentary basins of India where no/scanty data was available. Under the programme, Government approved the proposal for conducting 2D seismic survey for data Acquisition, Processing and Interpretation (API) of 48,243 Line Kilo Metres (LKM). A total of 46,960 LKM (~97%) 2D seismic data could be acquired out of the target 48,243 LKM. Processing and interpretation of 46,960 LKM data has been completed and the data has been submitted to National Data Repository (NDR) along with reports.

13. INTERNATIONAL CO-OPERATION

- Diversification of Oil & Gas Sources:
- In the financial year 2023-24, the Ministry of Petroleum and Natural Gas undertook robust measures to strengthen India's energy security. We expanded our crude oil sourcing, reducing dependency on specific geographies.
- To transition towards a gas-based economy and diversification, Indian PSUs IOCL and GAIL executed long-term LNG supply agreements with ADNOC, UAE, securing approximately 2.7 MMT of LNG annually.

Global Biofuels Alliance:

- The Global Biofuels Alliance (GBA), launched in September 2023 by the Hon'ble Prime Minister during the G20 Summit, has seen remarkable growth, with 28 member countries and 12 international organizations joining the alliance and continues to expand.
- Additionally, GBA signed Head Quarters Agreement with Government of India in October 2024 for establishment of the GBA Secretariat in India underscores our commitment to global leadership in clean energy.

Engagement with Neighbouring countries:

- India has proactively fostered energy linkages with neighbouring countries. For instance, with Nepal, Government of India signed a G2G MoU in May 2023 for development of petroleum infrastructure, followed by a commercial B2B agreement between IOCL and NOC of Nepal in October 2024.
- Additionally, Government of India signed a landmark MoU with Bhutan for the supply of petroleum products.

International partnership on clean energy and Hydrocarbon Sector:

- India and the United States continued to deepen their partnership through the Strategic Clean Energy Partnership (SCEP), aligning with the India-US Climate & Clean Energy Agenda 2030. The September 2024 Ministerial Meeting marked significant advancements in clean energy collaboration.
- In November 2024, during the Hon'ble Prime Minister's state visit, India and Guyana entered into a landmark agreement to strengthen cooperation in the hydrocarbon sector.
- India's commitment to clean energy extends to 2G/3G biofuels, green hydrogen, and other emerging fuels. Recently in June 2024, India signed a Letter of Intent (LOI) with Italy for collaboration in green hydrogen and sustainable biofuels.
- Hon'ble Minister PNG along with Minister of Mines and Energy of Brazil issued a joint statement on Sustainable Aviation Fuel for coordinated position at international forum to promote SAF.

14. STRATEGIC PETROLEUM RESERVES

- Hon'ble Prime Minister in February 2019 dedicated 5.33 MMT of strategic crude oil storage in SPR Phase-I (1.5 MMT SPR facility in Mangalore and 2.5 MMT SPR facility in Padur and 1.3 MMT SPR facility in Vishakhapatnam).
- Under Phase II of the petroleum reserve programme, Government has given approval in July 2021 for establishing two additional commercial-cum-strategic facilities with total storage capacity of 6.5 MMT (underground storages at Chandikhol (4 MMT) and Padur (2.5 MMT)) on PPP mode.
- Indian Strategic Petroleum Reserve Limited (ISPRL) had completed the Detailed Feasibility Report (DFR) and geotechnical surveys for the project site in Chandikhol, District Jajpur, Odisha. Environmental Impact Assessment (EIA) for the project has also been carried out by National Environmental Engineering Research Institute (NEERI), Nagpur.
- In December 2022, Government of Odisha requested ISPRL to explore other sites in Odisha. In view of anticipated delay in pursuing alternate land and need for carrying out feasibility studies once again, Government of Odisha has been requested to allocate the same land at Chandikhol for which ISPRL had earlier submitted application and completed feasibility studies.

15. HYDROCARBON PROJECTS & INVESTMENTS

- Oil and Gas sector is a key driver of economic growth and, therefore, infrastructure projects provide a boost to the national economy and would contribute towards job creation, material movement, etc. As of October 2024, there are 283 projects under implementation of the Oil & Gas CPSEs costing ₹ 5 crore & above with a total anticipated cost of ₹ 5.70 lakh crore. The targeted expenditure on these projects in FY 2024-25 is ₹ 79,264 crore against which Rs.37,138 crore is the actual expenditure as of October, 2024. These projects, inter-alia, include Refinery projects, Bio Refineries, E&P Projects, Marketing infrastructure projects, Pipelines, CGD projects, drilling/survey activities, etc. Out of 283 projects, 89 are major projects costing ₹500 crore & above with an anticipated cost of ₹ 5.51 lakh crore. 50 projects have been completed in the current FY 2024-25 with an anticipated cumulative cost of ₹ 4,519 crore.

Reducing Energy Dependence: Government has adopted a multi-pronged strategy to reduce the import dependency on oil & gas which, inter alia, includes demand substitution by promoting the usage of natural gas as fuel/feedstock across the country towards increasing the share of natural gas in the economy and moving towards gas-based economy, promotion of renewable and alternate fuels like ethanol, second-generation ethanol, compressed biogas and biodiesel, refinery process improvements, promoting energy efficiency and conservation, efforts for increasing production of oil and natural gas through various policies initiatives, etc. The Government has been promoting the blending of ethanol in petrol under the Ethanol Blended Petrol (EBP) Programme. Blending of Petrol has reached approximately 14.6% during Ethanol Supply Year (ESY) 2023-24. During the last ten years, EBP Programme helped in expeditious payment of approx. Rs. 92,409 Crore to the farmers as on 30.09.2024. During the same period, EBP programme has also resulted in approximate savings of more than Rs. 1,08,655 Crore of foreign exchange, crude oil substitution of 185 lakh metric tonnes and net CO_2 reduction of about 557 lakh metric tonnes. It is anticipated that 20% ethanol blending in petrol is likely to result in payment of more than Rs. 35,000

Crore annually to the farmers. For promoting the use of Compressed Bio Gas (CBG) as automotive fuel, the Sustainable Alternative Towards Affordable Transportation (SATAT) initiative has also been launched.

Financial performance of Oil PSUs: Financial performance of Oil PSUs: Total budgeted Internal and Extra Budgetary Resources (IEBR) for CPSEs' under the Ministry of Petroleum and Natural Gas in FY 2024-25 is ₹ 1,18,499 crore against which Rs 97,667 crore is the actual expenditure as on 30.11.2024 which is 82.4% of the budgeted IEBR. During the same period of FY 2023-24, against IEBR of Rs 1,06,401 crore, actual expenditure was Rs.75418 crore which was 70.9% of the budgeted IEBR.

16. FLAGSHIP PROGRAMMES

- StartUp India: The PSUs under the Ministry of Petroleum and Natural Gas have created startup funds aggregating to Rs. 547.35 Crore. At present, a total no. of 303 Startups have been funded by Oil and Gas PSUs with disbursed fund value of approximately Rs. 286.36 Crores.
- Skill Development: Skill Development Institutes (SDIs) for hydrocarbon sector have been set up at six cities viz Bhubaneswar, Vizag, Kochi, Ahmedabad, Guwahati and Raebareli by IOCL, HPCL, BPCL, ONGC, OIL and GAIL respectively. Till Nov'24, more than 41547 trainees have been trained in these SDIs. Several high priority trades have been identified in consultation with the industry members for National Occupational Standard (NOS)/ Qualification Pack (QP) development. Till date, 55 QPs have been approved by National Skill Qualification Committee (NSQC).

India Energy Week 2025 to Redefine Global Energy Dialogue

Building the remarkable success of its previous two editions, India Energy Week 2025 (IEW'25), the flagship energy event of Government of India, is being held under the patronage of the Ministry of Petroleum and Natural Gas, organised by Federation of Indian Petroleum Industry (FIPI), from 11th to 14th February 2025 at the Yashobhoomi Convention Centre, New Delhi.

The first major global event of the energy calendar, IEW 2025, is poised to be the most comprehensive and inclusive global energy gathering of the year.

Since its inception in 2023, the India Energy Week has grown from strength to strength. IEW 2025 has surpassed other international energy events. This year's edition marks a significant leap over its predecessor, showcasing elevated leadership participation and more dynamic discussions.

A noticeable improvement is in the seniority of speakers year on year with around 70 CEOs of prominent International and domestic Energy majors underlying the growing global appeal of the event. IEW will be bigger than ever with unparalleled global participation, including 20+ Foreign Energy Ministers and Deputy Ministers representing advanced economies, largest energy producers, and key nations of global south. The event will also feature Heads of leading International Organizations and 90 CEOs from some of the world's largest Fortune 500 energy companies including bp, TotalEnergies, QatarEnergy, ADNOC, Baker Hughes and Vitol.

IEW 2025 Incorporates seven key strategic themes (Collaboration, Resilience, Transition, Capacity, Digital Frontiers, Innovation, Leadership) with greater emphasis on pragmatic solutions for decarbonization, energy equity, and low-carbon economies.

The inclusion of 20 thematic categories this year, compared to 18 in 2024, highlights a broader focus on cutting-edge issues such as AI, digitalization, and maritime decarbonization. The conference's structured stages—Resilience and Transition—align perfectly with India's dual goals of energy independence and decarbonization, ensuring relevance to global and national agendas alike.

The event is expected to have participation from over 70,000 delegates from 120 countries, 700+ exhibitors, and 10 country pavilions United States, United Kingdom, Germany, Italy, Japan, Russia etc. and 8 thematic zones, this flagship event will provide a premier platform to drive the global energy dialogue, showcase breakthrough technologies, and foster international collaboration for a sustainable energy future.

In IEW 2025, we have seen a 29% increase in abstract received and a 24% increase in speaker participation, emphasizing IEW's stature as a platform for industry innovation. Sessions now cover vital topics like future clean power pathways, grid-scale energy storage, and methane mitigation technologies, reflecting the industry's forward-looking priorities.

The event will witness robust participation from key Indian energy ministries, including the Ministry of Power, Ministry of New and Renewable Energy (MNRE), NITI Aayog, and the Ministry of Mines and Minerals. This reflects a whole-of-government approach, ensuring seamless collaboration and comprehensive engagement across the entire energy sector, underscoring India's commitment to integrated and inclusive energy solutions.

The event will place a special emphasis on showcasing India's transformative efforts across the entire energy landscape including strengthening energy security and promoting energy justice, amplifying the voice of the Global South, and unveiling the immense investment opportunities within India's hydrocarbon sector. It will also spotlight India's advancements in renewable energy and cutting-edge technologies such as battery storage, 2G and 3G biofuels, green ammonia, and hydrogen production, positioning the nation as a global leader in sustainable and innovative energy solutions.

Highlighting the significance of this prestigious event, Shri Pankaj Jain, Secretary, Ministry of Petroleum and Natural Gas, remarked*, "IEW 2025 offers a platform where global stakeholders can freely exchange ideas, explore opportunities, and witness India's leadership in navigating complex energy transitions. As a springboard for collaboration on key energy projects, including green hydrogen technologies, solar innovations, or advanced exploration techniques, this event represents a crucible of global energy innovation."*

IEW 2025 will feature impactful side events to foster global collaboration and innovation in the energy sector. Key among them is the Clean Cooking Ministerial, which will focus on accelerating the global adoption of clean cooking solutions. This event offers India an opportunity to showcase its success stories, such as the Pradhan Mantri Ujjwala Yojana (PMUY), as a model for driving access to clean cooking energy.

Additionally, IEW 2025 will host high-impact conferences and roundtables to advance India's energy transition and improve ecosystem efficiencies like International Conference of Petroleum and Natural Gas Regulatory Boards - 2025 by PNGRB, a session on Decarbonization of India's Transport moderated by Bloomberg, and a roundtable on AI for Energy moderated by S&P Global Commodities solidifying IEW'2025 as a hub for actionable insights, transformative innovation, and strategic partnerships in the global energy landscape.

In line with India's commitment to fostering a thriving startup ecosystem and promoting innovation, IEW 2025 will host the Avinya Energy Startup Challenge 2.0. The top five startups from this challenge will gain exclusive access to showcase their cutting-edge solutions at the event, significantly boosting their global visibility and impact.

The winners of the Technical Papers presentation, selected from nearly 3,000 submissions, will have the opportunity to present their groundbreaking solutions.

Highlighting the skilled human capital available in the country, special stress is being laid on engaging students and educational institutions in the event. Special workshops/masterclasses are being organised by international experts for students/entrepreneurs/innovators in India. These masterclasses are being provided free of cost. Exhibition entry is free on all days for visitors.

More than just a conference, IEW has distinguished itself as one of the most comprehensive and most significant energy events organized by a major energy-consuming country, and it is now the fastest-growing energy event globally. IEW,25 will build on this momentum, marking a watershed moment in the global energy dialogue.

IEW 2025 to be Second Largest Energy Event Globally: Union Minister for Petroleum and Natural Gas, Shri Hardeep S Puri

India Energy Week (IEW) 2025, spanning over 1 lakh Sq mts, will be the second-largest energy event globally, event in terms of participation, exhibition space, and sessions said Shri Hardeep Singh Puri, Union Minister for Petroleum and Natural Gas in Mumbai.

Scheduled to be held from February 11-14, 2025, at Yashobhoomi, Dwarka, New Delhi, IEW 2025 promises unparalleled global participation from Ministers, CEOs, and industry leaders, setting new benchmarks in the energy sector.

While interacting with media, the Minister highlighted the Clean Cooking Ministerial to be hosted on the sidelines of IEW 2025. This event will serve as a vital platform to strengthen collaborative efforts for accelerating the global adoption of clean cooking solutions. India's highly successful Pradhan Mantri Ujjwala Yojana (PMUY) will take centre stage, showcasing valuable insights and best practices as a global template for addressing energy access challenges.

IEW 2025 is set to achieve remarkable growth in scale and participation compared to previous editions. The exhibition space will expand by 65% to 28,000 square meters, while the number of conference sessions will increase to 105, and global delegates will exceed 70,000. Over 500 speakers, including key

international voices, will participate, reflecting the growing global significance of the event. The conference will also host 10 country pavilions from leading nations such as the U.S., UK, Russia, Japan, Germany, and the Netherlands, alongside eight thematic zones focusing on hydrogen, renewables, biofuels, and petrochemicals.

The event will see participation from 20+ Foreign Energy Ministers or Deputy Ministers, along with Heads of International Organizations and 90 CEOs from Fortune 500 energy companies. This reflects India's rising influence in shaping the global energy transition dialogue. Shri Puri also highlighted initiatives to engage youth and innovators, with leading IITs, startup platforms like "Avinya" and "Vasudha," and 500 students from Delhi/NCR participating to showcase innovation and technology-driven solutions.

A key highlight of IEW 2025 is the focus on compelling themes, including energy security, just and orderly transitions, collaboration, resilience, capacity building, and digital advancements. The event's Clean Cooking Ministerial will further amplify India's leadership role in ensuring access to sustainable and affordable energy solutions, reinforcing its global commitment to energy equity.

With its unparalleled scale and focus on innovation, India Energy Week 2025 is poised to position India at the forefront of global energy transitions and strengthen its role as a catalyst for change in the energy sector.

Cabinet approves Mechanism for procurement of ethanol by Public Sector Oil Marketing Companies (OMCs) under Ethanol Blended Petrol (EBP) Programme - Revision of ethanol price for supply to Public Sector OMCs for Ethanol Supply Year (ESY) 2024-25

The Cabinet Committee on Economic Affairs (CCEA), chaired by the Prime Minister Shri Narendra Modi, has approved revision of ethanol procurement price for Public Sector Oil Marketing Companies (OMCs) for the Ethanol Supply Year (ESY) 2024-25 starting from 1st November, 2024 to 31st October 2025 under the Ethanol Blended Petrol (EBP) Programme of the Government of India. Accordingly, the administered ex-mill price of ethanol for the EBP Programme derived from C Heavy Molasses (CHM) for the Ethanol Supply Year 2024-25 (1st November 2024 to 31st October 2025) has been fixed at Rs.57.97 per litre from Rs.56.58 per litre.

The approval will not only facilitate the continued policy for the Government in providing price stability and remunerative prices for ethanol suppliers but will also help in reducing dependency on crude oil imports, savings in foreign exchange and bring benefits to the environment. In the interest of sugarcane farmers, as in the past, GST and transportation charges would be separately payable. Increase in prices of CHM Ethanol by 3% will assure sufficient availability of ethanol to meet the increased blending target.

Government has been implementing Ethanol Blended Petrol (EBP) Programme wherein OMCs sell petrol blended with ethanol up to 20%. This Programme is being implemented across the country to promote the use of alternative and environment friendly fuels. This intervention also seeks to reduce import dependence for energy requirements and give boost to agriculture sector. During the last ten years (as on 31.12.2024), ethanol blending in petrol by Public Sector Oil Marketing Companies (OMCs) has resulted

in approximate savings of more than Rs.1,13,007crore of foreign exchange and crude oil substitution of about 193 lakh metric tonnes.

Ethanol blending by Public Sector Oil Marketing Companies (OMCs) has increased from 38 crore litre in Ethanol Supply Year 2013-14 (ESY – currently defined as ethanol supply period from 1stNovember of a year to 31st October of the following year) to 707crore litre achieving average blending of 14.60%in ESY 2023-24.

Government has advanced the target of 20% ethanol blending in petrol from earlier 2030 to ESY 2025-26 and a "Roadmap for ethanol blending in India 2020-25" has been put in public domain. As a step in this direction, OMCs plan to achieve 18% blending during the ongoing ESY 2024-25. Other recent enablers include enhancement of ethanol distillation capacity to 1713 crore litre per annum; Long Term Off-take Agreements (LTOAs) to set up Dedicated Ethanol Plants (DEPs) in ethanol deficit States; encourage conversion of single feed distilleries to multi feed; availability of E-100 and E-20 fuel; launch of flexi fuel vehicles etc. All these steps also add to ease of doing business and achieving the objectives of Atmanirbhar Bharat.

Due to the visibility provided by the Government under EBP Programme, investments have happened across the country in the form of network of greenfield and brownfield distilleries, storage and logistics facilities apart from employment opportunities and sharing of value within the country among various stakeholders. All distilleries will be able to take benefit of the scheme and large number of them are expected to supply ethanol for the EBP programme. This will help in quantifiable forex savings, crude oil substitution, environmental benefits and early payment to cane farmers.

Year End Review 2024 - Ministry of Power

The year 2024 marked a landmark period for India's power sector, with historic advancements in energy generation, transmission, and distribution. From meeting record power demand of 250 GW to reducing energy shortages at the national level to a mere 0.1% in FY 2024-25, the sector demonstrated resilience and commitment to sustainable growth. Significant strides in energy conservation, consumer empowerment, and infrastructure development underscore the government's efforts to ensure reliable, affordable, and clean energy for all.

With groundbreaking initiatives such as universal electrification, enhanced rural power availability, and the adoption of cutting-edge technologies, India is firmly on the path to becoming a global energy leader.

<u>Improvement in Power Supply Position:</u>

- Record Demand Met: India successfully met an all-time maximum power demand of 250 GW during FY 2024-25.
- Sharp Reduction in Power Shortages: Due to significant additions in generation and transmission capacities, energy shortages at the national level have reduced to a mere 0.1% in FY 2024-25, a major improvement from 4.2% in FY 2013-14.
- Rise in Per Capita Electricity Consumption: Per capita electricity consumption in India has surged to 1,395 kWh in 2023-24, marking a 45.8% increase (438 kWh) from 957 kWh in 2013-14.

- Universal Electrification Achieved: Villages and households across the country have been electrified, marking a significant milestone in India's power sector.
- Improved Power Availability: The average availability of electricity in rural areas has increased from 12.5 hours in 2014 to 21.9 hours, while urban areas now enjoy up to 23.4 hours of power supply, reflecting substantial improvements in the reliability and reach of electricity services.

Generation:

- Significant Growth in Installed Capacity: India's total installed power generation capacity has surged by 83.8%, increasing from 249 GW as of March 31, 2014, to 457 GW as of November 30, 2024*.
- Major Expansion in Renewable Energy: Since April 2014, 129 GW of renewable energy capacity, including large hydro, has been added. This includes 91 GW of solar power, 27 GW of wind power, 3.2 GW of biomass, 1.3 GW of small hydro, and approximately 6.3 GW of large hydro generation capacity, demonstrating India's strong commitment to clean energy.
- Award of thermal projects: To address the peak demand of India's rapidly expanding economy, the Government has awarded 19.2 GW of new coal-based thermal capacity. The total installed capacity of coal and lignite-based thermal plants now stands at 217.5 GW. An additional 29.2 GW of capacity is under construction, with 13.4 GW expected to be commissioned in FY 2024-25. A further 36.3 GW of capacity is in various stages of planning, clearances and bidding.
- Coal Stock Position: As of March, 2024, Domestic Coal-Based (DCB) power plants held a coal stock of 47.8 MT. As of December, 2024, these plants hold 41.4 MT of coal which is targeted to increase to 50 MT by March 2025. Sustained coal supply during Q1 and Q2 of FY 2025 ensured meeting the peak demand of 250 GW in May 2024. With improved domestic coal availability, the Ministry of Power discontinued its advisory for blending imported coal beyond October 15, 2024.
- Revision of SHAKTI Policy: The Government of India is reviewing the coal allocation policy to encourage private sector participation. The revised policy proposes two simplified windows. Window-I permits allocation of coal at "Notified Price" to Central Generating Companies and State Governments. Window-II allows allocation to all generating companies (Central, State, or Private) at a premium over the "Notified Price," irrespective of ownership or nature of PPAs. The new policy aims to support the development of an additional 80 GW of thermal capacity.
- Hydro Projects. Central Government in November 2024 has approved Heo Hydro Electric Project (186 MW) in Arunachal Pradesh. The project will be completed in 50 months at a cost of ₹1939 Cr.
- CFA for HEPs NER: Union Cabinet in its meeting held on 28th August, 2024 has approved the scheme of "Central Financial Assistance (CFA) towards equity participation by the State Govts. for development of Hydro Electric Projects (HEPs) in North Eastern Region (NER)". Under this scheme, the equity portion of the State Government of NER (capped at 24% of the total project equity, subject to a maximum of ₹750 crore per project) would be funded through this scheme. The scheme will be implemented during the period from FY 2024-25 to FY 2031-32, with a total financial outlay of ₹4136 crores.
- Enabling Infrastructure HEPs: Union Cabinet Union Cabinet in its meeting held on 11th September, 2024 has approved the scheme of "Modification of the Scheme on Budgetary Support for the Cost

of Enabling Infrastructure for HEPs". Total outlay of the scheme is ₹12461 crores for the period from FY 2024-25 to FY 2031-32. A cumulative hydro capacity of approximately 31 GW, including 15 GW of PSP capacity, would be supported under the scheme.

- Pump Storage Projects (PSP): India has the potential of PSPs of about 181 GW with around 5 GW (2.6%) developed so far. Government has set an ambitious target of adding 35 GW PSP capacity by 2031-32 out of which, 6 GW is under construction and rest is under development stage.
- Battery Energy Storage System (BESS): Under the Viability Gap Funding (VGF) Scheme for development of BESS, a capacity of 13,000 MWh is targeted for addition.

Transmission

- National Electricity Plan: Govt. of India has finalised National Electricity Plan from 2023 to 2032 for Central and State transmission systems to meet a peak demand of 458 GW by 2032. The total cost of the plan is Rs 9.15 lakh Cr. Under the previous plan 2017-22, about 17,700 circuit kilometers (ckm) lines and 73 GVA transformation capacity were added annually. Under the new plan, transmission network in the country will be expanded from 4.91 lakh ckm in 2024 to 6.48 lakh ckm in 2032. During the same period the transformation capacity will increase from 1,290 Giga Volt Ampere (GVA) to 2,342 GVA. Nine High Voltage Direct Current (HVDC) lines of 33.25 GW capacity will be added in addition to 33.5 GW presently operating. Inter-Regional transfer capacity will increase from 119 GW to 168 GW. This plan covers the network of 220 kV and above. This plan will help in meeting the increasing electricity demand, facilitate RE integration and green hydrogen loads into the grid.
- 50 GW ISTS Capacity Approved: 50.9 Giga Watt of Inter State Transmission Projects costing Rs. 60,676 Cr has been approved. The transmission network required to connect 280 GW of Variable Renewable Energy (VRE) to the Inter-State Transmission System (ISTS) by 2030 is planned to be 335 GW. Out of this, 42 GW has already been completed, 85 GW is under construction, and 75 GW is under bidding. Balance 82 GW will be approved in due course.
- Improvement in Transmission System: During 2024, 10,273 ckm of transmission lines (of 220 kV & above), 71,197 MVA of transformation capacity (of 220 kV & above) and 2200 MW of Inter-regional Transfer Capacity have been added.
- Right of Way (RoW) compensation Guidelines: To ensure the timely development of power transmission infrastructure for evacuating 500 GW of renewable energy by 2030, the Ministry of Power revised the Right of Way (RoW) guidelines in June, 2024, linking compensation to the market value of land. For tower base area, the compensation has been increased from 85% to 200% of the land value. For the RoW Corridor, compensation has been raised from 15% to 30% of the land value.

Distribution

- Revamped Distribution Sector Scheme (RDSS): Under RDSS which aimed at improving operational efficiencies and financial sustainability of Discoms, 19,79,24,902 prepaid Smart meters, 52,52,692 DT meters and 2,10,704 Feeder meter have been sanctioned at a cost of INR 1,30,670.88 Cr. Loss Reduction works of ~INR 1.46 lakh Cr. have been sanctioned and Rs 18,379.24 Cr have been

released towards loss reduction works under RDSS. As a result of reform measures taken under the scheme, AT&C losses have come down to 15.37% and ACS-ARR gap has reduced to Rs. 0.45/kWh in FY2023.

- All identified households from Particularly Vulnerable Tribal Groups (PVTGs) under the PM-JANMAN (Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan) and tribal households under the DA-JGUA (Dharti Aaba Janjatiya Gram Utkarsh Abhiyan) are being provided with on-grid electricity connections under RDSS. To date, a total of ₹4,355 crore has been sanctioned for the electrification of 9,61,419 households, including those from PVTGs and tribal communities, along with public places identified under the DA-JGUA initiative.

Energy Conservation

- EV Charging Guidelines: Guidelines for Installation and Operation of Electric Vehicle Charging Infrastructure-2024 have been issued to support creation of a nationwide connected and inter operable EV charging network. This will help increase the chargers from 34,000 presently to about 1 lakh by 2030. These guidelines are expected to create a robust, safe, reliable, and accessible EV charging network, enhance the viability of charging stations, encourage use of solar energy for electric vehicle charging, and prepare the electricity grid to handle increased demand of EV charging.
- Sustainable Building Codes Issued: India has taken a major step towards a greener future with the introduction of two new building codes: the Energy Conservation and Sustainable Building Code (ECSBC) for commercial buildings and the Eco Niwas Samhita (ENS) for residential buildings. The revised codes apply to large commercial buildings and multi-storied residential complexes with a connected electricity load of 100 kW or more, which means the codes will impact big offices, shopping malls and apartment buildings, and will help in reduction of 18% electricity consumption. Additionally, it incorporates sustainability features related to natural cooling, ventilation, water, and wastewater disposal. States may adopt these building codes.
- Indian Carbon Market. The Ministry of Power has notified the Carbon Credit Trading Scheme, empowering industries to reduce greenhouse gas emissions and earn carbon credits. This initiative fosters investments in transformative technologies, positioning India as a leader in global green finance. It is intended to operationalize the trading of certificates of mandatory sectors by October 2026 and of voluntary sectors by April 2026.
- Unnat Jyoti by Affordable LEDs for ALL (UJALA): UJALA programme was launched in 2015 under which LED bulbs, LED Tube lights and Energy efficient fans are being sold to the domestic consumers for replacement of conventional and inefficient variants. Till date, over 36.87 crore LED bulbs, 72.18 lakh LED Tube lights and 23.59 lakh Energy efficient fans have been distributed by EESL across India. This has resulted in estimated energy savings of 48.41 billion kWh per year with avoided peak demand of 9,789 MW, GHG emission reduction of 39.22 million ton CO2 per year and estimated annual monetary savings of INR 19,335 crore in consumer electricity bills.
- Street Lighting National Programme (SLNP): SLNP was launched in 2015 to replace conventional street lights with smart and energy efficient LED street lights across India. Till date, EESL has installed over 1.31 crore LED Street Lights in ULBs and Gram Panchayats across India. This has resulted in estimated energy savings of 8.82 billion kWh per year with avoided peak demand of

1,471 MW, GHG emission reduction of 6.08 million ton CO2 per year and estimated annual monetary savings of INR 6,179 crore in electricity bills of municipalities.

Reforms and Initiatives

- Rights of Consumers Rules: Electricity Rules were notified in February 2024 to empower electricity consumers. This framework lays down their rights and provides mechanisms to enforce them. The rules ensure timely access to services such as new connections, grievance redressal, and billing transparency while facilitating rooftop solar adoption and electric vehicle (EV) integration. Key provisions include:
  - Simplifying rooftop solar installation processes with exemptions from technical feasibility study for systems up to 10 kW.
- Allowing separate connections for EV charging stations to promote clean mobility.
- Reducing timelines for new connections: 3 days in metros, 7 days in municipal areas, and 15 days in rural regions (30 days for hilly terrain).
- Mandating consumer rights for separate metering and billing in residential colonies, enhancing transparency and fairness.
- Introducing mandatory check meters to verify consumption in case of complaints.

Additional Surcharge elimination: The Electricity Rules, 2005 have been amended in 2024 to rationalise open access charges. New rules now allow large consumers (open access consumers) to buy electricity from the cheapest sources across India, not just from their local Distribution Licensee. Some State regulators charge large consumers heavily to buy electricity from other sources. In an effort to reduce these charges, the additional surcharge levied is now being gradually reduced and will be completely removed within four years. Importantly, large consumers who have never bought electricity from their distribution licensee are not required to pay additional surcharge.

Computer Security Incident Response Team – Power (CSIRT–Power): Union Minister for Power inaugurated Computer Security Incident Response Team – Power (CSIRT–Power) facility in September, 2024. Equipped with advanced infrastructure, cutting-edge cybersecurity tools, and key resources, CSIRT-Power is now well-prepared to tackle emerging cyber threats. With a dedicated team of experts, it is set to become a cornerstone of the sector's cyber defence, coordinating incident response, establishing a strong cybersecurity framework, and implementing crucial measures to enhance overall preparedness and resilience.

India's RE Capacity Registers 15.84% Year-on-Year Growth

Union Ministry of New and Renewable Energy (MNRE) has reported remarkable progress in India's renewable energy sector, highlighting significant achievements between December 2023 and December 2024. This growth reflects India's steadfast commitment to achieving its clean energy targets and its broader vision under the 'Panchamrit' goals announced by Prime Minister Shri Narendra Modi.

Record Capacity Additions

As of December 2024, India's total renewable energy installed capacity has reached 209.44 GW, marking an impressive 15.84% increase compared to 180.80 GW in December 2023. The total capacity added during 2024 amounted to 28.64 GW, representing a significant year-on-year increase of 119.46% compared to the 13.05 GW added in 2023.

Solar and wind surge

In 2024, solar power spearheaded this growth with the addition of 24.54 GW, reflecting a 33.47% rise in its cumulative installed capacity from 73.32 GW in 2023 to 97.86 GW in 2024. Wind energy also contributed to this expansion, with an additional 3.42 GW installed in 2024, increasing the total wind capacity to 48.16 GW, a growth of 7.64% from 2023.

Growth in Bioenergy and Small Hydro Power

Bioenergy has shown remarkable growth, with its installed capacity rising from 10.84 GW in December 2023 to 11.35 GW in December 2024, reflecting a 4.70% increase. Small hydro power projects saw incremental growth, with installed capacity increasing from 4.99 GW in 2023 to 5.10 GW in 2024, representing a 2.20% rise.

MNRE issues Operational Guidelines for implementation of various components under PM-Surya Ghar: Muft Bijli Yojana

Union Ministry of New and Renewable Energy has notified Scheme Guidelines for implementation of 'Payment Security Mechanism' Component and 'Central Financial Assistance' Component for RESCO Models/ Utility Led Aggregation Models under PM-Surya Ghar: Muft Bijli Yojana.

The scheme offers two alternative implementation models for the installation of rooftop solar plants for consumers: the RESCO (Renewable Energy Service Company) model, where third-party entities invest in rooftop solar installations, allowing consumers to pay only for the electricity consumed without bearing the upfront costs; and the Utility-Led Aggregation (ULA) model, where DISCOMs or state designated entities will install rooftop solar projects on behalf of individual residential sector households.

Under this scheme component, ₹100 crore corpus fund has been earmarked for Payment Security Mechanism (PSM) for de-risking investments in RESCO-based grid-connected rooftop solar models in the residential sector, which may be supplemented through other grants, funds and sources after due approval of the Ministry.

It is clarified that these guidelines are in addition to the existing mode of implementation undertaken by consumers (capex mode) through the national portal (https://www.pmsuryaghar.gov.in/), and these alternative models will supplement the national portal-based implementation of the scheme.

India's Renewable Energy Revolution

As India accelerates its transition towards a sustainable future, its renewable energy (RE) sector has witnessed unprecedented growth. In 2024, the country made significant strides in solar and wind energy installations, policy advancements, and infrastructural improvements, setting the stage for ambitious targets in 2025. With a commitment to achieving 500 GW of non-fossil fuel-based energy capacity by 2030, India is emerging as a global leader in clean energy. As on 20th Jan 2025, India's total non-fossil fuel-based energy capacity has reached 217.62 GW.

The year 2024 saw a record-breaking 24.5 GW of solar capacity and 3.4 GW of wind capacity added, reflecting a more than twofold increase in solar installations and a 21% rise in wind installations compared to 2023. This surge was driven by government incentives, policy reforms, and increased investments in domestic solar and wind turbine manufacturing. Solar energy remained the dominant contributor to India's renewable energy growth, accounting for 47% of the total installed renewable energy capacity. Last year saw the installation of 18.5 GW of utility-scale solar capacity, a nearly 2.8x increase compared to 2023. Rajasthan, Gujarat, and Tamil Nadu emerged as the top-performing states, contributing 71% of India's total utility-scale solar installations.

The rooftop solar sector also experienced significant growth in 2024, with 4.59 GW of new capacity installed, marking a 53% increase from the year 2023. The PM Surya Ghar: Muft Bijli Yojana, launched in 2024, played a crucial role in this expansion, facilitating 7 lakh rooftop solar installations within ten months. Additionally, the off-grid solar segment recorded a 182% increase, adding 1.48 GW in 2024, furthering India's energy access goals in rural areas.

India added 3.4 GW of new wind capacity in 2024, with Gujarat (1,250 MW), Karnataka (1,135 MW), and Tamil Nadu (980 MW) leading the way. These states accounted for 98% of the new wind capacity additions, highlighting their continued dominance in wind power generation.

The Ministry of New & Renewable Energy (MNRE) played a pivotal role in fostering RE growth through policy interventions and financial support. Key highlights include:

- Green Hydrogen Push: The government actively pursued the development of green hydrogen policies to reduce costs and attract investments in this emerging sector.
- Manufacturing Expansion: Domestic solar PV and wind turbine manufacturing were scaled up, supporting India's ambition to become a global RE manufacturing hub.
- Grid Infrastructure Development: The MNRE proposed significant investments in inter-state transmission systems to evacuate power from renewable-rich states like Rajasthan, Gujarat, and Madhya Pradesh.

India's renewable energy sector is on a transformative journey, with 2024 marking a year of record capacity additions and policy advancements. As the country moves into 2025, addressing regulatory, financial, and infrastructural challenges will be crucial. With continued policy support, increased

investment, and a focus on emerging technologies, India is well-positioned to achieve its ambitious renewable energy targets and solidify its status as a global leader in the clean energy transition.

India submits its 4th Biennial Update Report to the United Nations Framework Convention on Climate Change

India's 4th Biennial Update Report (BUR-4) to the United Nations Framework Convention on Climate Change (UNFCCC) was submitted on 30th December, 2024. The BUR-4 updates the Third National Communication (TNC) and contains the National Greenhouse Gas (GHG) inventory for the year 2020. The report also embodies information on India's national circumstances, mitigation actions, an analysis of the constraints, gaps, related finance, technology, and capacity - building needs.

In a post on social media, Union Minister for Environment, Forest and Climate Change, Shri Bhupender Yadav, stated that India is leading by example in sustainable growth. These numbers reflect Prime Minister Shri Narendra Modi's commitment to aligning economic progress with meaningful climate action, he added.

In 2020, India's total GHG emissions decreased by 7.93 per cent with respect to 2019. The emissions, excluding Land Use, Land-Use Change and Forestry (LULUCF), were 2,959 million tonnes of CO_2e and net emissions of 2,437 million tonnes of CO_2e with the inclusion of LULUCF. The energy sector contributed the most to overall emissions (75.66 percent), followed by the agriculture (13.72 percent), Industrial Processes and Product Use (8.06 percent), and Waste (2.56 percent). In 2020, India's forest and tree cover, along with other land use, sequestered approximately 522 million tonnes of CO_2, equivalent to reducing 22% of the country's total carbon dioxide emissions in 2020.

India's achievements in respect of the NDC targets:

- India has progressively continued decoupling economic growth from GHG emissions. Between 2005 and 2020, India's emission intensity of Gross Domestic Product (GDP) reduced by 36%.
- By October 2024, the share of non-fossil sources in the installed electricity generation capacity was 46.52%. Total installed capacity of renewable power, including large hydropower, is 203.22 GW and cumulative renewable power installed capacity (excluding large hydro projects) has increased 4.5 times from 35 GW in March 2014 to 156.25 GW.
- India's forest and tree cover has consistently increased and currently stands at 25.17% of the total geographical area of the country. During 2005 to 2021, additional carbon sink of 2.29 billion tonnes of CO_2 equivalent has been created.

Despite India's very low contribution to historical emissions and the current levels of global emissions, India has taken proactive actions to combat climate change in the context of sustainable development and its developmental aspirations. This is in light of India's national circumstances, reflecting principles of equity and common but differentiated responsibilities and respective capabilities (CBDR-RC), as enshrined in the UNFCCC and its Paris Agreement.

Union Minister for Coal & Mines inaugurates '5G Use Case Test Lab' at CMPDI, Ranchi

Union Minister for Coal and Mines, Shri G. Kishan Reddy, inaugurated the '5G Use Case Test Lab' at the Central Mine Planning and Design Institute (CMPDI) in Ranchi. This cutting-edge facility, aimed at advancing the coal sector's Digital Transformation and technological landscape. 5G Use Case Test Lab serves as a testbed for the development, testing and adaptation of various 5G-based applications, tailored to meet the needs of the coal industry. Ministry of Coal nominated CMPDI as Centre of Excellence (COE) for establishing 5G Use Case Test lab for Coal Industry to leverage 5G technology effectively.

Minister appreciated CMPDI and said that CMPDI has always been a pioneer of innovation. Through relentless research and development, CMPDI is making mining safer, more efficient, and environmentally sustainable. The establishment of the 5G Centre of Excellence Lab further cements CMPDI's leadership in leveraging cutting-edge technologies to meet the evolving challenges of the mining sector.

Secretary, Ministry of Coal, Shri Vikram Dev Dutt; Additional Secretary, Ministry of Coal, Smt Vismita Tej; Chairman, Coal India Limited (CIL), Shri P.M. Prasad; CMD, CMPDI, Shri Manoj Kumar; CMD, Central Coalfields Limited (CCL), Shri Nilendu Kumar Singh; CMD, Eastern Coalfields Ltd (ECL), Sri Satish Jha and other senior officers and dignitaries attended the inauguration ceremony.

Minister also unveiled 'Replica of CMPDI services' sculpture made from scrap material from CMPDI like Delivery Hose pipe, NQ Drilling Rod, Core box etc. This Replica sculpture showcases CMPDI's commitment to sustainable practices through intricate depictions of its core services i.e Geomatics, Exploration, Planning & Design and Environmental monitoring. This art installation not only reflects CMPDI's operational strengths but also emphasizes importance of recycling industrial waste to create a meaningful and sustainable art. He also inaugurated new corporate logo of CMPDI.

5G Use Case Lab

The 5G Use Case Lab established by CMPDI is a lab-scale representation of an Industry 5G Private Network, specifically designed to support the coal mining industry. This lab will serve as a testing and development hub for integrating 5G Radio and Core technologies with 5G-enabled devices, as well as with Edge/Cloud Enterprise IT/OT applications and equipment. 5G Use case lab for coal industry will become a key pillar supporting industry for projects and digital transformation journeys in coal industry.

Purpose and Key objectives of 5G Test Lab:

1. To outline the requirements and different Innovative Use Cases/applications in Coal Mining industry associated with test lab
2. Testing & Development of 5G Use Cases such as Voice, video, and data communication applications; Industrial Internet of Things (IIoT) sensors for Vehicle Management and other applications over 5G Network.

3. Create a Scalable and Replicable Model to replicate a real-world Industry 5G Private Network setup, consisting of 5G Radio and Core systems that are compatible with Edge/Cloud IT/OT applications.

Way forward:

1. To Explore development of High-Resolution Video & IoT Applications: The lab focuses on providing reliable, high-speed, low-latency wireless connectivity to support mission-critical applications in the coal mining sector, such as smart mining, predictive maintenance, and real-time monitoring.

2. To Explore Implementation of next generation advanced use cases like Mines Digital Twin, Automated Guided Vehicles (AGVs), Augmented Reality (AR) and Virtual Reality (VR) in Coal industry to optimize the various field operations and productivity.

Benefits to Coal Industry:

By connecting a wide range of IoT applications, including surveillance cameras, sensor-integrated machines, predictive maintenance systems and automated machinery, CIL will benefit from real-time data exchange, improved decision-making, and streamlined operations. The implementation of a 5G network by Coal India Limited (CIL) will significantly enhance the efficiency, safety, and sustainability of its mining operations. As the network is Private captive network, the data generated during the operations lies with CIL.

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Research, analysis & compilation by:

Economic Policy & Planning Team - FIPI

Email: pankhuri@fipi.org.in