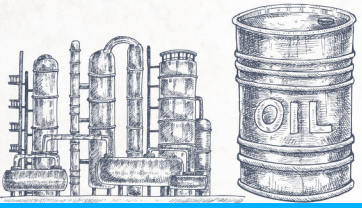
FIPI

Federation of Indian Petroleum Industry

POLICY & ECONOMIC REPORT

OIL & GAS MARKET

July 2025



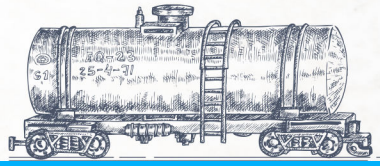


Table of Contents

List of Figures & Tables

Executive Summary

According to World Bank, global growth is expected to weaken to 2.3 percent in 2025, with deceleration in most economies relative to last year. This is due to a substantial rise in trade barriers and the pervasive effects of an uncertain global policy environment. This would mark the slowest rate of global growth since 2008, aside from outright global recessions. Thereafter, growth is forecasted to firm to about 2.5 percent over 2026-27, as trade flows continue adjusting to higher tariffs such that global trade edges up, while policy uncertainty moderates from record-high levels. Global inflation is projected to average 2.9 percent in both 2025 and 2026, before easing to 2.5 percent in 2027—in line with the average inflation target.

The outlook for global inflation has become more uncertain since last year due to a combination of shocks. Most notably, substantial tariff hikes are set to exert upward pressure on consumer inflation in key economies by raising prices for imported consumer goods and inputs into production and redirecting demand toward domestic production that is relatively inelastic in the short run.

India's growth story continues to draw global attention, backed by strong fundamentals and consistent performance. Real GDP, which measures the economy's output expanded by 6.5 per cent in 2024–25. The Reserve Bank of India expects this pace to continue into 2025–26. With 6.5% GDP growth, India stands as the fastest growing major economy.

This sustained performance is being driven by strong domestic demand. Rural consumption has picked up, city spending is rising, and private investment is on the upswing. Businesses are expanding capacity, with many operating near their maximum output levels. At the same time, public investment remains high, especially in infrastructure, while stable borrowing conditions are helping firms and consumers make forward-looking decisions.

Headline inflation-: Year-on-year inflation rate based on All India Consumer Price Index (CPI) for the month of June, 2025 over June, 2024 is 2.10% (Provisional). There is decline of 72 basis points in headline inflation of June, 2025 in comparison to May, 2025. It is the lowest year-on-year inflation after January, 2019.

Food Inflation: Year-on-year inflation rate based on All India Consumer Food Price Index (CFPI) for the month of June, 2025 over June, 2024 is -1.06% (Provisional). Corresponding inflation rates for rural and urban are -0.92% and -1.22%, respectively. A sharp decline of 205 basis points is observed in food inflation in June, 2025 in comparison to May, 2025. The food inflation in June, 2025 is the lowest after January, 2019.

Policy repo rate was reduced by 50 basis points (bps) to 5.50 per cent. There will be consequent adjustment of the Standing Deposit Facility (SDF) rate under the Liquidity Adjustment Facility (LAF) to 5.25 per cent and of the Marginal Standing Facility (MSF) rate and the Bank Rate to 5.75 per cent. RBI expects

to attain the objective of achieving the medium-term target for consumer price index (CPI) inflation of 4 per cent within a band of +/- 2 per cent, while stepping up growth momentum.

The HSBC Flash India Manufacturing PMI reached 59.2 in July 2025, its highest level in nearly 17.5 years, according to PMI data released by S&P Global. This surge, up from 58.4 in June, signals robust growth in the manufacturing sector, driven by strong domestic and global demand. Composite PMI reached 60.7, the fastest upturn in over a year, driven by buoyant demand, technological investments, and expanded capacities. There is a firm pick-up in employment, especially in the service sector, suggesting healthy job creation accompanies the expansion of both India's manufacturing and service sectors.

On the external front, India's forex reserves dipped by $1.18 billion to $695.49 billion for the week ending July 18, according to the data released by Reserve Bank of India. For the week ended July 18, foreign currency assets, a major component of the reserves, slipped by $1.201 billion to $587.609 billion. However, the gold reserves increased by $150 million to $84.499 billion during the week. The Special Drawing Rights (SDRs) were down by $119 million to $18.683 billion. India's reserve position with the IMF declined by $13 million to $4.698 billion in the reporting week.

India’s total exports (Merchandise and Services combined) for June 2025 are estimated at USD 67.98 Billion, registering a growth of 6.50 percent vis-à-vis June 2024. Total imports (Merchandise and Services combined) for June 2025 are estimated at USD 71.50 Billion, registering a growth of 0.50 percent vis-à-vis June 2024. India’s total exports during April- June 2025 are estimated at US$ 210.31 Billion registering a growth of 5.94 percent. Total imports during April- June 2025 are estimated at US$ 230.62 Billion registering a growth of 4.38 percent.

As far as oil and gas industry is concerned, benchmark crude oil prices increased by approximately $7 per barrel on average in June, fluctuating widely between $65 and $80 per barrel. Prices spiked mid-month following Israeli air strikes on Iranian military and nuclear facilities, with North Sea Dated briefly exceeding $80 per barrel. However, prices subsequently returned to pre-conflict levels after a ceasefire agreement was reached.

These developments occurred amid growing geopolitical tensions and an apparently oversupplied market. In June, global oil production increased by 950 kb/d month-on-month to 105.6 mb/d—representing a significant 2.9 mb/d rise compared to the same period last year. Beginning July 2025, the OPEC+ alliance announced a larger-than-anticipated increase in production targets for August by 550 kb/d, effectively reversing 80% of the 2.2 mb/d voluntary production cuts that have been in place since 2023.

Furthermore, China’s newly implemented policies to enhance energy security are positioning national oil companies as strategic storage partners for the government. This approach effectively removes significant volumes from the global market. Chinese firms are expected to continue expanding inventories, and the rate at which these stockpiles grow in the coming months will play a critical role in shaping the global oil market balance.

Crude spot prices rebounded in June, supported by a combination of geopolitical risk premiums and strengthening physical market fundamentals. The North Sea Dated benchmark led the gains, rising by over $7/b, m-o-m, marking the strongest increase among the major spot benchmarks. Spot prices were bolstered by concerns over short-term supply availability amid escalating geopolitical tensions in the Middle East and Eastern Europe. Renewed buying interest, particularly for prompt-loading cargoes, contributed to upward pressure, as refiners sought to secure volumes ahead of the anticipated seasonal increase in demand for transportation fuels during the summer driving season.

Natural gas spot prices at the US Henry Hub benchmark averaged $3.02 per million British thermal units (MMBtu) in June 2025. Henry Hub's natural gas prices declined for a fourth consecutive month in June, falling by ~3.0%, m-o-m. A combination of mild weather and lower US LNG demand inflated domestic storage, dragging down prices. Reports of high storage levels added more downward pressure on prices.

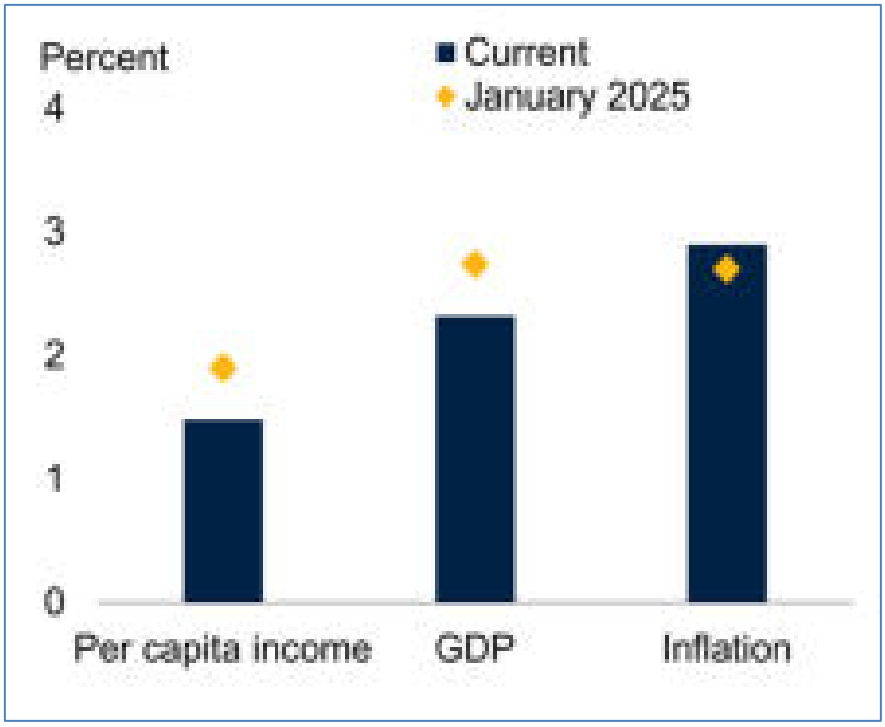
Economy in Focus

1. A snapshot of the global economy

Global economic growth

- According to World Bank, global growth is expected to weaken to 2.3 percent in 2025, with deceleration in most economies relative to last year.
- This is due to a substantial rise in trade barriers and the pervasive effects of an uncertain global policy environment.
- This would mark the slowest rate of global growth since 2008, aside from outright global recessions.
- Thereafter, growth is forecasted to firm to about 2.5 percent over 2026-27, as trade flows continue adjusting to higher tariffs such that global trade edges up, while policy uncertainty moderates from record-high levels.

Figure 1: Global Growth (%)



Source- World Bank

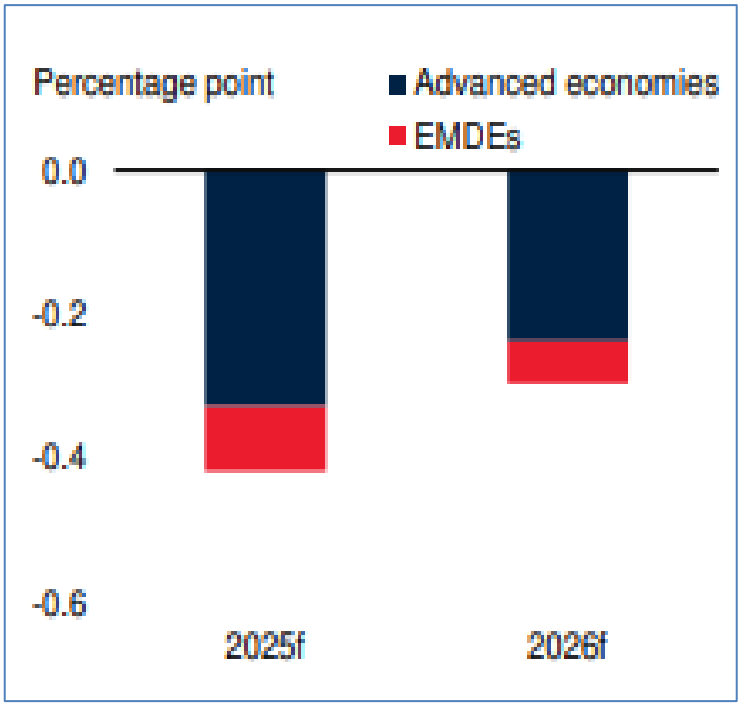
- In case of Advanced economies, U.S. growth is expected to decelerate sharply in 2025, to 1.4 percent. Investment spending is projected to be particularly hard-hit following the earlier frontloading of imported investment goods. Policy uncertainty has remained high, with many firms highlighting concerns about the impact of trade policy changes on prices.

- Growth in the euro area is projected to slow in 2025, to 0.7 percent, and would average at 0.9 percent over 2026-27. The recent surge in policy uncertainty and financial volatility, as well as increases in tariffs on the European Union (EU), are set to prolong the bloc's economic weakness, holding back a recovery in investment and trade.

- In Japan, growth is expected to firm from an estimated 0.2 percent in 2024 to 0.7 percent in 2025, underpinned by a rebound in consumption and the reopening of automobile plants after longer-than-expected shutdowns last year.

- Growth in Emerging Market & Developing Economies (EMDEs) is expected to slow in 2025, to 3.8 percent, before edging up a touch over 2026- 27, to 3.9 percent. China's economy is projected to decelerate with growth forecast to slow from 5 percent in 2024 to 4.5 percent this year. Export growth is expected to slow as the impact of U.S. tariff increases materializes.

Figure 2: Contributions to Global Growth downgrades in 2025 & 2026 (%)



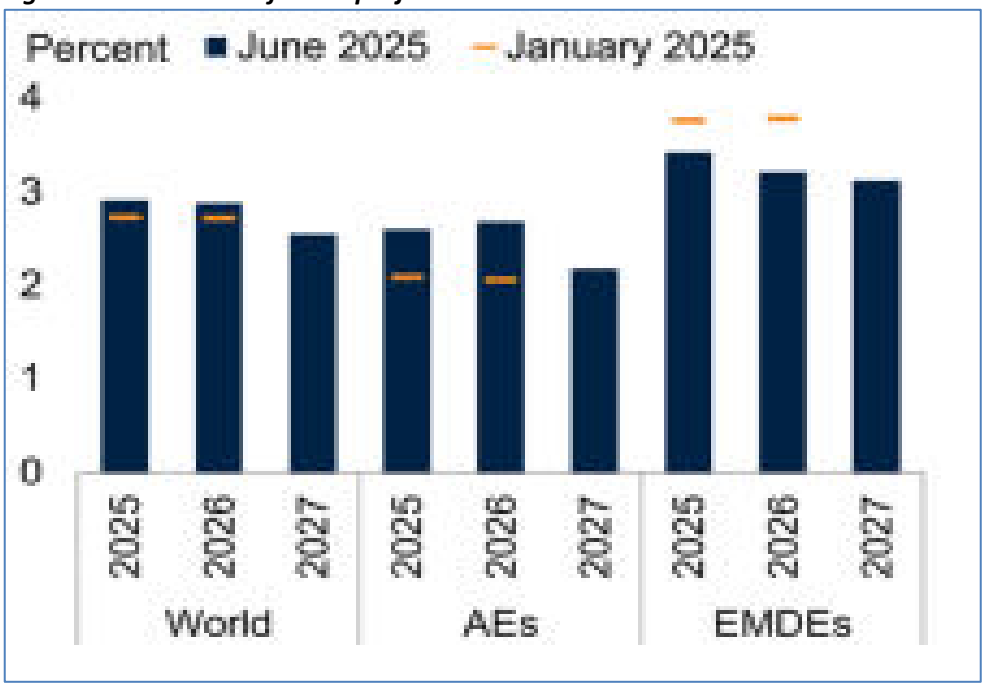
Source- World Bank

Global inflation

- Global inflation is projected to average 2.9 percent in both 2025 and 2026, before easing to 2.5 percent in 2027—in line with the average inflation target.

- The outlook for global inflation has become more uncertain since last year due to a combination of shocks. Most notably, substantial tariff hikes are set to exert upward pressure on consumer inflation in key economies by raising prices for imported consumer goods and inputs into production and redirecting demand toward domestic production that is relatively inelastic in the short run.

Figure 3: Global CPI inflation projections

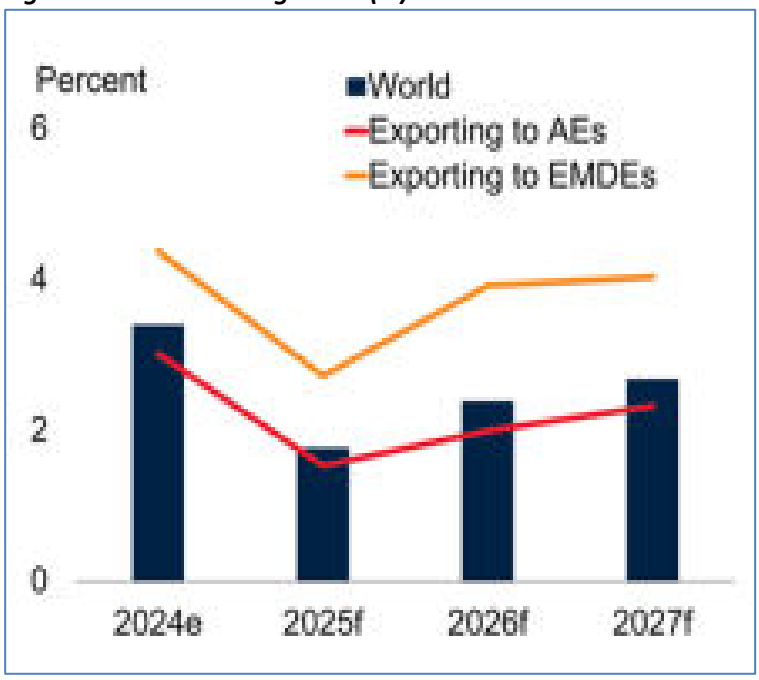


Source- World Bank

Global Trade

- Global trade growth in goods and services is projected to slow sharply in 2025, to 1.8 percent, from 3.4 percent in 2024.
- The forecast has been revised down by 1.3 percentage points since January, reflecting changes in trade policies in key economies and higher trade policy uncertainty. Increased tariffs are expected to weigh on global trade over the forecast horizon.
- Global trade conditions experienced a large shock in early April when the United States announced prospective tariffs on most trading partners, with rates proportional to bilateral goods trade deficits, in addition to previously announced tariffs.
- A sharp escalation of trade barriers between China and the United States followed. Subsequently, country-specific tariffs were reduced to a universal 10 percent—including in the case of China.
- Trade growth is forecast to reach 2.4 percent in 2026 and 2.7 percent in 2027—still well below its pre-pandemic average of 4.6 percent.

Figure 4: Global trade growth (%)



Source- World Bank

2. BRICS nations generate 51% of global solar power in 2024- Report

Ten BRICS countries accounted for more than half (51%) of global solar electricity generation in 2024, up from just 15% a decade ago, according to energy think tank Ember. The analysis highlights how China, India, and Brazil have emerged as the primary drivers of this shift. In 2024 China remained the world's largest solar generator with 834 TWh of output — nearly three times more than the second-ranked United States. India reached 133 TWh, a fourfold increase since 2019, while Brazil joined the global top five by surpassing Germany with 75 TWh of solar generation.

The rise is not just in total generation but also in the share of new electricity demand met by clean power. In 2024, solar alone met 36% of the increase in electricity generation across all BRICS countries, a major jump from 14% in the previous decade and just 0.25% a decade before that. When combined with other clean sources like wind, hydro, and nuclear, 70% of the increase in electricity generation in 2024 came from clean energy.

China is leading this shift. Clean sources met 82% of the increase in electricity generation in 2024 in the country, with solar alone contributing 41%. According to the data from January to May 2025, China met all its additional electricity demand with clean power. Rapid solar growth, along with strong gains in wind and other clean sources, led to a drop in fossil generation in the country. India and Brazil also registered strong solar growth in January to April 2025, with year-on-year increases of 32% and 35%, in the same period, respectively.

While the overall trend is positive, progress among BRICS nations remains uneven. Russia continues to lag far behind in clean growth, with solar generation still below 0.5 TWh in early 2025.

However, the economics are changing and there is an opportunity for all BRICS countries to build on the momentum the bloc has achieved. A report by Ember shows that 24/7 solar power is now cost-competitive in countries like South Africa when paired with battery storage.

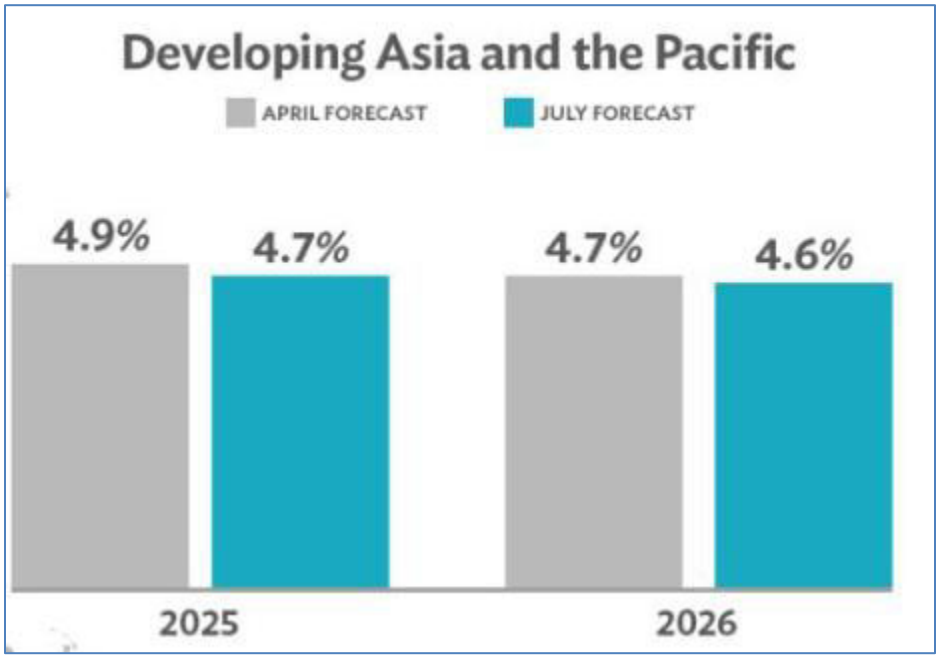
3. ADB Lowers Economic Growth Forecast for Asia and the Pacific

The Asian Development Bank (ADB) has lowered its growth forecasts for economies in developing Asia and the Pacific this year and next year. The downgrades are driven by expectations of reduced exports amid higher United States (U.S.) tariffs and global trade uncertainty, as well as weaker domestic demand.

ADB forecasts the region's economies will grow by 4.7% this year, a 0.2 percentage point decline from the projection issued in April. The forecast for next year has been lowered to 4.6% from 4.7%, according to Asian Development Outlook (ADO) July 2025.

Prospects for developing Asia and the Pacific could be dented further by an escalation of U.S. tariffs and trade tensions. Other risks include conflicts and geopolitical tensions that could disrupt global supply chains and raise energy prices, and a worse-than-expected deterioration in the property market of the People's Republic of China (PRC).

Figure 5: Global trade growth (%)



Growth projections for the PRC, the region's largest economy, are maintained at 4.7% this year and 4.3% next year. Policy stimulus for consumption and industrial activity is expected to offset continuing property market weakness and softening exports. India, the region's second-largest economy, is forecast to grow by 6.5% this year and 6.7% next year—down 0.2 and 0.1 percentage points,

respectively, from April projections—as trade uncertainty and higher U.S. tariffs affect exports and investment.

Economies in Southeast Asia will likely be hardest hit by worsened trade conditions and uncertainty. ADB now predicts the subregion's economies will grow 4.2% this year and 4.3% next year, down roughly half a percentage point from April forecasts for each year.

Bucking the downward trend are economies in Caucasus and Central Asia. The subregion's growth projections have been raised by 0.1 percentage points for both this year and next to 5.5% and 5.1%, respectively, largely reflecting an anticipated boost in oil production.

Inflation in developing Asia and the Pacific is projected to continue slowing, amid easing oil prices and strong farm output reducing food price pressures. ADB forecasts regional inflation of 2.0% this year and 2.1% next year, compared with its April projections of 2.3% and 2.2%, respectively.

4. Global coal demand hits record 8.8 bn tonnes in 2024, to remain flat through 2026-IEA

Global coal demand reached a record high of 8.8 billion tonnes in 2024, up 1.5% from 2023, driven by rising consumption in China, India, Indonesia, and other emerging economies, according to the International Energy Agency (IEA).

The increase in 2024 came despite declines in advanced economies in Europe, North America, and northeast Asia. However, the IEA said the global coal demand is expected to remain broadly unchanged in 2025 and 2026.

In the first half of 2025, coal demand declined in China and India due to lower growth in electricity demand and a sharp rise in renewable power generation. In contrast, coal consumption rose by around 10% in the United States, where strong electricity demand and higher natural gas prices led to increased coal-based power generation.

In the European Union, coal use remained broadly stable, with reduced industrial demand offset by higher use for power generation. For the full year 2025, coal demand in China is expected to fall slightly—by less than 1%. In the United States, it is projected to rise by around 7%, while the EU is expected to see a decline of nearly 2%.

Global coal production is projected to increase to a new record in 2025, led by output gains in China and India as both countries continue to prioritize energy security. However, coal production is expected to fall in 2026 due to high stock levels and declining prices.

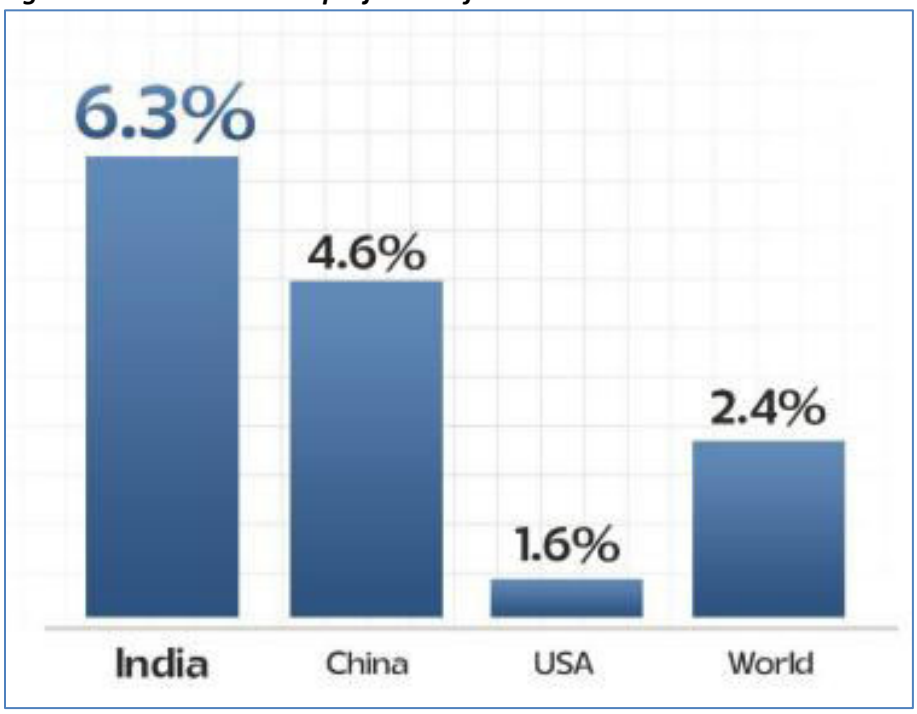
The IEA report said that while coal prices have dropped to levels last seen in early 2021, economic pressure on producers remains high amid persistent oversupply.

5. Indian Economy

India's economic growth

India's growth story continues to draw global attention, backed by strong fundamentals and consistent performance. Real GDP, which measures the economy's output expanded by 6.5 per cent in 2024–25. The Reserve Bank of India expects this pace to continue into 2025–26. With 6.5% GDP growth, India stands as the fastest growing major economy.

Figure 6: Global economic projections for 2025



Source- World economic situation & Prospects 2025

This sustained performance is being driven by strong domestic demand. Rural consumption has picked up, city spending is rising, and private investment is on the upswing. Businesses are expanding capacity, with many operating near their maximum output levels. At the same time, public investment remains high, especially in infrastructure, while stable borrowing conditions are helping firms and consumers make forward-looking decisions. Some of the key takeaways of India becoming an economic powerhouse are as follows: -

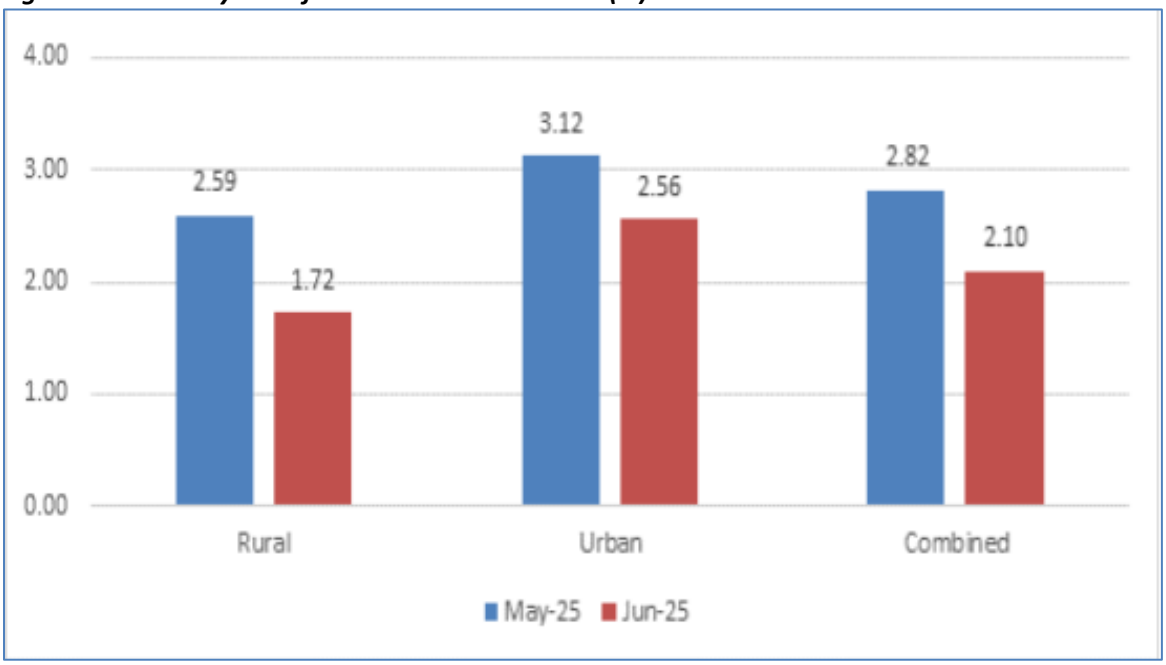
- Total exports increased by 76% over the last decade, reaching US$ 825 billion in 2024–25, led by engineering goods, electronics, and pharmaceuticals.
- Services exports more than doubled, growing from US$ 158 billion in 2013–14 to US$ 387 billion in 2024–25.
- Cumulative FDI inflows reached US$ 1.05 trillion, with a record 27% increase in equity inflows in the first 9 months of FY25 alone.

- Digital transactions surged 9x in volume (FY18–FY24), with UPI processing 172 billion transactions in 2024 alone.
- Inflation was reduced from an average of 8.2% (2004–14) to around 5% (2015–25) through targeted fiscal and monetary policies.
- Retail inflation fell to 4.6% in 2024–25, the lowest since 2018–19.

Inflation in India

- Headline inflation-: Year-on-year inflation rate based on All India Consumer Price Index (CPI) for the month of June, 2025 over June, 2024 is 2.10% (Provisional). There is decline of 72 basis points in headline inflation of June, 2025 in comparison to May, 2025. It is the lowest year-on-year inflation after January, 2019.

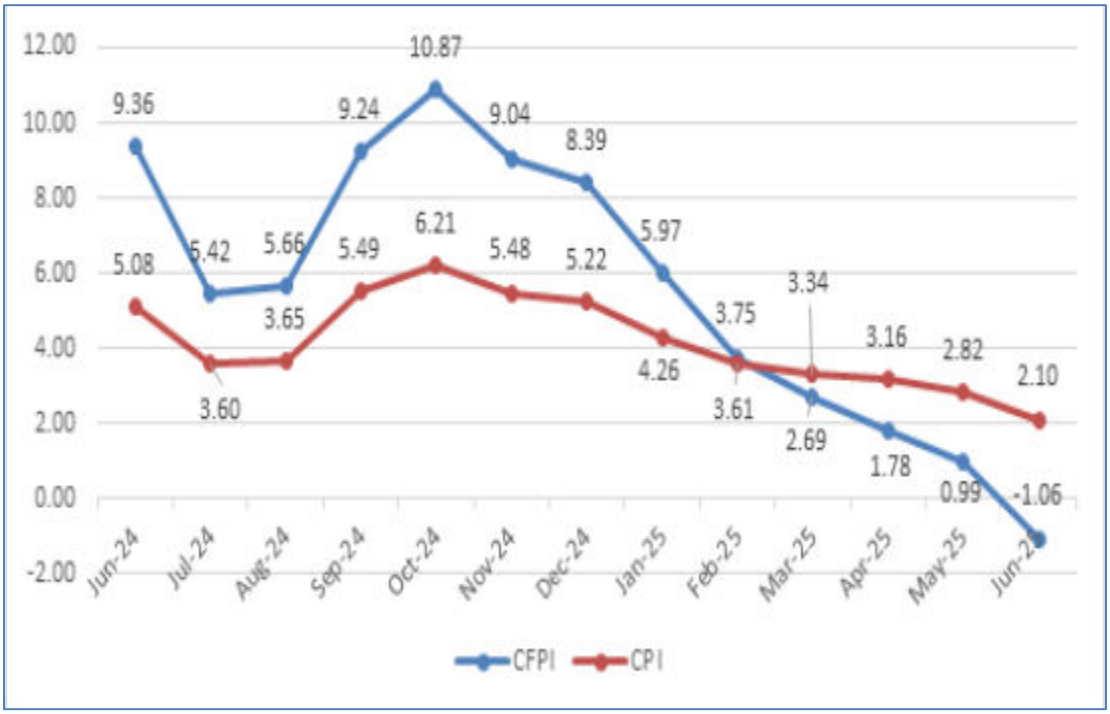
Figure 7: Year on year inflation rate based on CPI (%)



Source- NSO

- Food Inflation: Year-on-year inflation rate based on All India Consumer Food Price Index (CFPI) for the month of June, 2025 over June, 2024 is -1.06% (Provisional). Corresponding inflation rates for rural and urban are -0.92% and -1.22%, respectively. A sharp decline of 205 basis points is observed in food inflation in June, 2025 in comparison to May, 2025. The food inflation in June, 2025 is the lowest after January, 2019.

Figure 8: All India inflation rates for CPI (General) and CFPI



Source- NSO

- The significant decline in headline inflation and food inflation during the month of June, 2025 is mainly attributed to favorable base effect and decline in inflation of Vegetables, Pulses and Products, Meat and Fish, Cereals and products, Sugar and confectionery, Milk and products and Spices.

- Rural Inflation: Significant decline in headline and food inflation in rural sector observed in June, 2025. The headline inflation is 1.72% (Provisional) in June, 2025 while the same was 2.59% in May, 2025. The CFPI based food inflation in rural sector is observed as -0.92% (Provisional) in June, 2025 in comparison to 0.95% in May, 2025.

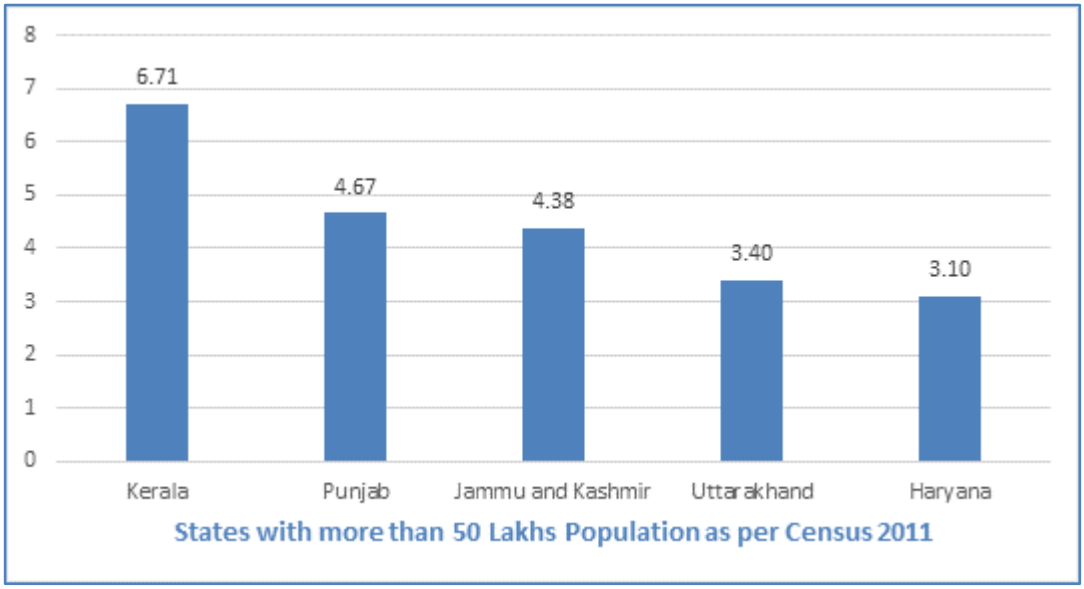
- Urban Inflation: Significant decline from 3.12% in May, 2025 to 2.56% (Provisional) in June, 2025 is observed in headline inflation of urban sector. Sharp decline is also observed in food inflation from 1.01% in May, 2025 to -1.22% (Provisional) in June, 2025.

- Housing Inflation: Year-on-year Housing inflation rate for the month of June, 2025 is 3.24% (Provisional). Corresponding inflation rate for the month of May, 2025 was 3.16%. The housing index is compiled for urban sector only.

- Fuel & light: Year-on-year Fuel & light inflation rate for the month of June, 2025 is 2.55% (Provisional). Corresponding inflation rate for the month of May, 2025 was 2.84%. It is combined inflation rate for both rural and urban sector.

- Top five major states with high Year on Year inflation for the month of June, 2025 are shown in the graph below.

Figure 9: Top five major states with high Year on Year inflation for the month of June, 2025



Source- NSO

Repo Rate reduction-

- Policy repo rate is being reduced by 50 basis points (bps) to 5.50 per cent with immediate effect.
- There will be consequent adjustment of the Standing Deposit Facility (SDF) rate under the Liquidity Adjustment Facility (LAF) to 5.25 per cent and of the Marginal Standing Facility (MSF) rate and the Bank Rate to 5.75 per cent.
- RBI expects to attain the objective of achieving the medium-term target for consumer price index (CPI) inflation of 4 per cent within a band of +/- 2 per cent, while stepping up growth momentum.

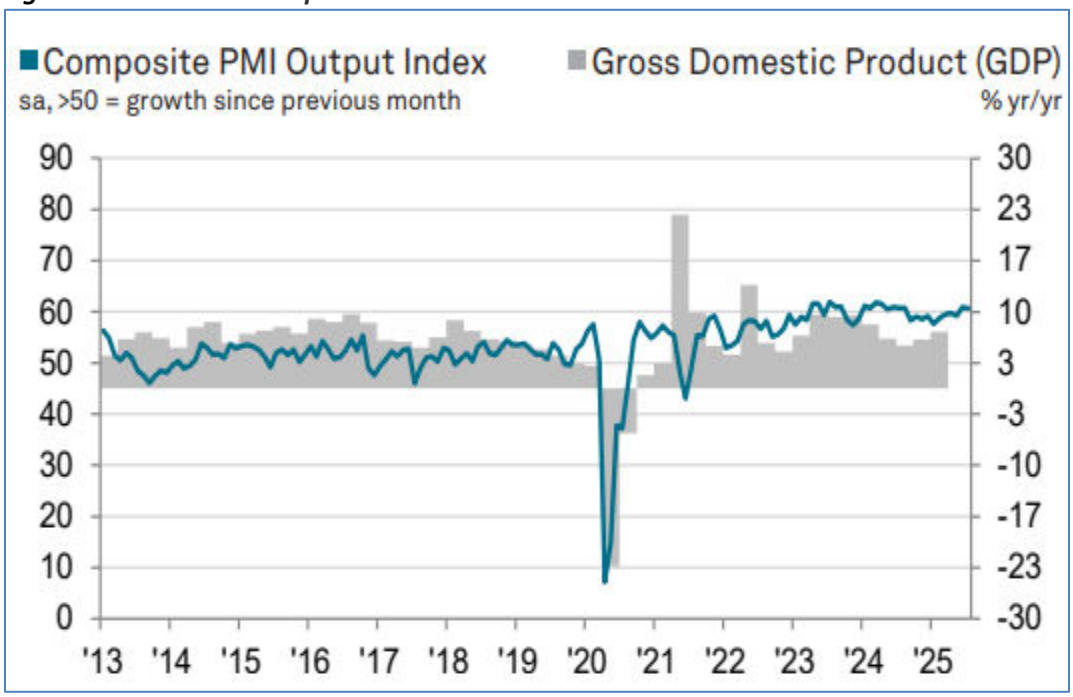
Manufacturing PMI – India

- The HSBC Flash India Manufacturing PMI reached 59.2 in July 2025, its highest level in nearly 17.5 years, according to PMI data released by S&P Global. This surge, up from 58.4 in June, signals robust growth in the manufacturing sector, driven by strong domestic and global demand.

- Composite PMI reached 60.7, the fastest upturn in over a year, driven by buoyant demand, technological investments, and expanded capacities. There is a firm pick-up in employment, especially in the service sector, suggesting healthy job creation accompanies the expansion of both India's manufacturing and service sectors.

- Indian companies remained optimistic about output growth over the next 12-month and monitored companies attributed growth to buoyant demand, investment in technology and expanded capacities.

***Figure 10:** India PMI Output Index*



Source- S&P Global

India's external position

India's forex reserves

- India's forex reserves dipped by $1.18 billion to $695.49 billion for the week ending July 18, according to the data released by Reserve Bank of India.
- For the week ended July 18, foreign currency assets, a major component of the reserves, slipped by $1.201 billion to $587.609 billion.
- However, the gold reserves increased by $150 million to $84.499 billion during the week.
- The Special Drawing Rights (SDRs) were down by $119 million to $18.683 billion.
- India's reserve position with the IMF declined by $13 million to $4.698 billion in the reporting week.

India's foreign trade position

- India's total exports (Merchandise and Services combined) for June 2025 are estimated at USD 67.98 Billion, registering a growth of 6.50 percent vis-à-vis June 2024.

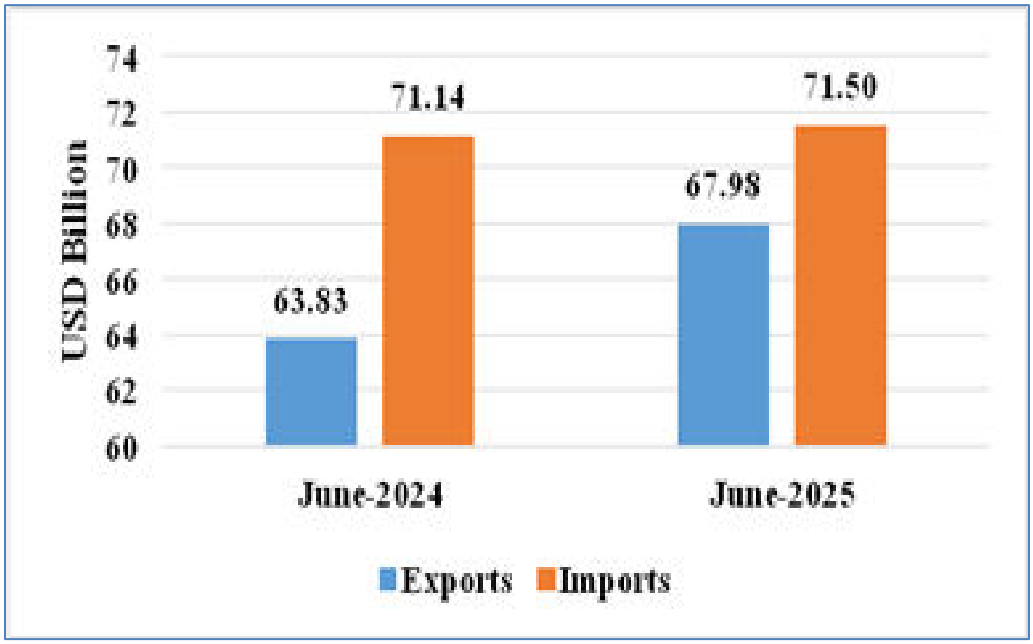
- Total imports (Merchandise and Services combined) for June 2025 are estimated at USD 71.50 Billion, registering a growth of 0.50 percent vis-à-vis June 2024.

Table 1: Trade during June 2025

		June 2025 (USD Billion)	June 2024 (USD Billion)
Merchandise	Exports	35.14	35.16
	Imports	53.92	56
Services	Exports	32.84	28.67
	Imports	17.58	15.14
Total Trade (Merchandise + Services)	Exports	67.98	63.83
	Imports	71.50	71.14
	Trade Balance	**-3.51**	**-7.30**

Source- Ministry of Commerce & Industry

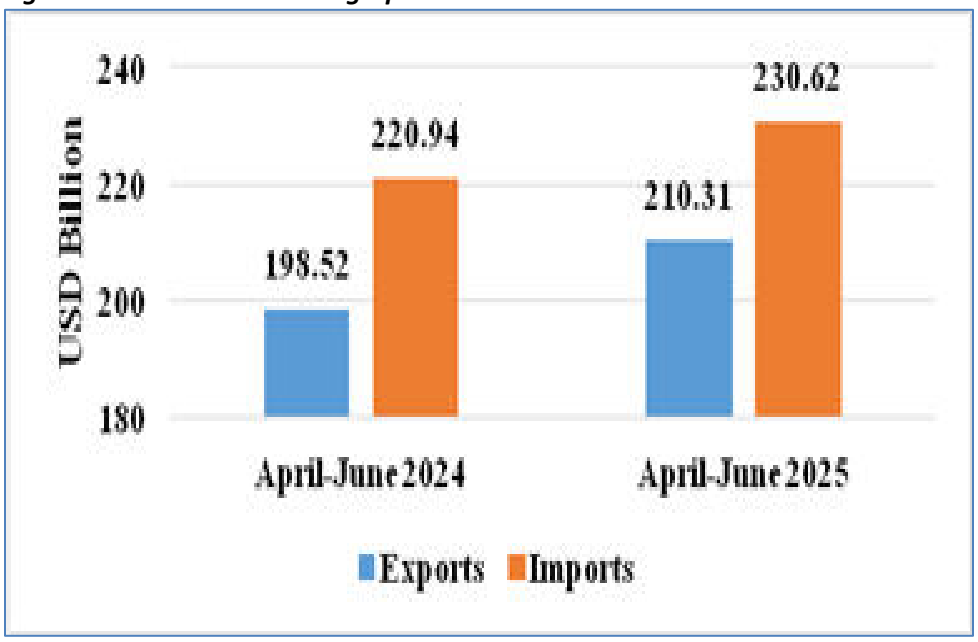
Figure 11: Total Trade during June 2025



Source- RBI

India's total exports during April- June 2025 are estimated at US$ 210.31 Billion registering a growth of 5.94 percent. Total imports during April- June 2025 are estimated at US$ 230.62 Billion registering a growth of 4.38 percent.

Figure 12: Total Trade during April- June 2025



Source- RBI

- Exports of Electronic Goods (46.93%), Tea (32.64%), Jute Mfg. Including Floor Covering (23.44%), Meat, Dairy & Poultry Products (19.7%), Other Cereals (13.39%), Marine Products (13.33%), Cereal Preparations & Miscellaneous Processed Items (8.09%), Drugs & Pharmaceuticals (5.95%), Fruits & Vegetables (2.83%), Plastic & Linoleum (2.26%), Carpet (2.04%), Organic & Inorganic Chemicals (1.65%), Engineering Goods (1.35%), Rmg Of All Textiles (1.23%), Mica, Coal & Other Ores, Minerals Including Processed Minerals (0.86%) and Rice (0.85%) record positive growth during June 2025 over the corresponding month of last year.

- Services exports is estimated to grow by 10.93 percent during April-June 2025 over April-June 2024.

- Top 5 export destinations, in terms of change in value, exhibiting growth in June 2025 vis a vis June 2024 are U S A (23.53%), China P Rp (17.18%), Kenya (76.2%), France (21.78%) and Brazil (23.02%).

- Top 5 export destinations, in terms of change in value, exhibiting growth in April-June 2025 vis a vis April-June 2024 are U S A (22.18%), China P Rp (17.87%), Kenya (69.83%), Germany (10.79%) and Australia (14.01%).

- Top 5 import sources, in terms of change in value, exhibiting growth in June 2025 vis a vis June 2024 are Ireland (265.82%), Hong Kong (23.09%), Singapore (18.16%), Thailand (25.68%) and China P Rp (2.48%).

- Top 5 import sources, in terms of change in value, exhibiting growth in April-June 2025 vis a vis April-June 2024 are China P Rp (16.33%), U Arab Emts (28.73%), Ireland (281.04%), U S A (11.68%) and Hong Kong (33.22%).

6. ADB, India Ratings lower FY26 growth forecast for India on US tariff impact, global uncertainty

- The Asian Development Bank (ADB) has trimmed its GDP growth forecast for India to 6.5% for FY26, down from its April estimate of 6.7%, due to concerns over the potential impact of the US tariffs and uncertainty surrounding related policy measures.
- ADB expects services and agriculture to be key drivers of India's growth, with the farm sector supported by a forecast of above-normal monsoon rains.
- It also said India's inflation forecast for the ongoing fiscal year had been lowered to 3.8%, reflecting a faster-than-expected decline in food prices due to better agricultural production.
- India's services sector output rose to a 10-month high in June, driven by higher sales, new orders, and positive demand trends. The seasonally adjusted HSBC India Services PMI Business Activity Index, compiled by S&P Global, rose to 60.4 in June, up from 58.8 in May, 58.7 in April, and 58.5 in March.
- India Ratings and Research (Ind-Ra) also lowered its FY26 GDP growth forecast for India—to 6.3% from 6.6% projected in December—citing a shift in both domestic and global conditions.

7. India's GDP to double to $10.6 trn by 2035: Morgan Stanley

- India may turn the world's third-largest economy by 2028 and double its gross domestic product (GDP) to $10.6 trillion by 2035, according to a recent Morgan Stanley report.
- States will lead the country's rapid expansion, with Maharashtra, Tamil Nadu, Gujarat, Uttar Pradesh, and Karnataka among those expected to each achieve a $1 trillion economy.
- Gujarat, Maharashtra, and Telangana are now the top-performing states by GDP, while others like Chhattisgarh, Uttar Pradesh and Madhya Pradesh have significantly climbed economic rankings over the last five years, it noted.
- The country's decentralised growth, driven by state-level reforms and industrial expansion, will be a critical engine in achieving national economic targets, according to the report.

8. Net FDI inflows fell 98% in May as repatriation increased 24%: RBI Bulletin

- Net foreign direct investment (FDI) into India fell 98% year-on-year to $35 million in May amid higher repatriation by overseas investors and a fall in gross inflows, according to latest central bank data published in RBI's monthly Bulletin.
- Net FDI was 99% lower compared with April 2025. Gross inflows fell 11% YoY to $7.2 billion in May, while repatriation of FDI increased nearly 24% to $5 billion. Outward FDI increased to $2.1 billion from $1.8 billion a year ago.

- The Reserve Bank of India (RBI) said that Singapore, Mauritius, the UAE, and the US together accounted for more than three-fourths of the total FDI inflows in May 2025. Manufacturing, financial and computer services were the top recipient sectors.

- On the other hand, top sectors for outward FDI included transport, storage and communication services, manufacturing, and financial, insurance and business services. Major destinations for outward FDI included Mauritius, the US, and the UAE.

9. India may need up to $13.4 trillion for urban climate resilience by 2070: Report

- As India's cities expand rapidly, building climate-resilient infrastructure will come at a massive cost. A new report by World Resources Institute (WRI) India and GIZ estimates that India may need as much as $13.4 trillion by 2070 to prepare its urban areas for climate risks, including floods, heatwaves, and other extreme weather events.

- Based on a moderate urbanisation projection of 54 per cent by 2050 and 66 per cent by 2070, the total investment needed would be $2.9 trillion by 2050 and $13.4 trillion by 2070. Even under a conservative urbanisation scenario—where 43 per cent of the population is urban by 2050 and 52 per cent by 2070—the estimated funding requirement is $2.4 trillion and $10.9 trillion, respectively.

- The report titled "Mainstreaming Urban Climate Resilience: A Policy and Institutional Framework for India" underlines that more than 80 per cent of the infrastructure that will exist in Indian cities by 2050 is yet to be built, and unless resilience is embedded in future construction, India could face massive financial, social, and environmental losses.

- By 2030, India's urban population is projected to reach 600 million, accounting for 40 per cent of the national population. These urban centres will be responsible for more than 70 per cent of India's GDP, consume 75 per cent of natural resources, and emit 80 per cent of the country's greenhouse gases, the report notes.

- The report identifies key institutional, governance, and financing gaps and proposes a roadmap for integrating resilience into urban development. It recommends the formation of dedicated climate resilience cells at city and state levels, integrating resilience into financial planning and public budgets, and strengthening risk-informed planning through data and digital platforms.

- The study also calls for streamlining roles among central, state, and local agencies, aligning existing urban missions such as Smart Cities Mission, AMRUT, and National Mission on Sustainable Habitat with climate resilience goals, and attracting long-term investments through appropriate policy reforms.

Lessons from Economics

Index of Economic Freedom

The Heritage Foundation publishes an annual Index of Economic Freedom, which ranks countries from "free" to "repressed." Singapore ranked first, and the United States ranked 25th in 2023

An index of economic freedom is a composite measure of the quality of political-economic institutions across different jurisdictions. It scores and ranks an index based on criteria such as property rights and tax burden. Economies based on a free market tend to experience greater levels of investment, more rapid growth, and higher average incomes.

The Heritage Foundation's Index of Economic Freedom is one of the most popular indexes, scoring countries based on 12 factors:

- Property rights
- Judicial effectiveness
- Government integrity
- Tax burden
- Government spending
- Fiscal health
- Business freedom
- Labor freedom
- Monetary freedom
- Trade freedom
- Investment freedom
- Financial freedom

The Heritage Foundation's Index of Economic Freedom has highlighted correlations that encourage nations to improve their scores over time. A common observation is that people living in countries categorized as free or mostly free enjoy higher incomes than those living in lower-scoring nations. There is also a correlation between economic freedom and GDP growth, as well as a higher standard of living and a general rule of law for citizens.

Top 10 Countries by Economic Freedom

Singapore	83.9
Switzerland	83.8
Ireland	82.0
Taiwan	80.7
New Zealand	78.9
Estonia	78.6
Luxembourg	78.4
Netherlands	78.0
Denmark	77.6
Sweden	77.5

Source- Ranked According to 2023 Heritage Index of Economic Freedom

Pros of Index for investors

Changes to economic freedom can be a significant data source for investors, particularly those interested in emerging markets. Additionally, negative changes in the index tell investors to trim their direct and indirect exposure to nations experiencing a decline.

Oil Market

Crude oil price – Monthly Review

Benchmark crude oil prices increased by approximately $7 per barrel on average in June, fluctuating widely between $65 and $80 per barrel. Prices spiked mid-month following Israeli air strikes on Iranian military and nuclear facilities, with North Sea Dated briefly exceeding $80 per barrel. However, prices subsequently returned to pre-conflict levels after a ceasefire agreement was reached.

These developments occurred amid growing geopolitical tensions and an apparently oversupplied market. In June, global oil production increased by 950 kb/d month-on-month to 105.6 mb/d—representing a significant 2.9 mb/d rise compared to the same period last year. Beginning July 2025, the OPEC+ alliance announced a larger-than-anticipated increase in production targets for August by 550 kb/d, effectively reversing 80% of the 2.2 mb/d voluntary production cuts that have been in place since 2023.

World oil supply is now projected to grow by an average of 2.1 mb/d in 2025 to 105.1 mb/d, and by an additional 1.3 mb/d to reach 106.4 mb/d in 2026, with non-OPEC+ countries contributing the majority of this growth—1.4 mb/d and 940 kb/d, respectively. In contrast, global oil demand is expected to grow at a more moderate pace, with an estimated increase of 700 kb/d in 2025 and 720 kb/d in 2026, reaching 104.4 mb/d. Nonetheless, seasonal factors are temporarily tightening the market. Refinery throughputs are forecast to rise by 3.7 mb/d from May to August to meet summer travel demand in the Northern Hemisphere. Additionally, crude oil burning for power generation typically doubles during this period, reaching around 900 kb/d.

Furthermore, China's newly implemented policies to enhance energy security are positioning national oil companies as strategic storage partners for the government. This approach effectively removes significant volumes from the global market. Chinese firms are expected to continue expanding inventories, and the rate at which these stockpiles grow in the coming months will play a critical role in shaping the global oil market balance.

Hedge funds and other money managers sharply raised their bullish positions amid substantial financial flows into the ICE Brent futures contract. Net long positions in ICE Brent and NYMEX WTI rose by 28% throughout June, and speculators bought an equivalent of 78 mb during the same period.

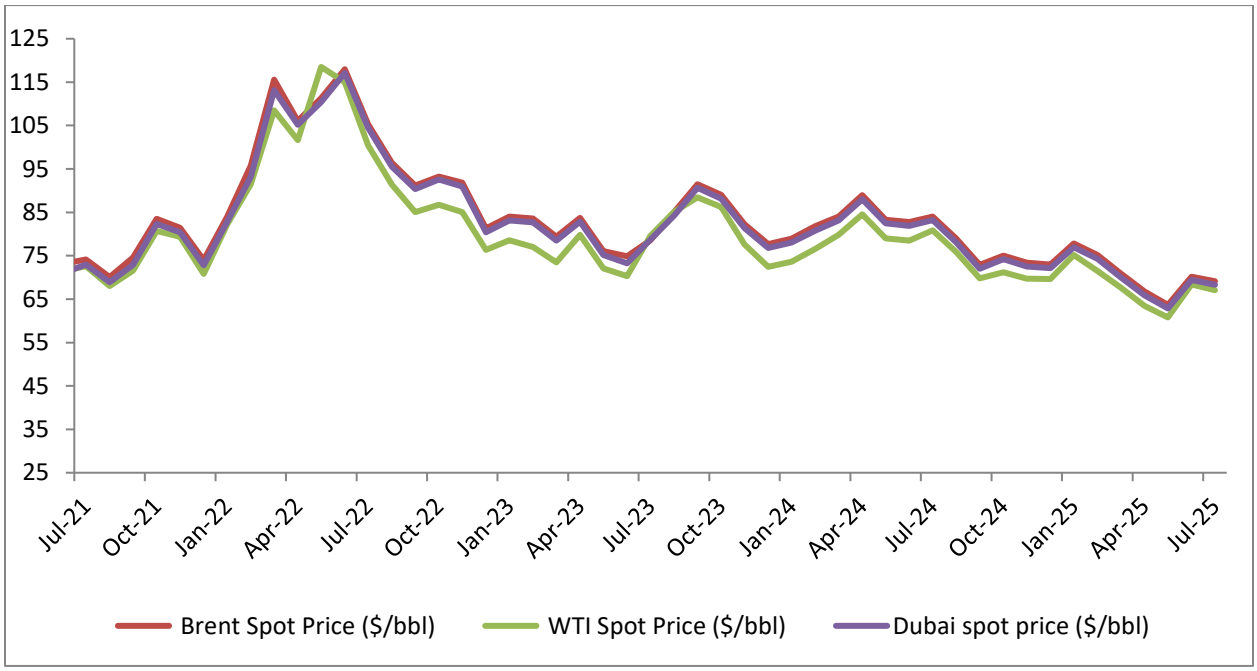
Crude oil futures prices rebounded firmly in June. The recovery was driven by heightened geopolitical tensions, a rising supply-risk premium, and improving sentiment surrounding trade discussions between the US and its key economic partners. Supportive market fundamentals, reflected in a substantial draw in US crude stocks, further underpinned prices. However, market volatility was elevated. Crude futures began to recover at the beginning of the month, buoyed by a shift in market sentiment, as participants focused on tighter supply expectations amid growing geopolitical uncertainty in Eastern Europe and unplanned supply outages. Wildfires in Canada led to the temporary shut-in of around 350 tb/d of production, contributing to a more bullish outlook for near-term supply. A weakening US dollar added support to the positive momentum during the first trading week. However, persistent concerns over the trajectory of US-China trade negotiations capped upward momentum.

Crude spot prices rebounded in June, supported by a combination of geopolitical risk premiums and strengthening physical market fundamentals. The North Sea Dated benchmark led the gains, rising by over $7/b, m-o-m, marking the strongest increase among the major spot benchmarks. Spot prices were bolstered by concerns over short-term supply availability amid escalating geopolitical tensions in the Middle East and Eastern Europe. Renewed buying interest, particularly for prompt-loading cargoes, contributed to upward pressure, as refiners sought to secure volumes ahead of the anticipated seasonal increase in demand for transportation fuels during the summer driving season.

In June, the OPEC Reference Basket (ORB) value increased by $6.11, m-o-m, to average $69.73/b, as all ORB component values increased alongside their respective crude benchmarks.

Brent crude ranged an average to $69.15 a barrel and WTI ranged to $67.09 per barrel in the month of June 2025.

Figure 13: Benchmark price of Brent, WTI and Dubai crude



Source- World Bank

- Brent crude price averaged $69.15 per bbl in July 2025, down by 1.4% on a month on month (MoM) and by 17.7% on year on year (YoY) basis, respectively.
- WTI crude price averaged $67.09 per bbl in July 2025, down by 1.9% on a month on month (MoM) and by 17.0% on year on year (YoY) basis, respectively.
- Dubai crude price averaged $68.30 per bbl in July 2025, down by 1.6% on a month on month (MoM) and by 17.9% on year on year (YoY) basis, respectively.

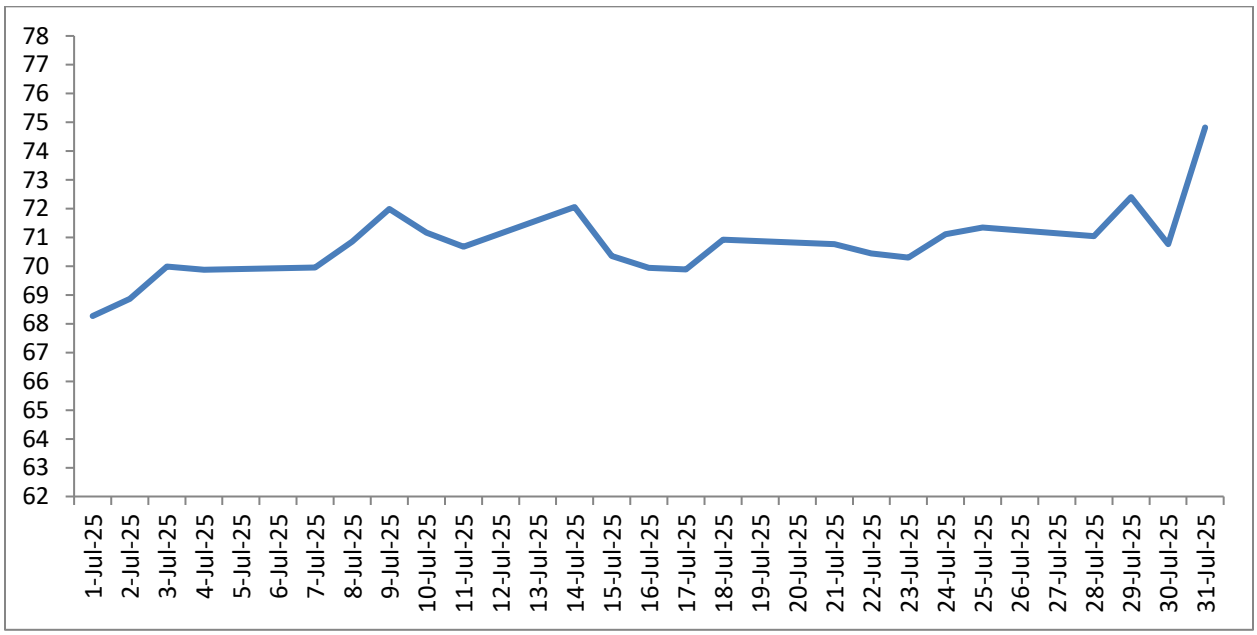
Table 2: Crude oil price in July, 2025

Crude oil	Price ($/bbl)	MoM (%) change	YoY (%) change
Brent	69.15	-1.4%	-17.7%
WTI	67.09	-1.9%	-17.0%
Dubai	68.30	-1.6%	-17.9%

Source- World Bank

Indian Basket Crude oil price

Figure 14: Indian crude oil basket price in $ per bbl



Source- PPAC

- Indian crude basket price averaged $70.95 per barrel in July 2025, up by 1.1% on Month on Month (M-o-M) and down by 15.9% on a year on year (Y-o-Y) basis, respectively.

Oil production situation

- Non-DoC liquids production (i.e. liquids supply from countries not participating in the Declaration of Cooperation) is forecast to grow by about 0.8 mb/d, y-o-y, in 2025.

- The main growth drivers are expected to be the US, Brazil, Canada, and Argentina. The non-DoC liquids production growth forecast for 2026 is also unchanged at 0.7 mb/d, with the US, Brazil, Canada, and Argentina as the main growth drivers. Meanwhile, natural gas liquids (NGLs) and non-conventional liquids from countries participating in the DoC are forecast to grow by 0.1 mb/d, y-o-y, in 2025, averaging 8.6 mb/d, followed by a similar increase of about 0.1 mb/d, y-o-y, in 2026, to average 8.8 mb/d. Crude oil production by countries participating in the DoC increased by 349 tb/d in June, m-o-m, to average about 41.56 mb/d.

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

Non-OPEC liquids production	2024	1Q25	2Q25	3Q25	4Q25	2025
Americas	27.71	28.06	28.17	28.11	28.23	28.14
of which US	*21.76*	*21.82*	*22.22*	*22.12*	*22.10*	*22.07*
Europe	3.53	3.59	3.57	3.55	3.64	3.59
Asia Pacific	0.44	0.40	0.44	0.43	0.42	0.42
Total OECD	**31.68**	**32.05**	**32.17**	**32.08**	**32.29**	**32.15**
China	4.56	4.69	4.63	4.50	4.53	4.59
India	0.81	0.83	0.82	0.82	0.80	0.82
Other Asia	1.61	1.63	1.61	1.56	1.57	1.59
Latin America	7.23	7.42	7.52	7.50	7.65	7.52
Middle East	1.99	2.01	2.02	2.00	2.00	2.01
Africa	2.33	2.32	2.27	2.32	2.31	2.31
Other Eurasia	0.37	0.36	0.35	0.37	0.36	0.36
Other Europe	0.10	0.09	0.10	0.10	0.10	0.10
Total Non-OECD	**19.00**	**19.35**	**19.32**	**19.17**	**19.33**	**19.29**
Total Non-DoC production	50.68	51.40	51.49	51.26	51.62	51.44
Processing gains	2.52	2.57	2.57	2.57	2.57	2.57
Total Non-DoC liquids production	**53.20**	**53.95**	**53.98**	**53.86**	**54.23**	**54.01**

Source- OPEC monthly report, July 2025

- From the above table, it can be inferred, that the total non-DoC liquids production is expected to reach 54.01 mb/d by 2025.
- The non-DoC liquids supply (i.e. liquids supply from countries not participating in the Declaration of Cooperation) is forecast to grow by about 0.8 mb/d, y-o-y in 2025.

Oil demand situation

- The global oil demand growth forecast for 2025 remains at 1.3 mb/d, year-on-year (y-o-y), unchanged from last month's assessment. Some minor adjustments were made, mainly due to actual data for 1Q25 and 2Q25. In the OECD, oil demand is forecast to grow by about 0.1 mb/d in 2025, while non-OECD demand is forecast to grow by about 1.2 mb/d in 2025.
- In 2026, global oil demand is forecast to grow by 1.3 mb/d, y-o-y, unchanged from last month's assessments. The OECD is forecast to grow by about 0.1 mb/d, y-o-y, while the non-OECD is forecast to grow by 1.2 mb/d, y-o-y.

Table 4: World Oil demand, mb/d

	2024	1Q25	2Q25	3Q25	4Q25	2025	Growth	%
Total OECD	**45.67**	**45.16**	**45.60**	**46.32**	**46.13**	**45.80**	**0.14**	**0.28**
~ of which US	*20.42*	*20.42*	*20.48*	*20.67*	*20.72*	*20.57*	*0.15*	*0.73*
Total Non-OECD	**58.17**	**59.17**	**58.70**	**59.21**	**60.23**	**59.33**	**1.16**	**1.99**
~ of which India	*5.55*	*5.70*	*5.75*	*5.50*	*5.91*	*5.72*	*0.16*	*3.06*
~ of which China	16.65	16.86	16.52	17.03	17.04	16.86	0.21	1.26
Total world	**103.84**	**104.33**	**104.30**	**105.53**	**106.36**	**105.13**	**1.29**	**1.24**

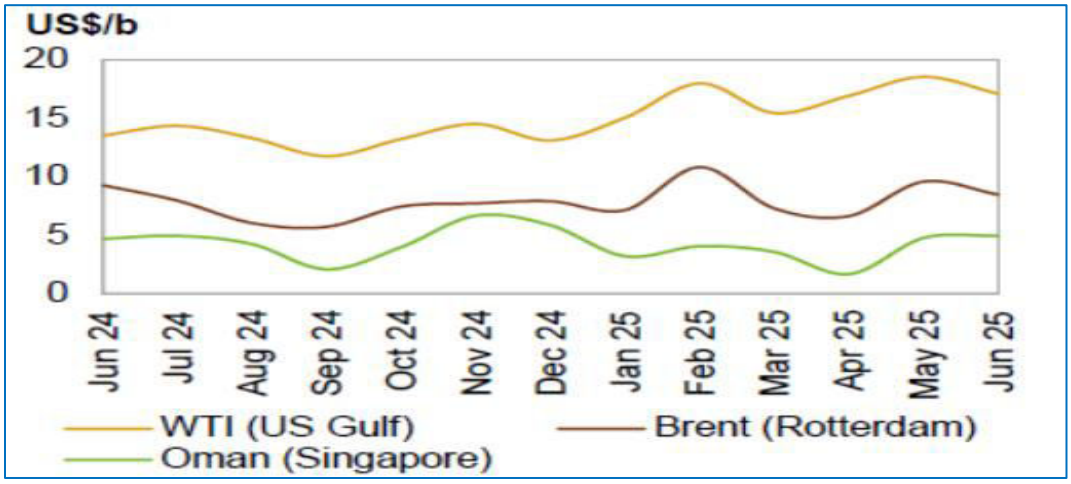
Source- OPEC monthly report, July 2025

Global petroleum product prices

US Gulf Coast (USGC) refining margins against WTI dropped from the 13-month high registered in May. A recovery in product output with refineries returning to normal operations following the heavy turnaround season weighed on product crack spreads, particularly for gasoline and residual fuel. The downturn in US refining economics emerged against a backdrop of stronger gasoil margin performance, as geopolitical factors restricted gasoil inflows. Gasoline markets are expected to have strengthened, particularly around the 4 July holiday, providing support to product markets. In addition, residual fuel balances in the Atlantic basin remain low despite the recent increase. They are expected to strengthen, with upside potential in conversion margins and feedstock blending demand. According to preliminary data, refinery intake in the USGC added 480 tb/d to the previous month's increase, to average 17.25 mb/d in June. USGC margins against WTI averaged $17.05/b in June, down by $1.44, m-o-m, but up $3.56, y-o-y.

Refinery margins in Rotterdam against Brent retracted from the robust performance witnessed in May. Product supply-side pressures stemming from higher product availability led to poor crack spread performance at both the top and bottom sections of the barrel. Similarly to the US, middle distillate crack spreads saw upward pressure due to temporary East-to-West supply disruptions. In addition, the rise in gasoil margins prompted a maximisation of gasoil yields at the cost of reduced jet/kerosene yields. This supported jet/kerosene crack spreads. Going forward, jet kerosene crack spreads are expected to improve as air travel activities in Europe generally strengthen over the summer.

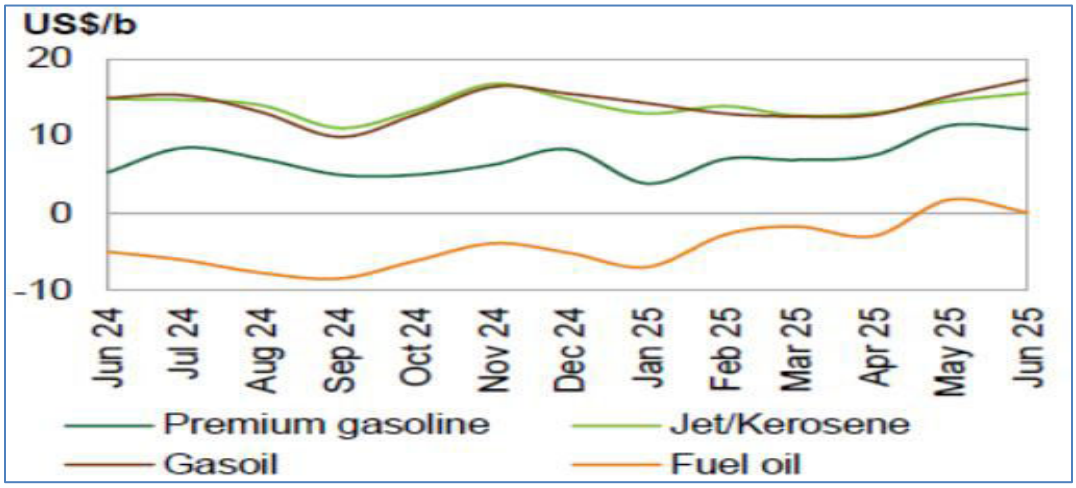
Figure 15: Refining Margins ($/bbl)



Source- Argus and OPEC

The Southeast Asia gasoline 92 crack spread against Dubai declined with rising refinery output within the region, which lengthened gasoline balances and exerted downward pressure on gasoline margins. The margin averaged $10.88/b in June, down 50¢, m-o-m, but up $5.57, y-o-y.

Figure 16: Singapore crack Spreads vs. Dubai ($/bbl)



Source- Argus and OPEC

The Singapore gasoil crack spread kept its upward momentum and reached a multi-month high in June, outperforming all other products to become the main margin contributor. Moreover, the gasoil crack spread differential widened in June as gasoil margins outperformed that of jet-kerosene due to a contraction and gasoil availability, an improvement in export volumes and concerns of gasoil supplied from the East of Suez over geopolitical tension. The onset of the monsoon season in Asia does point to further downside risk in gasoil consumption and crack spreads, as intense rainfalls could slow agricultural activities. The Singapore gasoil crack spread against Dubai averaged $17.33/b, up $2.16, m-o-m, and $2.37, y-o-y.

Table 5: Singapore FOB, refined product prices ($/bbl) in June 2025

Singapore product prices	Price ($/b)	MoM (%) change	YoY (%) change
Naphtha	64.10	4.2%	-11.7%
Premium gasoline (unleaded 95)	81.97	7.0%	-11.8%
Regular gasoline (unleaded 92)	80.07	6.8%	-8.9%
Jet/Kerosene	84.75	8.5%	-13.0%
Gasoil/Diesel (50 ppm)	86.72	9.6%	-11.3%
Fuel oil (180 cst 2.0% S)	85.12	10.0%	-12.0%
Fuel oil (380 cst 3.5% S)	69.28	6.1%	-10.7%

Source- OPEC

Petroleum products consumption in India

Monthly Review:

- Overall consumption of all petroleum products in June 2025 with a volume of 20.31 MMT registered growth of 1.88% on volume of 19.94 MMT in June 2024.
- MS (Petrol) consumption during the month of June 2025 with a volume of 3.52 MMT recorded a growth of 6.85% on volume of 3.30 MMT in June 2024.
- HSD (Diesel) consumption during the month of June 2025 with a volume of 8.11 MMT recorded growth of 1.56% on volume of 7.98 MMT in the month of June 2024.
- LPG consumption during the month of June 2025 with a volume of 2.53 MMT registered a growth of 8.99% over the volume of 2.32 MMT in the month of June 2024.
- ATF consumption during June 2025 with a volume of 0.730 MMT registered a growth of 3.30% over the volume of 0.707 MMT in June 2024.
- Bitumen consumption during June 2025 with a volume of 0.683 MMT registered de-growth of 8.10% over volume of 0.744 MMT in the month of June 2024.
- Kerosene consumption registered growth of 12.53% during the month of June 2025 as compared to June 2024.

Table 6: Petroleum products consumption in India, June 2025 and Year till Date (YTD)

	Monthly			Year till Date	
Consumption of Petroleum Products (P)	**Consumption in '000 MT**	**MoM (%) change**	**YoY (%) change**	**Consumption in '000 MT**	**YoY (%) change**
LPG	2,528	-5.0%	9.0%	7,734	8.90%
Naphtha	1,028	3.6%	1.4%	2,956	-10.99%
MS	3,522	-6.9%	6.8%	10,753	7.07%
ATF	730	-5.9%	3.3%	2,278	3.87%
SKO	41	5.8%	12.5%	105	13.14%
HSD	8,107	-5.7%	1.6%	24,961	2.64%
LDO	86	6.3%	32.8%	253	41.84%
Lubricants & Greases	388	5.8%	-11.0%	1,154	-10.13%
FO & LSHS	509	-0.4%	-11.5%	1,514	-11.92%
Bitumen	683	-15.1%	-8.1%	2,351	-6.66%
Petroleum coke	1,821	-0.3%	18.9%	5,193	2.62%
Others	869	-1.1%	-29.4%	2,584	-22.80%
TOTAL	**20,313**	**-4.7%**	**1.9%**	**61,837**	**1.07%**

Source- PPAC

Year Till Date: 1st April 2025 – 31st March 2026

Natural Gas Market

Natural Gas Price – Monthly Review

- Natural gas spot prices at the US Henry Hub benchmark averaged $3.02 per million British thermal units (MMBtu) in June 2025. Henry Hub's natural gas prices declined for a fourth consecutive month in June, falling by ~3.0%, m-o-m. A combination of mild weather and lower US LNG demand inflated domestic storage, dragging down prices. Reports of high storage levels added more downward pressure on prices. According to data from the US Energy Information Administration, average weekly natural gas storage increased by 23.9%, m-o-m, in June and was reported to be above the five-year average.

- Natural gas spot price at the Title Transfer Facility (TTF) in the Netherlands in Europe traded at an average of $12.37 per MMBtu. The average Title Transfer Facility (TTF) advanced for a second consecutive month in June, increasing by 6.0%, m-o-m. Prices rose on the back of higher cooling demand amid heat waves in the region. Gains were capped by a lower geopolitical risk premium and reports of healthy storage levels across the region. According to data from Gas Infrastructure Europe, EU storage levels rose to 58.9% as of the end of June, up from 48.4% in May, a 10.5 pp increase. Prices were up by 13.8%, y-o-y.

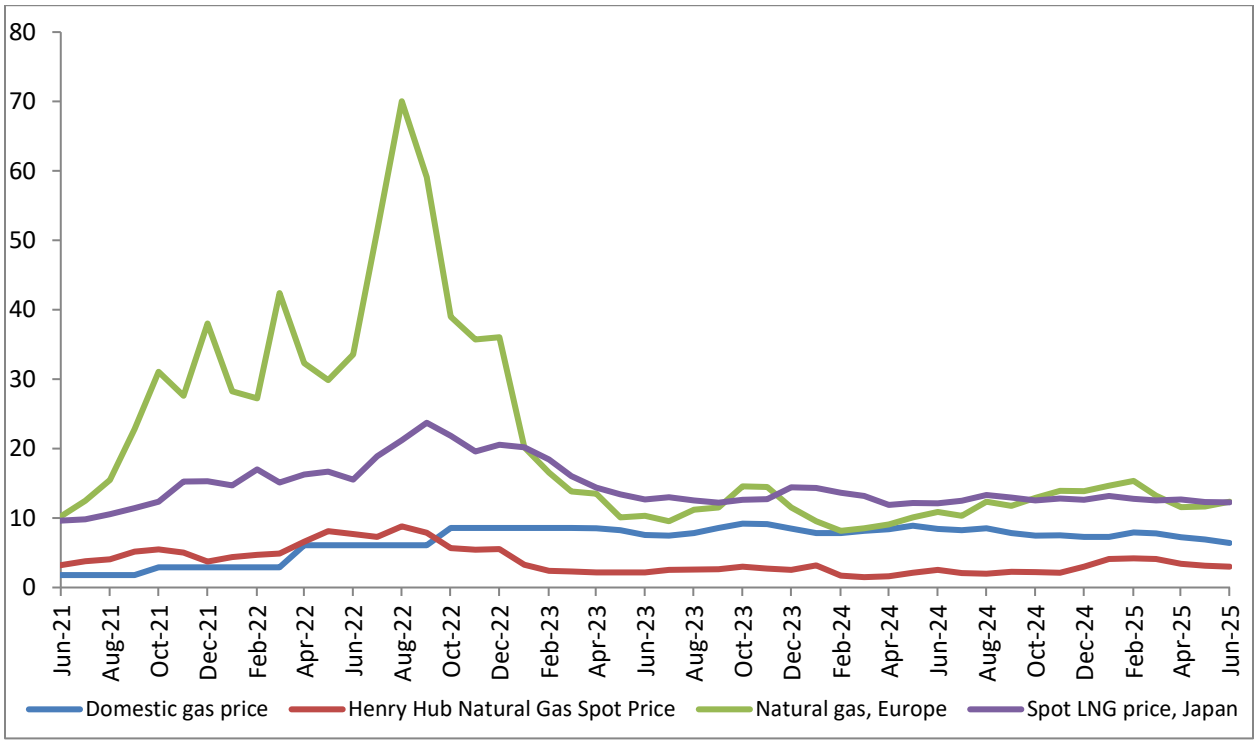
- Japan Liquefied Natural Gas Import Price averaged at $12.26 per MMBtu for June 2025. There is a change of -0.5% from last month and 1.1% from one year ago.

- 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$ 6.50 per MMBTU. The price such arrived at will also have a floor of US$4 per MMBTU. As per notification dated 31st March 2025, the APM gas price has been raised to US$ 6.75 per MMBTU, up from US$ 6.50 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. As per notification dated 30th September 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. Prices were 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. Accordingly, 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. Now, as per notification dated 31st March 2025, Gas price ceiling was further

revised for the period 1st April, 2025 – 30th September, 2025 was notified as US$10.04/MMBTU on Gross Calorific Value (GCV) basis.

Figure 17: Global natural gas price trends ($/mmbtu)



Source- EIA, World Bank

Table 7: Gas price, June 2025

Natural Gas	Price ($/MMBTU)	MoM (%) change	YoY (%) change
India, Domestic gas price (July'25)	6.89	7.49%	-16.38%
India, Gas price ceiling – difficult areas (Apr-Sep'25)	10.04	-1.18%	1.72%
GIXI (Gas index of India) price*	11.5	-3%	-7%
Henry Hub	3.02	-3.2%	19.4%
Natural Gas, Europe	12.37	6.1%	13.8%
Liquefied Natural Gas, Japan	12.26	-0.5%	1.1%

Source- EIA, PPAC, World Bank, IGX

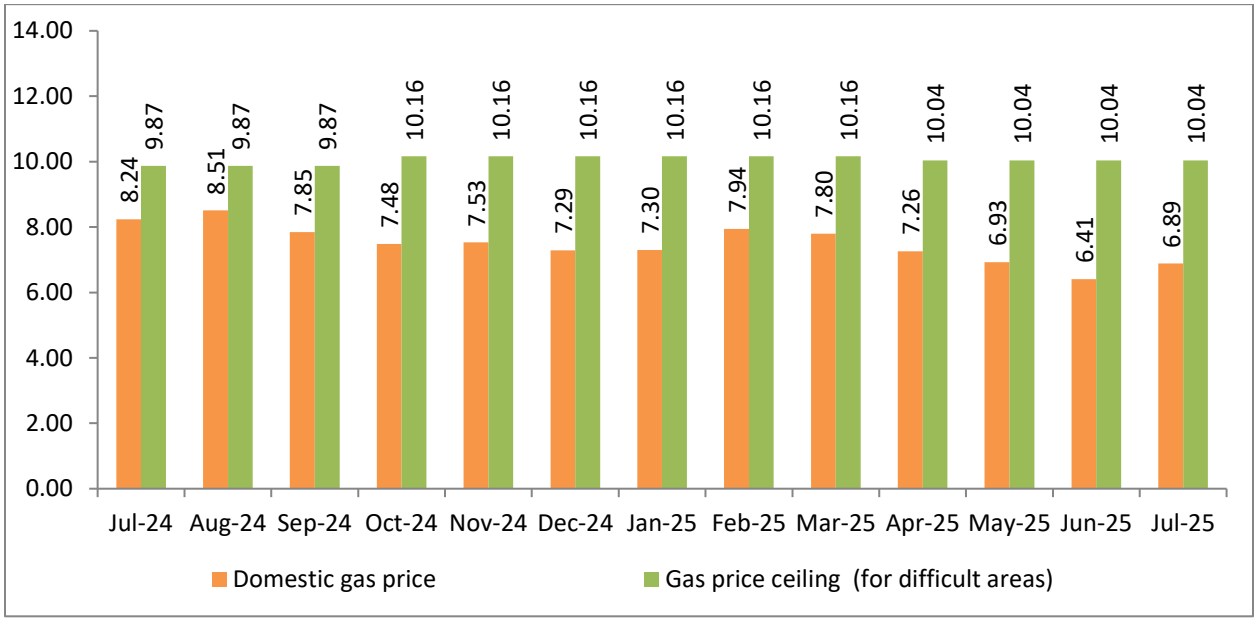
**Prices are weighted average prices (excluding ceiling price gas)*

Table 8: Gas price, GCV Basis

Period	Domestic Gas calculated price in US$/MMBTU	Gas price ceiling – difficult areas price in US$/MMBTU
1-31 May 2023	8.27	12.12
1-30 June 2023	7.58	12.12
1-31 July 2023	7.48	12.12
1-31 August 2023	7.85	12.12
1-30 September 2023	8.60	12.12
1-31 October 2023	9.20	9.96
1-30 November 2023	9.12	9.96
1-31 December 2023	8.47	9.96
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
1-28 February 2025	7.94	10.16
1-31 March 2025	7.80	10.16
1-30 April 2025	7.26	10.04
1-31 May 2025	6.93	10.04
1-30 June 2025	6.41	10.04
1-31 July 2025	6.89	10.04

Source- PPAC

Figure 18: Domestic natural gas price July'24–25 ($/mmbtu)



Source- PPAC

Indian Gas Market

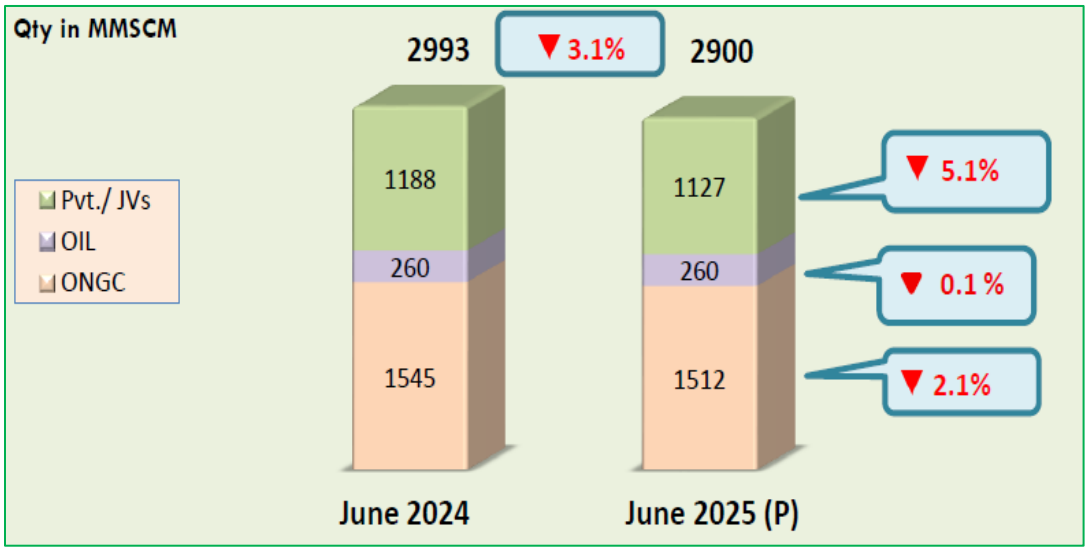
- Gross production of natural gas for the month of June 2025 (P) was 2900 MMSCM which was lower by 3.1% compared with the corresponding month of the previous year.
- Total Import of LNG (Provisional) during the month of June 2025 (P) was 2946 MMSCM (lower by 14.9% over the corresponding month of the previous year).
- Natural Gas available for Sale during June 2025 (P) was 5382 MMSCM (P) (increase of 10.5% over the corresponding month of the previous year).
- Total Gas Consumption Availability during June 2025 (P) was 5805 MMSCM (Provisional). Major consumers were Fertilizer (29%), City Gas Distribution (CGD) (23%), Power (13%), Refinery (7%) and Petrochemicals (7%).

Monthly Report on Natural gas production, imports, and consumption – June 2025

1. Domestic Natural Gas Gross Production:

Domestic natural gas gross production for the month of June 2025 was 2900 MMSCM (decrease of 3.1% over the corresponding month of the previous year).

Figure 19: Domestic natural gas Gross production (Qty in MMSCM)

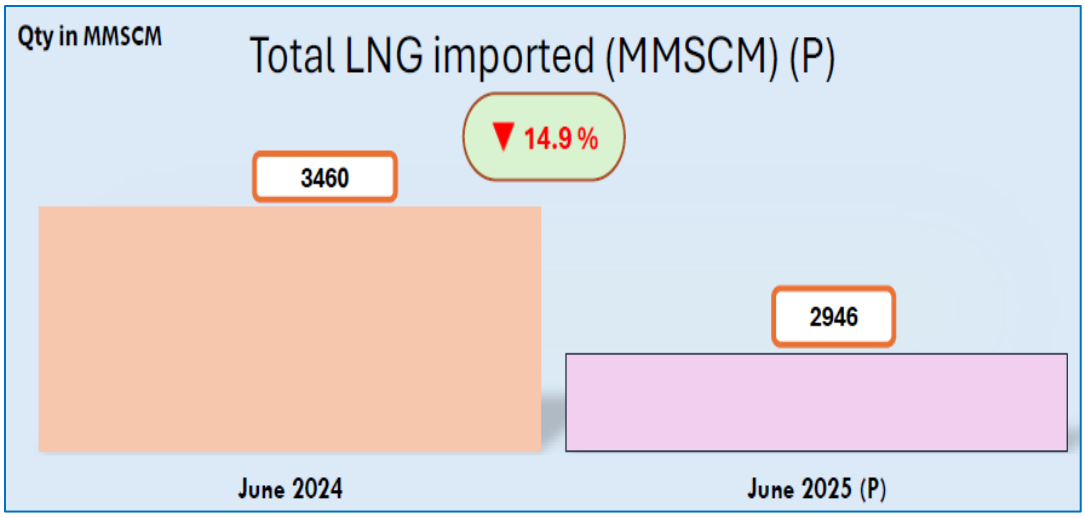


Source- PPAC

2. LNG imports:

Total import of LNG (provisional) during the month of June 2025 was 2946 MMSCM (P) (lower by 14.9% over the corresponding month of the previous year).

Figure 20: LNG imports (Qty in MMSCM)

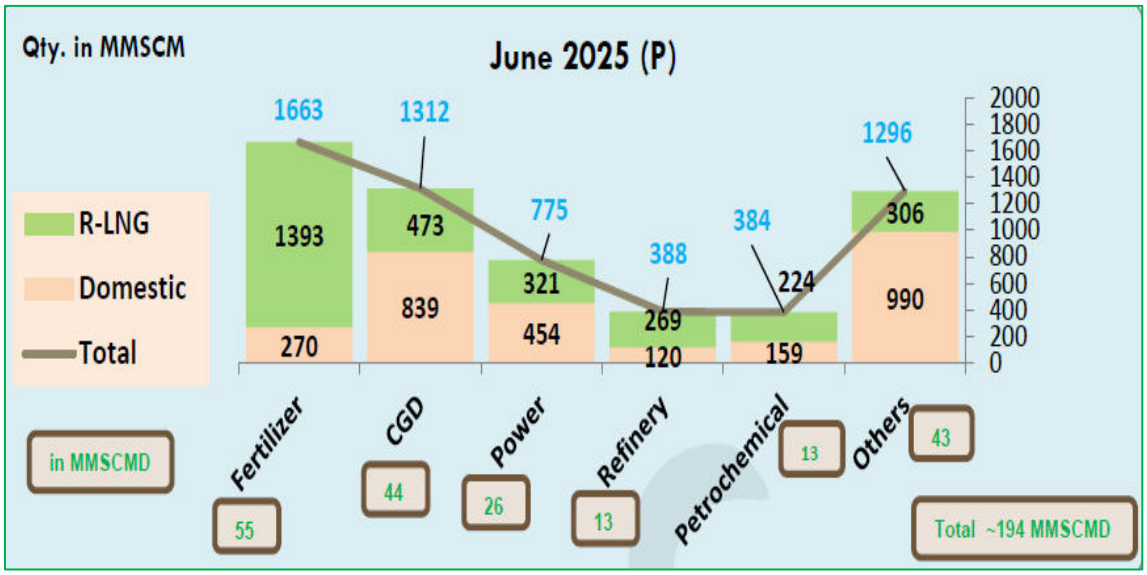


Source- PPAC

3. Sectoral Consumption of Natural Gas:

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

Figure 21: Sectoral Consumption of Natural Gas (Qty in MMSCM) in June 2025



Source- PPAC

Key developments in Oil & Gas sector

Monthly Production Report for June, 2025

1. Production of Crude Oil

Indigenous crude oil and condensate production during June 2025 was 2.3 MMT. OIL registered a production of 0.3 MMT, ONGC registered a production of 1.5 MMT whereas PSC/RSC registered production of 0.6 MMT during June 2025. There is a de-growth of 0.5% in crude oil and condensate production during June 2025 as compared with the corresponding period of the previous year.

2. Production of Natural Gas

Gross production of natural gas for the month of June 2025 (P) was 2900 MMSCM which was lower by 3.1% compared with the corresponding month of the previous year. The cumulative gross production of natural gas of 8788 MMSCM for the current financial year till June 2025 was lower by 3.0% compared with the corresponding period of the previous year.

3. Crude Oil Processed (Crude Throughput)

Total Crude oil processed during June 2025 was 22.1 MMT which is 0.3% lower than June 2024, where PSU/JV refiners processed 14.8 MMT and private refiners processed 7.3 MMT of crude oil. Total indigenous crude oil processed was 2.2 MMT and total Imported crude oil processed was 19.9 by all Indian refineries (PSU+JV+PVT). There was a de-growth of 0.2% in total crude oil processed in April-June current Financial Year as compared to same period of previous Financial Year.

4. Production of Petroleum Products

Production of petroleum products was 23.5 MMT during June 2025 which is 3.3% higher than June 2024. Out of 23.5 MMT, 23.2 MMT was from refinery production & 0.3 MMT was from fractionator. There was a de-growth of 0.1% in production of petroleum products in April-June FY 2025 – 26 as compared to same period of FY 2024 – 25. Out of total POL production, in June 2025, share of major products including HSD is 42.6%, MS 16.9%, Naphtha 6.7%, ATF 5.8%, Pet Coke 5.2%, LPG 4.4%, and rest is shared by Bitumen, FO/LSHS, LDO, Lubes & others.

Key Policy developments/Significant news in Energy sector

India's Decade of Transformation: Minister Hardeep S Puri Highlighted Economic Growth, LPG Connections and Oil & Gas Reforms at ICAI Foundation Day

"In the past eleven years, India has risen from the eleventh to the fourth largest economy in the world. Our GDP has more than doubled—from USD 2.1 trillion in 2014 to USD 4.3 trillion in 2025" said Shri Hardeep Singh Puri, Minister of Petroleum & Natural Gas. "We have recently overtaken Japan and are poised to become the third-largest economy by 2030, overtaking Germany," the Minister remarked, highlighting the nation's resilience during global headwinds and the critical role played by bold policy reforms, extensive social welfare schemes, and sound financial management.

Shri Hardeep Singh Puri was addressing the 77th Foundation Day of the Institute of Chartered Accountants of India (ICAI) at Bharat Mandapam, New Delhi, celebrating a decade of transformation marked by unprecedented economic growth and social progress under the Government of India.

Under the flagship social initiatives, Shri Puri noted, over 27 crore citizens have been lifted out of multidimensional poverty, nearly four crore houses have been sanctioned under the Pradhan Mantri Awas Yojana, and 15.4 crore rural households now enjoy piped water through the Jal Jeevan Mission.

Ayushman Bharat has expanded health coverage to over 70 crore individuals with a ₹5 lakh insurance benefit, reinforcing India's commitment to inclusive development, the Minister added.

The Minister emphasized India's success in attracting global investment, with USD 748 billion of foreign direct investment inflows between 2014 and 2025—an increase of 143% over the previous decade—and the expansion of source countries from 89 to 112. Landmarks in policy reform, including the Insolvency and Bankruptcy Code, Production-Linked Incentive schemes, the Goods and Services Tax, Direct Benefit Transfers, and the elimination of over 25,000 compliances and 1,400 obsolete laws, have strengthened the nation's business landscape.

The transformation in tax administration underscores India's evolving financial culture: annual Income Tax Returns filed grew from 3.6 crore in FY 2013–14 to 8.5 crore in FY 2024–25, with 95% processed within 30 days. Each return, each rupee of tax collected, translates into tangible benefits—LPG connections for mothers, medicines for the poor, electricity for rural homes, pensions for the elderly, and employment opportunities for youth.

India's banking sector has witnessed a historic turnaround, with gross non-performing assets of Scheduled Commercial Banks dropping from 14.58% in FY 2017–18 to below 3% in FY 2024–25. The digital economy's backbone, the Unified Payments Interface (UPI), now handles nearly 50% of real-time digital transactions globally, serving over 500 million active users. Fintech adoption stands at 87%, compared to the 67% global average, facilitated by India's universal digital identity and access through Aadhaar and mobile services.

Shri Puri also spotlighted the Ministry's flagship Pradhan Mantri Ujjwala Yojana, which has delivered over 16.5 crore LPG connections since 2014, empowering women, reducing indoor air pollution, and promoting

public health. The growing market capitalization of Oil & Gas PSUs—nearly doubling to ₹8.79 lakh crore since 2014—reflects the sector's robust performance and the trust of investors.

Looking ahead, the Minister called on chartered accountants to embrace artificial intelligence and advanced analytics, automating routine tasks to focus on strategic advisory roles and harnessing data-driven insights for more effective decision-making. "Embracing AI is no longer optional—it is essential for staying competitive and innovative in today's evolving financial world," he noted.

In closing, Shri Puri urged the ICAI community to uphold transparency, efficiency, and accountability as India marches towards a developed nation by 2047. "On this special day, remember that your profession has the power to protect and sustain our economy. Your dedication is vital for building Viksit Bharat."

Pathbreaking Reforms in Petroleum & Natural Gas Sector: Draft PNG Rules aims modernisation of India's upstream oil and gas framework

"As part of our focus to accelerate oil & gas exploration under the leadership of Prime Minister Shri Narendra Modi Ji, we are bringing in a series of pathbreaking policy reforms to promote exploration and production. These reforms, including the Draft Petroleum & Natural Gas Rules, 2025, will significantly enhance the ease of doing business for our E&P operators," said Shri Hardeep Singh Puri, Minister of Petroleum and Natural Gas. The Minister urged all stakeholders—industry leaders, experts, and citizens—to share their feedback on the Draft Petroleum & Natural Gas Rules, the revised Model Revenue Sharing Contract (MRSC) and the updated Petroleum Lease format by 17th July 2025 at png-rules@dghindia.gov.in.

The Draft Petroleum & Natural Gas Rules, 2025, aim to modernise India's upstream oil and gas framework with several major reforms. Key among them is the introduction of an investor-friendly stabilisation clause, designed to protect lessees from adverse impacts of future legal or fiscal changes, such as increases in taxes, royalties or other levies, by allowing compensation or deductions. To reduce infrastructure duplication and encourage smaller players, the draft mandates that lessees declare underutilised capacity in pipelines and other facilities, and provide third-party access on fair terms, subject to government oversight.

For the first time, the draft rules permit operators to undertake integrated renewable and low-carbon projects—including solar, wind, hydrogen, and geothermal energy—within oilfield blocks, provided they meet safety standards and do not interfere with petroleum production. Strengthening environmental stewardship, the draft introduces detailed requirements for monitoring and reporting greenhouse gas emissions, establishes a regulatory framework for carbon capture and storage (CCS), and mandates site restoration funds with post-closure monitoring for a minimum of five years.

In terms of data governance, all operational data and physical samples generated during exploration and production will belong to the Government of India. Lessees can use this data internally, but any export or external use requires government approval, with confidentiality protections lasting up to seven years. The draft rules also propose the creation of a dedicated Adjudicating Authority, not below the rank of Joint Secretary, empowered to enforce compliance, resolve disputes, and impose penalties. Additional

provisions include clearer processes for lease mergers, extensions, and unitisation of reservoirs spanning multiple blocks, aimed at improving operational flexibility.

These reforms replace the outdated Petroleum Concession Rules, 1949 and Petroleum and Natural Gas Rules, 1959, and follow the recent amendment of the Oilfields (Regulation and Development) Act, 1948. They are also timed to precede OALP Round X, India's largest-ever exploration and production bidding round.

Alongside the draft rules, the Ministry has released a revised Model Revenue Sharing Contract that aligns with the new framework, particularly regarding unitisation, merged lease areas, and infrastructure sharing obligations. The revised Petroleum Lease format clarifies processes on lease relinquishment, reservoir extension and cancellation triggers, thereby providing greater operational certainty.

As Shri Hardeep Singh Puri emphasised, "It has never been easier, faster and more profitable to explore oil & gas in India. We look forward to constructive engagement to shape a modern, investor-friendly regime." Stakeholders are encouraged to submit their feedback by 17th July 2025 to png-rules@dghindia.gov.in. The government's efforts aim to create a transparent, efficient, and sustainable exploration and production environment, aligned with India's broader energy transition goals.

India Showcased Ambitious Exploration Vision & Energy Security Strategy at 9th OPEC International Seminar

Shri Hardeep Singh Puri, Minister of Petroleum and Natural Gas, addressed a distinguished audience of leaders, industry experts and professionals on 'Oil Markets: Energy Security, Growth & Prosperity' at the 9th OPEC International Seminar in Vienna, Austria.

The Minister outlined India's renewed momentum to explore and drill for hydrocarbons by opening 2.5 lakh sq km under OALP Round-10. "With this major step and being close to discovering a Guyana-scale oilfield in the Andaman Sea, India is undertaking one of the most ambitious efforts to expand hydrocarbon exploration under the dynamic leadership of Prime Minister Shri Narendra Modi Ji. Our aim is to increase exploration acreage to 0.5 million sq km by 2025 and 1.0 million sq km by 2030," he noted.

This vision is supported by key policy reforms, including shifting from a Production Sharing Contract regime to a Revenue Sharing Model under HELP, and amendments to the ORD Act 1948 to improve lease management, safety and dispute resolution, while integrating renewable energy into hydrocarbon projects. Additionally, reducing 'No-Go' areas by 99% has freed over 1 million sq km for exploration, strengthened by national data acquisition initiatives such as the National Seismic Program, Andaman Offshore Project, Mission Anveshan and the Extended Continental Shelf Survey.

As the world's third-largest energy consumer with demand of around 5.4 million barrels per day, Shri Puri described India as both a structural growth engine and a long-term stabilizer of global oil markets. "India will contribute nearly 25% of the incremental global energy demand growth in the coming years."

Speaking on India's comprehensive approach to navigating the volatile global energy landscape, he emphasized diversification of crude import sources from 27 to 40 countries, enhancing domestic

production, developing alternative fuels, transitioning towards a gas-based economy, and aiming to become a global refining hub by increasing refining capacity to 310 MMTPA by 2028 and expanding petrochemical capacity to become a US\$ 300 billion industry by 2030.

Despite global geopolitical challenges, Shri Puri noted that India successfully balanced energy availability, affordability and sustainability — becoming the only major economy to reduce fuel prices even as global oil prices surged. "We aim to achieve energy independence by 2047 and Net Zero emissions by 2070," he affirmed.

The Minister also highlighted the importance of biofuels, mentioning the Global Biofuels Alliance which now has over 29 countries and 14 international organisations working together to scale up sustainable biofuels. Domestically, India is accelerating the use of ethanol, compressed biogas (CBG), biodiesel and sustainable aviation fuel (SAF) as part of its decarbonization roadmap. "India firmly believes the global energy transition must be just, inclusive and equitable. For 1.4 billion Indians, and billions more across the Global South, it must also ensure development with dignity," he said.

Ujjwala Moment at 9th OPEC International Seminar

Shri Puri also shared India's inclusive approach to meeting energy needs. Over 103 million LPG connections have been provided to women from economically weaker households under the Pradhan Mantri Ujjwala Yojana — the world's largest clean cooking programme — which has greatly improved energy access and public health.

As a result of these efforts, LPG coverage in India has risen from 55% in 2014 to near-universal access today. Despite a sharp 58% increase in international LPG prices, PMUY beneficiaries pay only \$6–7 for a 14.2 kg cylinder — about 39% lower than the \$10–11 paid in July 2023 — thanks to significant government support and oil marketing companies absorbing \$4.7 billion in losses last year to keep prices affordable.

India Charts Bold Upstream Energy Strategy at Urja Varta 2025

Minister of Petroleum and Natural Gas Minister Puri laid out India's comprehensive strategy for strengthening upstream exploration and production (E&P), energy resilience, and international cooperation while speaking in a fireside chat session organized on sidelines of Urja Varta 2025.

Addressing questions on India's energy security posture amid global geopolitical disruptions such as the Russia-Ukraine conflict and tensions in the Middle East, Shri Puri stated that India had proactively expanded its crude import sources from 27 to 40 countries. This diversification, he said, is a key measure to ensure uninterrupted energy access during periods of global turbulence. On the topic of Russian oil imports, he clarified that Russia remains one of the world's top oil producers with an output exceeding 9 million barrels per day. He warned that a sudden removal of this supply from the global market—out of a total of approximately 97 million barrels per day—would have created chaos, pushing prices to between $130–$200 per barrel. Shri Puri categorically stated that India has never purchased any sanctioned cargo and that Russian oil was not under global sanctions but only a price cap, carefully structured to reflect ground realities of the international energy supply chain. He credited PM Modi's leadership for India's

proactive and balanced approach, which has made the country a net stabilising force in global energy markets.

Shri Puri highlighted a series of transformative policy reforms introduced over the last decade to make India's upstream sector globally competitive. Among the major changes, he mentioned the reimagined exploration framework under the Oilfields Regulation and Development Act (ORDA), characterised by a co-designed approach, a single lease and approval mechanism, transparent operational rules, and the introduction of a "no-sit" clause to eliminate inactive acreage. These measures, integrated with the revised Petroleum and Natural Gas Rules (PNG Rules 2025) and the Model Revenue Sharing Contracts (MRSC), aim to simplify business operations and attract private investment. The Minister acknowledged that the Hydrocarbon Exploration and Licensing Policy (HELP) and amendments to the ORD Act have opened nearly 1 million square kilometres of previously inaccessible "No-Go" areas to exploration, thereby unlocking significant resource potential.

Reaffirming India's ambitions in offshore energy, Shri Puri spoke of the significant hydrocarbon potential of the Andaman Basin, drawing comparisons with the prolific Guyana basin. He expressed strong optimism, stating, "I am positive we will find several fields of the size of Guyana, particularly in the Andaman Sea." This confidence is rooted in India's expanding access to high-quality geoscientific data, robust regulatory support, and policy incentives aimed at de-risking exploration investments. He underscored India's goal of becoming the next credible frontier for deepwater oil and gas exploration by leveraging scale, demand continuity, and global partnerships.

The Minister elaborated on India's focus on enhancing subsurface intelligence through the expansion and modernisation of the country's seismic database. He highlighted the government's thrust on conducting extensive seismic surveys, adopting advanced technologies, and democratising data access through the National Data Repository. These efforts, he said, are central to ensuring greater investor confidence and fostering transparent, data-driven decision-making in exploration.

Responding to concerns around long-term supply security in light of ongoing sanctions on Iran and Venezuela, Shri Puri questioned the permanence of such restrictions and drew attention to the emergence of new sources of oil from countries like Brazil, Guyana, and Canada. He asserted that the global oil market is gradually becoming more diversified and resilient, and reassured stakeholders that India is well-prepared to manage any volatility or disruptions that may arise.

On the domestic front, Shri Puri underlined the crucial role played by State governments in facilitating energy development projects. He called for mutual accountability and stronger Centre-State cooperation, adding that States that enable faster energy infrastructure should be celebrated as models of good governance.

The second edition of Urja Varta 2025, India's premier upstream oil and gas conclave, was held at Bharat Mandapam, New Delhi. Organised by the DGH (DGH) under the patronage of the MoPNG (MoPNG), the event brought together over 700 participants including Union and State Ministers, senior officials, global industry leaders, domain experts, and media professionals. With the theme "Collaborate, Innovate,

Synergize," the conclave served as a dynamic platform for dialogue, technical exchange, and strategic visioning around India's energy roadmap.

A series of major announcements and launches marked the event. Shri Puri unveiled the revised PNG Rules and MRSC, aimed at enhancing policy clarity, boosting investor confidence, and furthering Ease of Doing Business. He also announced the commencement of Hydrocarbon Resource Assessment Studies using globally benchmarked methodologies to better estimate India's resource base. Key MoUs were exchanged during the conclave, including one between bp and ONGC for stratigraphic well studies to deepen understanding of India's subsurface geology, and another between DGH and NIC to establish a cloud-based National Data Repository for transparent and centralised upstream data management. The Minister also released the India Hydrocarbon Outlook 2024–25, the 32nd edition of DGH's flagship report, which provides data-driven insights for shaping future E\&P strategies and investment decisions.

As part of the conclave's innovation showcase, Shri Puri visited the Exhibition Gallery and Innovation Center, which featured over 50 technical posters and more than 15 innovative solutions presented by E\&P operators, start-ups, and academic institutions. He interacted with several participants and acknowledged the importance of continuous technological innovation in shaping the future of India's upstream industry.

Inter-Ministerial Round Table with Partner States Held on Sidelines of Urja Varta 2025

Reflecting the true spirit of cooperative federalism under the visionary leadership of PM Modi, an Inter-Ministerial Round Table was organised on the sidelines of Urja Varta 2025 to explore energy sector opportunities across states. Ministers and senior officials from 22 States and Union Territories participated in the deliberations.

Speaking at the Round Table, Union Minister of Petroleum and Natural Gas Minister Puri underlined the central role of states in driving India's energy transformation. "Our states are the core of India's energy transformation and transition," he said. Highlighting the rising energy demand and the vast scope for investment, the Minister noted, "In the last five years, India has contributed 16% to the global increase in oil demand and is expected to account for nearly 25% of the incremental global energy demand through 2045. Our demand is not only large—it is structured, predictable, and responsible."

Shri Puri further informed that India has invested over ₹4 lakh crore in energy infrastructure over the past decade. "These investments have not only strengthened national capacity but also created tangible value at the state level," he said. With an envisaged investment of ₹30–35 lakh crore over the next 10 years, the coming decade will be pivotal for energy infrastructure development across the country.

Between 2025 and 2035, India is expected to witness significant investments across the entire hydrocarbons value chain. "These investments will require leadership and proactive participation from states. While the Centre remains committed to supporting these efforts through funding, policy, and coordination, we must collectively address recurring challenges," Shri Puri emphasised.

Urja Varta 2025 reaffirmed India's steadfast commitment to building a robust, transparent, and investor-friendly upstream energy ecosystem. Through sustained reforms, international collaboration, advanced

technology, and visionary policymaking, India continues to position itself as a global energy leader under the leadership of PM Modi.

Petroleum Dealers Must Become Active Partners in India's Energy Transition: Shri Hardeep Singh Puri

Union Minister for Petroleum and Natural Gas, Shri Hardeep Singh Puri, urged petroleum dealers across the country to transform into active partners in India's energy transition, while addressing the Plenary Session of the All India Petroleum Dealers Association (AIPDA) Conclave. AIPDA is the largest national body representing petroleum retail outlet dealers. The Minister emphasized the importance of embracing green initiatives, enhancing digital readiness, and evolving business models in line with India's dynamic energy landscape.

Recognizing the pivotal role played by petroleum dealers in the energy ecosystem, Shri Puri acknowledged concerns related to dealer commissions, operational costs, and other issues. He assured the gathering that the Ministry believes in "consultation, not confrontation," and cited the revision of dealer margins in October 2024 and the implementation of intra-state freight rationalisation as concrete steps taken to address disparities. He further said that structured platforms for feedback and grievance redressal would continue to be strengthened.

Reflecting on the challenges of the past five years—including the COVID-19 pandemic and global geopolitical conflicts—Shri Puri noted that India not only navigated these disruptions effectively but also emerged as a global leader in energy growth. Despite global volatility, India accounted for 16% of global growth in crude oil consumption and is projected to contribute 25% of such growth over the next three decades. The Government, he said, has ensured affordable and uninterrupted energy supply to citizens, even during times of global uncertainty.

Highlighting India's achievements in the biofuels sector, the Minister noted that nearly 20% ethanol blending has been achieved in 2025, a significant rise from 1.53% in 2014. This accomplishment has resulted in ₹1.4 lakh crore in foreign exchange savings, substitution of 238 lakh metric tonnes of crude oil, a reduction of 717 lakh metric tonnes in CO_2 emissions, and direct payments of ₹1.21 lakh crore to farmers. He also cited the expansion of CNG stations from 738 in 2014 to over 8,100 today and the provision of 10.33 crore LPG connections under PMUY, empowering women and improving health outcomes. "These numbers are not just achievements; they are milestones on our journey towards a cleaner, self-reliant energy future," he said.

Appreciating the dedication of petroleum dealers who serve over 67 million customers daily, Shri Puri stated, "You are the physical interface between the Indian citizen and the national energy system." He emphasized that as India reduces crude oil imports, diversifies energy sources, and boosts renewables, the role of dealers becomes crucial in ensuring accessibility, availability, and affordability—the three pillars of energy justice. He lauded the dealer network's reach from Ladakh to Lakshadweep, ensuring fuel availability even during emergencies, natural disasters, and elections.

Shri Puri called for a transformation of retail outlets into centres of customer excellence, where digital payments, automated billing, clean toilets, strict safety protocols, and effective grievance redressal

become the norm. He urged adoption of technologies that enable zero pilferage, zero tampering, and complete transparency. He also emphasized the growing relevance of non-fuel services at outlets, such as convenience stores, EV charging, utility bill payments, and fintech services, which can enhance customer experience and provide new revenue streams.

The Minister laid out a roadmap for dealers to reposition themselves as energy entrepreneurs. He advised the community to upskill their workforce through structured training in customer service, digital tools, and safety standards. He encouraged collaboration with Oil Marketing Companies (OMCs) to implement EV charging points, rooftop solar installations, and energy-efficient infrastructure. Shri Puri also stressed the importance of adopting digital dispensing systems, automated monitoring, and transparent auditing to strengthen consumer trust. He highlighted the strategic importance of the dealer network in supporting national objectives like disaster response, public health drives, and voter awareness campaigns.

Shri Puri particularly urged the petroleum dealer fraternity to leverage the prime locations of their retail outlets to generate Non-Fuel Revenue (NFR) by offering services such as communication hubs, battery swapping stations, water kiosks, and digital financial services. He reiterated that as India navigates the complexities of a rapidly changing energy landscape and works towards becoming a Viksit Bharat, petroleum dealers will continue to play a central and evolving role.

Concluding his address, the Minister called upon dealers to look beyond retail margins and redefine their role in line with the vision of energy self-reliance. “Let this conclave be not just a gathering of peers, but the starting point of a new journey—a journey that takes you beyond retail, beyond margins, and into the very heart of India's energy transformation,” he said. Shri Puri appreciated the enthusiastic participation of AIPDA members from across the country and assured the government’s continued support for the collective benefit of citizens, dealers, and Oil Marketing Companies.

India witnesses renewed spurt in oil and gas exploration: Petroleum Minister Hardeep S Puri

India is witnessing a renewed surge in oil and gas exploration, particularly in offshore regions, underscoring the country’s vast untapped hydrocarbon potential. In a written reply to a starred question in the Rajya Sabha, Union Minister for Petroleum and Natural Gas, Hardeep Singh Puri, stated that the opening of nearly one million square kilometres of erstwhile 'No-Go' offshore areas in 2022 has been a landmark development. This move has unlocked significant exploration frontiers, especially in deepwater and frontier regions such as the Andaman-Nicobar (AN) offshore basin, and has been instrumental in triggering the current momentum in offshore activity.

Since 2015, Exploration and Production (E&P) companies operating in India have reported 172 hydrocarbon discoveries, including 62 in offshore areas. The Minister highlighted the geological significance of the AN basin, which lies at the junction of the Andaman and Nicobar Basins within the Bengal-Arakan sedimentary system. The tectonic setting, located at the boundary of the Indian and Burmese plates, has led to the formation of numerous stratigraphic traps that are conducive to hydrocarbon accumulation. This geological promise is further amplified by the basin's proximity to proven petroleum systems in Myanmar and North Sumatra. The region has attracted renewed global interest

following significant gas discoveries in South Andaman offshore Indonesia, underlining the geological continuity across the region.

While the favourable geology sets a strong foundation, Shri Puri emphasized that the real breakthrough has come from the government's strategic policy interventions and a new exploration approach. The revised strategy has enabled aggressive acquisition of seismic data, initiation of both stratigraphic and exploratory drilling, and increased engagement with international exploration partners, several of whom have shown keen interest in the newly accessible frontier blocks.

National Oil Companies have planned to drill four offshore stratigraphic wells, including one in the AN basin. These scientific wells are designed to test geological models, validate the existence of petroleum systems, and help de-risk future commercial exploration. Although commercial accumulations have not yet been confirmed, these efforts mark a major step forward in systematic and knowledge-driven hydrocarbon exploration.

In a significant development, ONGC and Oil India Ltd (OIL) have launched an ambitious exploration campaign in the Andaman ultra-deepwater region. For the first time, drilling operations are targeting depths of up to 5000 metres. One such wildcat well, ANDW-7, drilled in a carbonate play in the East Andaman Back Arc region, has yielded encouraging geological insights. These include traces of light crude and condensate in cutting samples, heavy hydrocarbons like C-5 neo-pentane in trip gases, and the presence of reservoir-quality facies. These findings establish, for the first time, the existence of an active thermogenic petroleum system in the region, comparable to those in Myanmar and North Sumatra. While commercial reserves remain to be established, this campaign has validated the presence of a working petroleum system and laid the foundation for focused exploration in the area.

Providing an overview of the exploration outcomes so far, the Minister informed that ONGC has made hydrocarbon discoveries in 20 blocks, with an estimated reserve of 75 million metric tonnes of oil equivalent (MMTOE). OIL, on its part, has made seven oil and gas discoveries over the past four years, with reserves estimated at 9.8 million barrels of oil and 2,706.3 million standard cubic meters of gas.

Referring to the Hydrocarbon Resource Assessment Study (HRAS) of 2017, which estimated the AN basin's hydrocarbon potential at 371 MMTOE, the Minister stated that a 2D broadband seismic survey covering approximately 80,000 Line Kilometres (LKM) of India's Exclusive Economic Zone, including the AN offshore region, was completed in 2024. Additionally, OIL acquired 22,555 LKM of 2D seismic data during the Deep Andaman Offshore Survey conducted in 2021–22. Several promising geological features have emerged from this data, which are now being validated through ongoing drilling campaigns by ONGC and OIL.

Shri Puri underscored that the current momentum in offshore and frontier exploration is a result of a series of progressive policy reforms introduced since 2014. These include the transition from the Production Sharing Contract (PSC) regime to the Revenue Sharing Contract (RSC) model in 2015, the launch of the Hydrocarbon Exploration and Licensing Policy (HELP) and the Open Acreage Licensing Programme (OALP) in 2016, the establishment of the National Data Repository in 2017–18, and the deregulation of crude oil marketing in 2022. Together, these measures have fostered a liberal, investor-

friendly exploration environment backed by targeted incentives for frontier exploration, stratigraphic drilling, and data acquisition.

These reforms have enabled the kind of bold, risk-informed and scientific exploration now underway in the Andaman-Nicobar basin and other deepwater regions, offering the potential to significantly boost India's energy security and self-reliance.

Union Minister for Power and Housing & Urban Affairs, Shri Manohar Lal launched ADEETIE Scheme to Accelerate Industrial Energy Efficiency in India

The Assistance in Deploying Energy Efficient Technologies in Industries & Establishments (ADEETIE) scheme is officially launched by Hon'ble Union Minister of Power and Housing & Urban Affairs, Shri Manohar Lal at a national roll-out event held at Arya (P.G.) College, Panipat, Haryana. The launch of this landmark initiative marks a decisive step toward India's transition to a low-carbon economy by enabling Micro, Small, and Medium Enterprises (MSMEs) to upgrade to energy-efficient technologies through comprehensive financial and technical support.

The ADEETIE scheme, with a budgetary outlay of ₹1000 crore, is an initiative by the Ministry of Power, Government of India, is being implemented by the Bureau of Energy Efficiency (BEE). The Scheme is structured to provide end -to-end hand holding through subvention on loans, Investment Grade Energy Audits (IGEA), Detailed Project Reports (DPRs), and post-implementation Monitoring and Verification (M&V). The scheme envisages to provide interest subvention of 5% for Micro and Small Enterprises, and 3% for Medium Enterprises on loans, ensuring accessibility and affordability for MSMEs seeking financial aid for energy efficiency (EE) projects.

Hon'ble Minister of Power and Housing & Urban Affairs, Shri Manohar Lal graced the event and inaugurated the scheme. On this occasion, he officially launched the ADEETIE portal **(adeetie.beeindia.gov.in)** and unveiled the Scheme Brochure. The portal will facilitate the financing process for the beneficiaries. In his keynote address, he emphasized the importance of power in driving economic growth, aligned with the vision of Viksit Bharat. He highlighted the role of renewables, energy efficiency, and environmental conservation, especially in the MSME sector. The Minister noted various technologies featured in the ADEETIE scheme can help MSMEs reduce energy consumption by 30–50%, improve the power-to-product ratio, and support the creation of green energy corridors.

"ADEETIE is a transformative movement to empower Indian industries, especially MSMEs, to become globally competitive through sustainability. With the right mix of incentives and support mechanisms, we are catalyzing investments in cleaner, more efficient technologies."

The Hon'ble Minister also underscored the significance of industrial energy efficiency in reducing India's carbon footprint and achieving its international climate commitments.

Shri Pankaj Agarwal, Secretary, Ministry of Power, highlighted the pivotal role of BEE in scaling up energy efficiency projects and mainstreaming them across India's industrial ecosystem. He highlighted the scheme's focus on widespread adoption across 14 energy-intensive sectors and 60 identified

clusters in the initial phase. He also stressed the need for a supportive policy and financing framework to empower MSMEs as key drivers of climate action.

In his special address, Shri A.K. Singh, Additional Chief Secretary (Energy), Government of Haryana, emphasized the need to reduce dependence on fossil fuels, particularly coal-based power generation. He urged MSMEs to actively participate in the ADEETIE scheme to address their energy efficiency needs and transition toward cleaner, more sustainable energy solutions.

Shri Akash Tripathi, Additional Secretary & Director General, BEE, highlighted that the scheme will offer both technical and financial handholding to MSMEs, backed by a budgetary outlay of ₹1000 crore, including ₹875 crore for interest subvention, ₹50 crore for energy audits, and ₹75 crore for implementation support. He stated that the scheme is expected to mobilize ₹9000 crore in investments, including ₹6750 crore of prospective lending from MSMEs. Emphasizing the importance of competitiveness, he noted that as India focuses on export-oriented industries, energy efficiency must be central to that growth - both to enhance productivity and reduce emissions.

The event was also attended by Shri Krishna Lal Panwar, Cabinet Minister of Panchayats & Development, and Mines & Geology, Government of Haryana, and Smt. Priyanka Soni, Director, Department of New & Renewable Energy, Government of Haryana. The event also witnessed the distribution of appreciation certificates to MSME units for their early participation and DPR approval, and signing of MoUs with major industrial associations. In addition, two MSME representatives shared testimonials about their experience with energy audits and technology adoption, showcasing early success stories under the pilot phase.

The launch concluded with a Vote of Thanks by BEE. The ADEETIE roll-out stands as a milestone initiative under India's energy efficiency mission, empowering MSMEs to adopt cleaner technologies, enhance productivity, and contribute to a greener industrial ecosystem.

Cabinet approved enhanced delegation of power to NTPC Ltd for investing in NTPC Renewable Energy Ltd. and its other JVs/ subsidiaries to set up Renewable Energy Capacity

The Cabinet Committee on Economic Affairs chaired by the Prime Minister Shri Narendra Modi, has granted enhanced delegation of power to NTPC Limited from the extant guidelines of delegation of power to Maharatna CPSEs for making investment in NTPC Green Energy Limited (NGEL), a Subsidiary Company and subsequently, NGEL investing in NTPC Renewable Energy Limited (NREL) and its other JVs/ subsidiaries beyond earlier approved prescribed limit of Rs.7,500 crore upto an amount of Rs.20,000 crore for Renewable Energy (RE) capacity addition to achieve 60 GW Renewable Energy Capacity by 2032.

The enhanced delegation given to NTPC and NGEL will facilitate accelerated development of renewable projects in the country. This move will also play a vital role in strengthening power infrastructure and ensuring investment in providing reliable, round-the-clock electricity access across the nation.

Renewable Energy projects will also generate direct and indirect employment opportunities to the local people at construction stage as well as during O&M Stage. This shall provide boost to local suppliers, local enterprises/ MSMEs and shall encourage the entrepreneurship opportunities within the country besides promoting employment and socio-economic development of the country.

India has achieved a landmark in its energy transition journey by reaching 50% of its installed electricity capacity from non-fossil fuel sources - five years ahead of the target set under its Nationally Determined Contributions to the Paris Agreement. The country is aiming to reach 500 GW of non-fossil energy capacity by 2030. As a Central Public Sector Enterprise and the leading Power Utility of the Country, NTPC, aims to add 60 GW of Renewable Energy Capacity by 2032 which will help the Country in achieving the aforesaid target and move towards larger aim of having 'Net Zero' emissions by 2070.

NGEL is the flag-bearer listed subsidiary of NTPC Group for renewable energy capacity addition through organic and inorganic growth. The organic growth is proposed to be done primarily through NGEL's wholly owned subsidiary NREL. NGEL has also formed curated partnerships with various State Governments and CPSUs for RE project development. NGEL has a portfolio of ~32 GW RE capacity including ~ 6 GW Operational capacity, ~17 GW Contracted/ Awarded capacity and Pipeline of ~9 GW.

Smart Meters Installed Under Revamped Distribution Sector Scheme (RDSS)

Under the Revamped Distribution Sector Scheme (RDSS), 20.33 crore smart meters have been sanctioned in 28 States/ UTs, out of which 2.41 crore smart meters have been installed as on 15.07.2025. For the state of Gujarat, 1.67 crore smart meters have been sanctioned under RDSS, out of which 20.94 lakh smart meters have been installed as on 15.07.2025.

Smart meters help the distribution utilities in improving their billing efficiency as below:

i. Provide real-time data, eliminating the need for estimated readings, which can lead to billing inaccuracies.

ii. Automated data collection process minimizes human error associated with manual meter reading and billing.

iii. Help identify and prevent electricity theft, ensuring that utilities recover revenue for all energy consumed.

As reported by the utilities of the State of Gujarat, the smart meter installations are currently in its initial implementation phase and complete saturation of divisions are under progress. The improvement in the operational parameters of the Gujarat utilities can be assessed once the saturation in specific areas is complete.

Government of India (GoI) has been supporting the States/ distribution utilities to improve their performance through various initiatives. Some of the key initiatives taken are as under:

i. Revamped Distribution Sector Scheme (RDSS) was launched with the objective of improving the quality and reliability of power through a financially sustainable and operationally efficient Distribution Sector. The release of funds under the scheme is linked to States/ distribution utilities taking necessary measures for improving their performance against specified parameters including the Gap between average cost of supply and average revenue realized i.e. ACS-ARR Gap and the Aggregate Technical & Commercial (AT&C) losses.

ii. Allowing additional borrowing space of 0.5% of GSDP to the State if the distribution utility implements loss reduction measures.

iii. Additional Prudential Norms have been specified for sanctioning of loans to State owned Power Utilities which is contingent on performance of Power Distribution Utilities against prescribed parameters.

iv. Rules for implementation of Fuel and Power Purchase Cost Adjustment (FPPCA) and cost reflective tariff to ensure all prudent costs for supply of electricity are passed through and are timely realised.

Above reform measures are to be implemented by States/ distribution utilities as a whole including Tier-II and Tier-III towns falling under the utility area. As a result of reform measures undertaken, the AT&C losses of distribution utilities at the national level have reduced from 21.91% in FY21 to 16.12% in FY24 and ACS-ARR Gap from Rs 0.69/ kWh in FY21 to Rs 0.19/ kWh in FY24.

SECI crossed milestone of 60 GW of Power Sale Agreements for Renewable Energy Projects, paving the way for India's Clean Power Transition

The Solar Energy Corporation of India Limited, a Navratna Central Public Sector Enterprise under the Ministry of New and Renewable Energy, Government of India, has achieved the milestone of executing over 60 Gigawatts (GW) of Power Sale Agreements (PSAs) of Renewable Energy (RE) capacity. This marks a pivotal step in the nation's progress toward a clean and sustainable energy future and indicates the positive trend of uptake of renewable energy across the country.

The Power Sale Agreements cover a diverse portfolio of solar, wind, and hybrid energy projects, collectively representing a significant share of India's rising RE capacity. Through these agreements, SECI guarantees long-term purchase of power generated, providing payment security to developers and investors while demonstrating the viability of renewable energy ventures in the country. Such long-term arrangements are critical to unlocking the full potential of India's RE sector. By securing off take for renewable power, SECI strengthens the renewable energy market, attracting developers and financial stakeholders, and facilitating the flow of capital for India's low-carbon economy.

Shri Santosh Kumar Sarangi, Chairman and Managing Director of SECI, stated "The signing of 60 GW worth of Power Sale Agreements within just fourteen years of establishment marks a pivotal moment for SECI's journey. SECI continues to be at the forefront of ensuring that India stays on track to meet its ambitious clean energy targets. We are proud to contribute to the nation's transition towards a sustainable and low carbon future."

Future initiatives will focus on innovative energy storage solutions, strengthening the RE supply chain, advancing the production of green hydrogen and green ammonia, as well as innovative power supply models. These efforts will accelerate the renewable energy transition and support India's climate commitments.

Centre Grants Section 54EC Tax Benefit Status to IREDA Bonds

Central Board of Direct Taxes (CBDT) under the Ministry of Finance has notified bonds issued by Indian Renewable Energy Development Agency Ltd. (IREDA) as 'long-term specified asset' under section 54EC of the Income-tax Act, 1961. The notification came into effect from July 9, 2025.

As per the notification, bonds redeemable after five years and issued by IREDA on or after the notification date will qualify for tax exemption benefits under section 54EC, of the Income Tax Act, 1961, which allows capital gains tax exemption on investments in specified bonds. The proceeds from these bonds will be utilised exclusively for renewable energy projects capable of servicing debt through their project revenues, without dependence on State Governments for debt servicing.

Eligible investors can save tax on Long Term Capital Gain (LTCG) up to Rs. 50 Lakhs by investing in these Bonds in a Financial Year. IREDA will get benefit in terms of lower cost of funds, which is a significant development for the renewable energy sector, in turn to support the expeditious development of RE sector.

Welcoming the notification, Shri Pradip Kumar Das, Chairman & Managing Director, IREDA, said, "We are deeply grateful to the Ministry of Finance, Ministry of New & Renewable Energy and Central Board of Direct Taxes for this valuable policy initiative. This recognition by the Government reinforces IREDA's pivotal role in accelerating renewable energy financing in the country. The tax-exempt status for our bonds will offer an attractive investment avenue while ensuring increased capital availability for green energy projects, contributing to India's 500 GW non-fossil fuel capacity target by 2030."

This move is expected to attract wider participation from investors seeking tax-saving instruments and strengthen the renewable energy financing ecosystem in the country.

India's Renewable Rise: Non-Fossil Sources Now Power Half the Nation's Grid

India has achieved a landmark in its energy transition journey by reaching 50% of its installed electricity capacity from non-fossil fuel sources—five years ahead of the target set under its Nationally Determined Contributions (NDCs) to the Paris Agreement. This significant milestone underscores the country's steadfast commitment to climate action and sustainable development, and signals that India's clean energy transition is not only real but also accelerating under the leadership of Prime Minister Shri Narendra Modi.

Union Minister of New and Renewable Energy Shri Pralhad Joshi said "In a world seeking climate solutions, India is showing the way. Achieving 50% non-fossil fuel capacity five years ahead of the 2030 target is a proud moment for every Indian. Prime Minister Shri Narendra Modi's leadership continues to drive Bharat's green transformation — paving the path towards a self-reliant and sustainable future."

<u>Policy-Driven Progress Fuelling Clean Energy Growth</u>

This achievement reflects the success of visionary policy design, bold implementation, and the country's deep commitment to equity and climate responsibility. Flagship programmes such as PM-KUSUM, PM

Surya Ghar: Muft Bijli Yojana, solar park development, and the National Wind-Solar Hybrid Policy have laid a strong foundation for this transformation. The bioenergy sector, which was once on the margins, has now become an important contributor to both rural livelihoods and clean energy generation.

The Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM) has empowered lakhs of farmers by providing solar-powered pumps, enabling energy-secure and sustainable agriculture. The scheme has also opened avenues for agrovoltaics and feeder-level solarisation. The PM Surya Ghar scheme, launched in 2024, has brought about a rooftop revolution by making solar energy accessible to one crore households, fostering decentralised energy generation and empowering citizens as energy owners.

Expanding Renewable Base with Co-Benefits

Solar parks across the country have facilitated utility-scale renewable energy installations at record-low tariffs. Wind energy, particularly in states such as Gujarat and Tamil Nadu, continues to play a vital role in meeting the country's evening peak power demand. The bioenergy sector has advanced considerably, contributing to circular economy objectives and providing significant employment opportunities in rural areas.

These initiatives have not only decarbonised the power sector but have also delivered widespread co-benefits—enhanced energy access, employment generation, reduced air pollution, better public health outcomes, and stronger rural incomes. India's clean energy revolution is as much about inclusive growth and social justice as it is about reducing emissions.

India's Global Leadership in Climate Action

India's progress assumes greater significance in the global context. Despite having one of the lowest per capita emissions globally, India remains among the few G20 countries that are on track to meet—or even exceed—their NDC commitments. At international platforms such as the G20 and the Conference of Parties (COP) to the United Nations Framework Convention on Climate Change, India has consistently advocated for climate equity, sustainable lifestyles, and low-carbon development pathways.

By achieving the 50% non-fossil milestone well ahead of schedule, India further reinforces its leadership as a clean energy frontrunner, demonstrating that economic growth and environmental stewardship can go hand in hand.

Towards a Modern, Inclusive Energy Future

This early achievement provides an opportunity to aim even higher. The next phase of India's energy transition must prioritise quality, equity, and resilience in clean energy access. Key focus areas include doubling per capita clean electricity consumption, especially in rural and underserved regions, by promoting distributed renewable systems and energy-efficient appliances. There is a need to build a robust, digitally integrated electricity grid that can effectively manage high levels of renewable energy penetration, demand fluctuations, and two-way power flows.

Expanding the deployment of Battery Energy Storage Systems (BESS) and pumped hydro storage will be critical to ensure grid reliability and round-the-clock power availability. Simultaneously, promoting circularity in the lifecycle of solar panels, wind turbine blades, and batteries will support sustainable and responsible material use. Accelerated investments in green hydrogen as a future-ready industrial fuel will also play a vital role in deepening decarbonisation across sectors.Technology as the Force Multiplier

AI and Digitisation in Renewable Energy

Artificial Intelligence (AI) is set to emerge as the backbone of India's future energy infrastructure. AI will play a central role in demand forecasting, predictive maintenance, automated grid management, and system efficiency enhancement. With AI-driven platforms, rooftop solar, electric vehicles, and smart meters will function within intelligent energy marketplaces, enabling consumers to become active energy producers—so-called 'prosumers'.

At the same time, increased digitalisation brings new challenges. As the power sector becomes increasingly reliant on data and digital infrastructure, cybersecurity must be prioritised. Protecting critical infrastructure from cyber threats, data breaches, and algorithmic manipulation is integral to ensuring a secure and resilient energy system.

Road Ahead

India's achievement of 50% non-fossil fuel installed capacity ahead of the target year is a testament to its ambition, innovation, and commitment to sustainable development. It affirms that development and decarbonisation are not contradictory goals, but can in fact reinforce each other.

As the country moves toward the goal of 500 GW of non-fossil capacity by 2030 and net-zero emissions by 2070, the path forward must be bold, inclusive, and technology-driven. India has already lit the lamp. The time has now come to let it shine brighter—for the nation and for the world.

A. Installed Electricity Capacity by Source as on 30.06.2025 (RE + Large Hydro Combined)

Sector	Capacity (in GW)	Percentage
Thermal	242.04 GW	(49.92%)
Nuclear	8.78 GW	(1.81%)
RE (including Large Hydro)	234.00 GW	(48.27%)
Total	**484.82 GW**	**(100%)**

B. Installed Electricity Capacity by Source as on 30.06.2025 (Large Hydro and RE Shown Separately)

Sector	Capacity (in GW)	Percentage
Thermal	242.04 GW	(49.92%)
Nuclear	8.78 GW	(1.81%)
Large Hydro	49.38 GW	(10.19%)
RE	184.62 GW	(38.08%)
Total	**484.82 GW**	**(100%)**

C. Fossil vs Non-Fossil Energy Share in Installed Capacity as on 30.06.2025

Sector	Capacity (in GW)	Percentage
Thermal	242.04 GW	(49.92%)
Non-Fossil Fuel (RE+ LH + Nuclear)	242.78 GW	(50.08%)
Total	**484.82 GW**	**(100%)**

NCPRE's pioneering work in high-efficiency, low-cost Silicon-Perovskite Tandem Solar Cells is a game-changer for India's solar energy future: Union Minister Shri Pralhad Joshi

Union Minister for New and Renewable Energy and Consumer Affairs, Food and Public Distribution Shri Pralhad Joshi visited the National Centre for Photovoltaic Research and Education (NCPRE) in IIT Bombay and held an interactive meeting with its Investigators and Advisory Board Members. Shri Joshi visited the Perovskite Tandem solar cell lab, Silicon Fab laboratory and Medium voltage Laboratory at NCPRE and interacted with the scientists. IIT-Bombay-incubated startup - Advanced Renewable Tandem-Photovoltaics India (ART-PV India) has developed a 4-Terminal Silicon/CdTe-Perovskite tandem solar cell with a conversion efficiency of 29.8%. This is a national milestone and one of the highest performance levels ever achieved in India.

NCPRE was launched at IIT Bombay in 2010 with funding from the Ministry of New and Renewable Energy (MNRE) of the Government of India. The broad objectives of NCPRE are to provide R&D and education support for India's ambitious 100 GW solar mission. Till date, MNRE has provided over Rs 200 crore funding to NCPRE, IIT Bombay, over the last 15 years.

MNRE is also supporting ART-PV India with $10 million (~ Rs 83 crore) for establishing a state-of-the-art pilot manufacturing facility in IIT-B campus, in line with the commitment to nurturing domestic Intellectual Property, and ensuring Indian innovation reaches global markets. MNRE will continue to provide policy and financial support to ensure India's RE sector thrives on innovation and self-reliance, said Union Minister Shri Pralhad Joshi.

Speaking at a post-visit media interaction, Union Minister Shri Pralhad Joshi stated, "Ministry of New and Renewable Energy is proud to support NCPRE's pioneering work in high-efficiency, low-cost Silicon-Perovskite Tandem Solar Cells, a game-changer for India's solar energy future." At a time when the world is seeking efficient, affordable, and scalable solar energy solutions, this innovation gives India a leadership edge, further stated Union MNRE Minister. This technology has the potential to achieve more than 30% efficiency, far surpassing conventional solar panels, making India a global leader in next-gen photovoltaics and by investing in such innovations, we are driving down the cost of solar energy, making it more accessible for all Indians, he added. This is not just a lab-scale breakthrough, it is a blueprint for clean, scalable, and Aatma nirbhar energy production, stated Shri Joshi. In this context, Union Minister Shri Joshi also said, India is not just adopting renewable energy but defining its future—through research in perovskite solar cells, Inverter technology, PV-reliability, green hydrogen, and energy storage.

Shri Pralhad Joshi said, the Union Ministry of New and Renewable Energy (MNRE) is committed to advancing cutting-edge renewable energy technologies under the vision of Aatmanirbhar Bharat, ensuring

India leads in clean energy innovation. In this respect, MNRE's support to premier institutions like NCPRE, IIT Bombay, strengthens domestic R&D, reducing reliance on imported technology and fostering indigenous manufacturing. Through initiatives like the Renewable Energy Research & Technology development (RE-RTD) and R&D funding schemes**,** MNRE is enabling institutions like NCPRE to accelerate lab-to-market transitions, further stated Shri Joshi. He added that NCPRE's work exemplifies how public-funded research, when coupled with policy support, can position India as a global clean energy hub.

Highlighting MNRE's Strategic Support for R&D & Commercialization, Shri Joshi urged the IIT Bombay-ART PV team to Commercially demonstrate that Perovskite Tandem Solar Cells are not only scalable but also profitable. By making advanced technologies accessible to industry, we will not just be driving efficiency, but also building a stronger innovation ecosystem, he said. Shri Joshi further said that this approach aligns perfectly with the larger vision of the Central Government under the leadership of PM Shri Narendra Modi to turn Indian R&D into global benchmarks. He stated that the Union Cabinet approved the Research Development and Innovation (RDI) Scheme just two weeks back, and the budget for Gross Expenditure on Research and Development (GERD), stands at Rs. 1.27 lakh crore.

Union Minister Shri Pralhad Joshi lauds the innovation of producing green hydrogen from bio-waste at the Indian Institute of Science, Bengaluru

Union Minister of New & Renewable Energy Shri Pralhad Joshi visited the prestigious Indian Institute of Science (IISc) in Bangalore, where he witnessed the innovative invention and experiment that produces environmentally friendly pure green hydrogen from agricultural waste. The honourable minister addressed prominent professors, researchers, and industry leaders during his visit. He emphasized the key role of IISc in shaping India's clean energy future and outlined the major challenges facing the scientific community.

In his address, Shri Joshi expressed happiness to be at the Indian Institute of Science, which is a source of 'global respect and national pride'. He thanked the IISc Director Prof. Rangarajan and praised the enthusiasm and hard work of the faculty members and researchers. The minister highlighted the century-old tradition of excellence that IISc has in Indian science. He especially praised the 'highly advanced green water generator production system' developed by Professor Dasappa and his team from bio-waste. Shri Joshi also stated, 'This system you have developed here is a prime example of what it means to transform fundamental science into effective technology.' He characterized it not just as a national achievement but as a 'global achievement'. This system can produce up to 5 kilograms of green hydrogen per hour using India's own agricultural residues with over 99% purity. Agricultural waste products are typically burned, or if left alone, they emit methane into the atmosphere. However, this invention demonstrates that it is possible to produce environmentally friendly fuel using these wastes. This invention is a 'truly self-sufficient innovation.' Uniquely, it is a carbon-reducing research, as 'every kilogram of hydrogen produced here removes more than one kilogram of carbon dioxide from the atmosphere,' he said.

Minister Joshi directly linked this innovation to the "National Green Hydrogen Mission" launched under the leadership of Prime Minister Modi at a cost of ₹19,744 crore. He reiterated the ambitious goals of the project, including an annual production capacity of 5 million metric tons of green hydrogen; an additional renewable energy capacity of 125 gigawatts; a total investment of ₹8 lakh crore; the creation of over 6

lakh jobs, and a reduction of 50 million metric tons of carbon dioxide emissions each year. He mentioned that the funding has already been provided for an annual production capacity of 3,000 megawatts of electrolyzers and an allocation of a capacity for 8.6 lakh tons of green hydrogen production per year.

The minister stressed that "Any national program cannot succeed solely with financial assistance" and presented four national challenges before the educational and scientific community at 'IISC':

Hydrogen conservation: It is difficult to store hydrogen. Keeping this in mind, it is very important to emphasize the need for serious and specialized research programs on safe and reliable hydrogen conservation solutions.

Cost reduction of electrolysis systems: The minister emphasized on reducing the costs of electrolysis systems, by stating, 'True progress comes not from subsidies, but from science'. He advised the Indian Institute of Science's 'CeNSE' (Center for Nano Science and Engineering) specialized in nanomaterials and thin films to work towards 'developing next-generation, more efficient, low-cost electrolysis units.

'Reducing the cost of hydrogen-powered vehicles: Shri Joshi highlighted the need to reduce the cost of hydrogen-powered vehicles and to develop accessible hydrogen fuel refuelling centres. He recognized the significant role of 'IISc' in developing high-efficiency, low-cost fuel cell technologies. He also mentioned that 5 pilot projects for 37 hydrogen-fuel vehicles and 9 fuel refuelling centres have already been provided under NGHM.

Reducing the price of green hydrogen: The minister stated that it is very urgent to reduce the current cost of green hydrogen from Rs. 300-400 per kg to Rs. 100. He recalled Shri Amitabh Kant's goal of bringing it down to 1 dollar per kg by 2030. Before concluding his speech, the minister presented another challenge and requested the IISc community to not only to lead India in green hydrogen research but also to make India a world leader in affordable, immense, and sustainable hydrogen technology." In this regard, he assured full support from his ministry. He promised collaboration for pilot projects, financial aid and industrial partnerships for scaling up. He concluded his remarks by calling out, "Together, let us make India a frontrunner in the green hydrogen economy."

Union Minister Shri Pralhad Joshi Flagged Off 435 MW Solar Plant in Rajasthan, Calls It a Model of Speed and Sustainability

Underscoring Rajasthan's transformation to a global hub of clean energy, Union Minister for New and Renewable Energy, Shri Pralhad Joshi, said that the state is now a beacon of hope, energy independence, and self-reliance. The Minister was inaugurating the 435 megawatt Gorbea Solar Power Project, developed by Zelestra India, in Rajasthan.

He described the Gorbea project as a shining example of what is possible through visionary leadership and honest intent. "With every megawatt we generate, we are not just producing power, we are building a New India," he remarked, adding that the project reflects the speed and scale of change.

Rajasthan at the Forefront of India's Clean Energy Mission

The Gorbea Solar Power Project, delivered in under eight months, spans 1250 acres and is backed by a 25 year Power Purchase Agreement with the Solar Energy Corporation of India. It will generate 755 gigawatt hours of clean electricity annually, powering approximately 1.28 lakh homes and reducing nearly 7.05 lakh tonnes of carbon emissions each year. Shri Joshi noted that almost 70 percent of Rajasthan's power capacity is now sourced from renewable energy, with over 35.4 gigawatts installed, 29.5 gigawatts from solar and 5.2 gigawatts from wind. He praised the state's proactive role in India's renewable energy growth.

Empowering Farmers and Communities

The Minister highlighted that the project has turned farmers into partners in India's energy journey, as the land used has been leased from them, offering stable income. "Our farmers are no longer just food providers. They are now energy providers as well," he said. During construction, over 700 local workers were employed, contributing to livelihood generation and skill development. Shri Joshi also noted that the entire evacuation infrastructure, including the on-site substation and a 6.5 kilometre transmission line, was completed in just five months.

Innovation and Future Technology

The project uses advanced solar panels (TOPCon bifacial mono PERC modules) and over 1300 robotic cleaning units to maintain peak performance. Shri Joshi called this a world-class facility and urged broader adoption of such technologies. Referring to his visit to IIT Bombay, the Minister spoke about ongoing work on Perovskite Tandem Solar Cells and encouraged Zelestra and Rajasthan officials to explore pilot projects using this next-generation solar technology. He said such innovations could significantly boost energy yields in high-irradiance states like Rajasthan.

Policy Reforms and Investment Climate

Shri Joshi lauded Chief Minister Shri Bhajan Lal Sharma for accelerating policy and investment reforms. Rajasthan has adopted the Integrated Clean Energy Policy 2024 and operationalised the Rajasthan Green Hydrogen Policy. Investment commitments worth over Rs 6.57 lakh crore were signed last year with a major focus on renewable energy and green hydrogen. Under the PM Surya Ghar Muft Bijli Yojana, over 49000 rooftop installations have been completed in Rajasthan, with more than Rs 325 crore in subsidies disbursed. He urged faster implementation, given the 2.7 lakh applications already received. Under PM-KUSUM, nearly 1.45 lakh solar pumps have been installed.

India's Energy Milestone

The Minister announced that India has already achieved its target of 50 percent installed capacity from non-fossil fuel sources, five years ahead of the 2030 deadline. "Under Prime Minister Shri Narendra Modi, when we resolve, we achieve," he said. Calling for accelerated deployment of wind-solar hybrid projects, he pointed out Rajasthan's untapped wind potential of 284 gigawatts. He concluded by stating that the Gorbea project marks the beginning of a new chapter in India's clean energy journey. "Today, as we stand

on this sun-blessed land, we are not merely inaugurating a facility we are heralding a new era of energy, hope, and self-reliance," he said.

Union Minister Pralhad Joshi Highlighted Five Pillars Driving India's Clean Energy Transformation

Highlighting the Government of India's focused push for a resilient and self-reliant renewable energy sector, Union Minister for New & Renewable Energy, Shri Pralhad Joshi, outlined five key priorities driving India's clean energy transition- strengthened power purchase agreements (PPAs), robust grid and storage systems, domestic manufacturing, land-use optimisation, and enhanced access to finance.

Addressing Mercom India Renewables Summit in New Delhi, the Minister said that these strategic reforms are propelling India towards its 2030 target of 500 GW non-fossil capacity. Shri Joshi said that under the leadership of Prime Minister Shri Narendra Modi India is not only delivering on its commitments but accelerating them.

The Minister informed that India has already crossed 50% of its installed power capacity from non-fossil sources, five years ahead of its Nationally Determined Contribution (NDC) timeline. The current installed renewable energy capacity exceeds 245 GW, with 116 GW solar and 52 GW wind. The Minister cited the latest International Renewable Energy Agency (IRENA) study, noting that India's renewable energy expansion in 2024 helped the country save nearly ₹4 lakh crore by avoiding fossil fuel imports and pollution-related costs. This includes $14.9 billion in fossil fuel savings, 410.9 million tonnes of CO_2 avoided, and $31.7 billion worth of health and air pollution benefits.

The government is facilitating this growth through landmark initiatives such as the PM Surya Ghar: Muft Bijli Yojana, which has received over 58.7 lakh applications and resulted in 17.2 lakh completed rooftop solar installations. To ensure financing and stability in the sector, a ₹5,400 crore Viability Gap Funding (VGF) scheme for 30 GWh of Battery Energy Storage Systems (BESS) has been launched, expected to draw ₹33,000 crore in investments.

A comprehensive transmission plan for evacuation of 500 GW of non-fossil capacity by 2030 has been formulated in coordination with the Ministry of Power, CEA, CTU, and POWERGRID. The Minister also announced expansion of the Approved List of Models and Manufacturers (ALMM) and the upcoming implementation of List-II for solar PV cells from June 2026. The ₹24,000 crore Production Linked Incentive (PLI) scheme is enabling India to build Aatmanirbharta in solar and wind manufacturing.

To promote innovation and responsible land use, the Ministry is supporting floating solar, canal-top solar, agrivoltaics, and projects in tribal and remote regions. MSMEs and startups are also being empowered to drive clean energy innovations at scale. Further, the National Green Hydrogen Mission is progressing rapidly, with ₹19,744 crore outlay, allocation of 3,000 MW electrolyser capacity, and approval of over 8.6 lakh tonnes per annum of green hydrogen production.

Union Cabinet Approved Investment Exemption for NLCIL to Accelerate Renewable Energy Growth

The Cabinet Committee on Economic Affairs chaired by the Prime Minister, has approved a special exemption for NLC India Limited (NLCIL) from the prevailing investment guidelines applicable to Navratna

Central Public Sector Enterprises (CPSEs). This strategic decision enables NLCIL to invest Rs.7,000 Crore in its wholly owned subsidiary, NLC India Renewables Limited (NIRL) and in turn NIRL investing in various projects directly or through formation of Joint Ventures, without the requirement of prior approval under the existing delegation of powers. This investment is further exempted from the 30% net worth ceiling stipulated by the Department of Public Enterprises (DPE) for overall investment by CPSEs in JVs and Subsidiaries providing NLCIL and NIRL greater operational and financial flexibility.

The exemptions aim to support NLCIL's ambitious target of developing 10.11 GW of Renewable Energy (RE) capacity by 2030 and expanding this to 32 GW by 2047. The approval aligns with India's commitments made during COP26 for transition toward a low-carbon economy and achieve sustainable development. The country has pledged to build 500 GW of non-fossil fuel energy capacity by 2030 as part of the "Panchamrit" goals and its long-term commitment to achieve Net Zero emissions by 2070.

As a significant power utility and Navratna CPSE, NLCIL is playing a pivotal role in this transition. Through this investment, NLCIL seeks to substantially expand its renewable energy portfolio and contribute meaningfully to national and global climate action objectives.

At present, NLCIL operates seven renewable energy assets with a total installed capacity of 2 GW, which are either operational or close to commercial operation. These assets will be transferred to NIRL pursuant to this Cabinet approval. NIRL, envisioned as the flagship platform for NLCIL's green energy initiatives, is actively exploring fresh opportunities across the renewable energy sector, including participation in competitive bidding for new projects.

The approval is expected to reinforce India's position as a green energy leader by reducing dependence on fossil fuels, lowering coal import, and enhancing reliability of 24x7 power supply across the country.

Beyond the environmental impact, this initiative is projected to generate significant employment—both direct and indirect—during the construction and operation phases, thereby benefiting local communities and supporting inclusive economic growth.

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