

ENERGY COMMODITIES

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The energy sector plays a vital role in driving economic activity. Crude oil serves as a major energy source, fuelling transportation and industry while also being refined into various essential products like gasoline and plastics. Natural gas is predominantly utilized for heating, cooking, and electricity generation, and it also acts as a feedstock for chemicals and fertilizers. Electricity is fundamental to modern life, powering households and industries alike, and is generated from both traditional fossil fuels and renewable sources. The energy sector is crucial for economic growth, ensuring energy security, and fostering productivity across all areas of the economy.

- **Crude Oil**

Crude oil, often referred to as 'black gold', is a fossil fuel extracted from beneath the Earth's surface through drilling and further refined into usable products. This liquid hydrocarbon has been a driving force behind industrialization and technological advancements, powering transportation, manufacturing, and electricity generation. With substantial global demand, crude oil is a crucial commodity for countries worldwide. It is classified based on factors like its production location (e.g., West Texas Intermediate, Brent, Oman, etc.), Sulphur content, and API gravity. One of the most traded energy commodities, crude oil production is concentrated in a few countries, while its utilization is widespread across the globe. Key producing countries include the US, Saudi Arabia, Russia, Iran, and Iraq. Crude oil prices are driven by global supply and demand dynamics, including consumption trends of major nations, production decisions by the Organization of the Petroleum Exporting Countries (OPEC), economic growth conditions in major consuming nations, crude oil inventories in OPEC and non-OPEC countries, weather conditions in major producing and consuming nations, shale supply, and geopolitical tensions that may disrupt production and supply.

OR below is an option to the above para highlighted in yellow:

Crude oil prices are driven by global supply and demand dynamics, including consumption trends and economic growth in major nations. Key factors include production decisions by the Organization of the Petroleum Exporting Countries (OPEC), inventory levels worldwide, shale supply, weather patterns, and geopolitical tensions that threaten to disrupt supply chains.

According to the Energy Institute's Statistical Review of World Energy 2026, Global oil consumption rose by 1.3% in 2025 to reach a record 103 million barrels per day (mbpd). This demand expansion was predominantly fuelled by a 2% growth in non-OECD economies, even as the OECD's growth slowed to a marginal 0.4%. On the supply front, production risks intensified following the closure of the Strait of Hormuz in early 2026, though a robust 4.8% to 5.1% growth in oil production across the Americas helped buffer global markets. Middle Eastern supply dynamics remained critical as the region's largest producer, Saudi Arabia, increased its domestic oil output by 5.1%. Meanwhile, major consuming countries faced shifting structural trends: China experienced a contrasting internal shift with a consecutive two-year decline in domestic gasoline and diesel consumption, while India's surging reliance on external markets became more pronounced, with the country forced to import a staggering 86% of its total oil consumption to cover its needs.

In early 2026, global energy markets experienced an unprecedented supply shock when the Strait of Hormuz was effectively closed to commercial shipping on February 28 following geopolitical military escalations. Choking off a waterway that typically handles roughly 20% of global oil shipments, the blockade abruptly removed nearly 20 million barrels per day from the seaborne trade route. This forced Middle Eastern producers to slash crude output by millions of barrels per day and pushed global inventory draws into a deep deficit. While major exporters like Saudi Arabia mitigated the bottleneck by maximizing alternative routes—such as ramping the East-West Crude Oil Pipeline to its full 7 million barrel per day capacity—the massive deficit caused Brent crude prices to skyrocket past $126 per barrel by March 2026, triggering the largest monthly energy price surge since the 1970s. With the de-escalation of tensions in June 2026, crude oil prices subsequently declined from their peaks.

- **Natural Gas**

Alongside crude oil, natural gas has emerged as a vital and cleaner alternative to other fossil fuels. Primarily composed of methane, natural gas is extracted from natural reservoirs or as a by-product of crude oil extraction. Its applications span electricity generation, heating, cooking, transportation and various industrial processes. The increasing popularity of natural gas is attributed to its lower carbon emissions compared to coal and oil, making it a significant component in the global shift towards more sustainable energy sources. Major natural gas producers include the US, Russia, Iran, Qatar, and Canada. India meets about 60% of its domestic consumption demand for

natural gas through domestic production and imports the rest in the form of liquefied natural gas (LNG), predominantly from Qatar.

Global natural gas markets experienced slower but positive growth in 2025, reflecting a more balanced supply-demand environment after the strong rebound witnessed in 2024. According to the International Energy Agency (IEA) Global Energy Review 2026, global natural gas demand increased by around 1% (approximately 40 billion cubic metres), supported mainly by colder weather in North America and Europe, higher gas use in the Middle East, and continued demand from residential and commercial consumers. The buildings sector accounted for nearly 70% of incremental gas demand, while industrial consumption remained largely stable. Demand growth in Asia slowed considerably, particularly in China, due to weaker industrial activity and the rapid expansion of renewable energy. On the supply side, global gas production increased modestly, led by the United States, the Middle East and a few LNG-exporting countries. Higher LNG availability helped improve supply security, although geopolitical tensions and regional supply disruptions continued to create market volatility. The IEA notes that the accelerating deployment of renewable energy and improvements in energy efficiency are gradually reducing structural dependence on natural gas, making future demand growth more moderate despite its continued importance as a transition fuel in the global energy system.

India's natural gas market witnessed a slowdown in 2025, with demand declining by around 3.5%, according to the IEA Global Energy Review 2026. The decline was primarily driven by a sharp reduction in gas-fired power generation as record additions in solar and wind capacity, along with favourable weather conditions, reduced the need for gas-based electricity generation. However, demand from key sectors such as fertilizers, city gas distribution, refineries and petrochemicals remained relatively resilient, highlighting the fuel's growing role in supporting industrial and urban energy requirements. On the supply side, domestic natural gas production continued to contribute significantly, but India remained dependent on imported LNG to meet a substantial share of its consumption. As a result, domestic gas availability and pricing remained closely linked to global LNG market conditions. Looking ahead, natural gas will continue to remain important for India's energy needs, supported by government initiatives to increase the share of natural gas in the country's energy mix, expansion of pipeline infrastructure, wider city gas distribution networks and rising industrial demand. Affordable LNG imports, higher domestic production and continued investments in gas infrastructure will also play a critical role in NG's demand and supply dynamics.

Recent geopolitical conflicts, particularly the Russia–Ukraine war and escalating tensions in the Middle East, have significantly disrupted global natural gas supply chains by increasing market uncertainty, affecting gas flows, and raising the risk of supply interruptions along key LNG shipping routes. These developments have resulted in heightened price volatility, increased freight and insurance costs, and intensified competition among importing countries for LNG cargoes. For India, which relies on imported LNG to meet a substantial portion of its natural gas demand, these disruptions have translated into higher import costs and greater exposure to fluctuations in global gas markets. Although India has successfully diversified its LNG sourcing and maintained adequate supplies through long-term contracts and multiple import terminals, geopolitical tensions continue to pose risks to supply security and procurement costs. The evolving global situation underscores the importance of expanding domestic gas production, strengthening LNG infrastructure, diversifying import sources, and enhancing strategic energy planning to improve India's long-term energy security.

- **Electricity**

India's electricity sector is undergoing transformative changes, driven by surging energy demand, comprehensive policy reforms in power markets, and a strong commitment to sustainability. Recent advancements indicate a clear path towards a more sustainable and competitive landscape, with a strong focus on renewable energy integration and enhanced grid management. As the third-largest producer and consumer of electricity globally, following China and the United States, India is actively diversifying its source mix for power generation. The nation is significantly increasing investments in solar, wind, and hydropower projects, which are becoming essential elements of its electricity generation strategy.

India's electricity sector remained strong during the year 2025-26, supported by robust capacity additions and an increasingly balanced demand-supply situation. Total installed power generation capacity reached 524 GW by the end of 2025-26, with non-fossil fuel sources accounting for over 52% of the installed capacity. During the year, India generated a record 1,845.9 billion units (BU) of electricity, while non-fossil sources contributed 538.97 BU, or 29.2% of total generation. The country successfully met a peak electricity demand of 270.82 GW (on 21 May 2026), with the peak power shortage remaining minimal, reflecting significant improvements in generation adequacy, transmission infrastructure and grid management. Strong growth in industrial activity, urbanisation, electrification and rising cooling demand continued to drive electricity consumption, while rapid renewable energy additions alongside reliable thermal generation ensured uninterrupted power supply. These trends underscore India's transition towards a more resilient, power-surplus electricity system capable of supporting sustained economic

growth and the country's clean energy ambitions.

ENERGY DERIVATIVES IN INDIA

In the evolving energy segment, where trading in crude oil and natural gas has been experiencing significant growth, the introduction of electricity futures in 2025 added an exciting new dimension. MCX made history by becoming the first exchange in India to launch electricity futures on July 10, 2025. This landmark development signifies a crucial step forward in evolution of India's energy markets, which have already witnessed robust trading volumes in both crude oil and natural gas futures and options.

Currently, crude oil futures and options are available on MCX in contract sizes of 100 barrels and 10 barrels, while natural gas contracts come in sizes of 1250 MMBtu and 250 MMBtu. The newly launched electricity futures are cash-settled contracts, each contract representing 50 MWh of electricity, enabling market participants to lock in prices for future electricity transactions without the necessity of physical delivery.

India's energy commodity derivatives segment demonstrated strong growth in 2025-26. Total traded contracts surged 71% year-on-year to 14.75 lakh contracts, while aggregate turnover (encompassing futures and options notional values) climbed 28% to reach ₹ 550 lakh crores. This expansion was primarily driven by a 73% increase in options volume and a 40% increase in futures volume, closely mirroring the strong momentum seen across the broader domestic commodity landscape.

CRUDE OIL
FUNDAMENTALS

Crude Oil Fundamentals ('000 barrels/day)

Particulars	2020	2021	2022	2023	2024	2025
World Scenario						
Oil Production	88,943	90,315	94,434	96,438	97,156	1,00,590
Oil Consumption	89,754	95,038	98,086	1,00,617	1,01,719	1,03,039
Refinery Capacity	1,01,565	1,00,639	1,01,015	1,03,050	1,04,033	1,03,756
Refinery Throughput	74,768	78,426	81,217	82,871	82,594	83,081
World Trade	64,550	66,430	69,225	70,030	69,363	69,600
OPEC						
Oil Production	29,798	30,741	33,132	32,886	32,844	34,379
OECD						
Oil Production	28,247	28,553	29,704	31,401	32,282	33,237
Oil Consumption	41,085	43,891	44,808	44,702	45,028	45,186
Refinery Capacity	44,641	43,909	43,641	43,823	43,809	43,579
Refinery Throughput	33,308	34,654	36,408	36,156	36,315	36,682
Indian Scenario						
Oil Production	795	770	739	730	728	719
Refinery Capacity	5,018	5,005	5,045	5,085	5,172	4,924
Refinery Throughput	4,493	4,792	5,082	5,249	5,322	5,468
Crude Oil Imports	4,898	5,302	5,753	5,762	6,192	6,545
Oil Consumption	4,738	4,841	5,209	5,452	5,614	5,642

Source: Energy Institute Statistical Review 2026; downloaded on 01 July 2026.



CRUDE OIL
Fundamentals

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Crude Oil Fundamentals ('000 barrels/day)

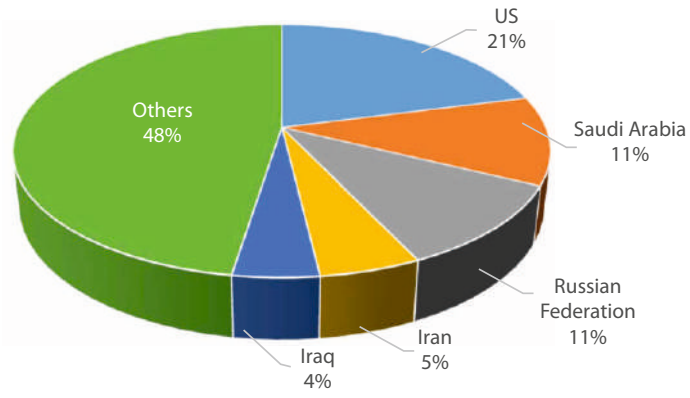
Country	2020	2021	2022	2023	2024	2025
Major Producing Countries						
US	16,511	16,736	17,937	19,442	20,276	21,065
Saudi Arabia	11,039	10,954	12,140	11,261	10,856	11,408
Russian Federation	10,666	11,000	11,202	11,073	10,758	10,737
Iran	3,250	3,766	3,974	4,653	5,063	5,184
Iraq	4,114	4,102	4,520	4,355	4,298	4,396
World	88,943	90,315	94,434	96,438	97,156	1,00,590
Major Consuming Countries						
US	17,183	18,785	18,862	19,014	19,150	19,404
China	14,217	14,833	15,076	16,792	16,901	17,360
India	4,738	4,841	5,209	5,452	5,614	5,642
Japan	3,502	3,591	3,582	3,507	3,355	3,314
Saudi Arabia	3,437	3,600	3,807	3,854	3,913	3,862
World	89,754	95,038	98,086	1,00,617	1,01,719	1,03,039
Major Importing Countries						
Europe	12,330	12,462	14,063	12,667	12,648	12,353
US	7,866	8,475	8,343	8,556	8,448	7,926
China	12,310	12,499	12,232	13,887	13,402	13,855
India	4,898	5,302	5,753	5,762	6,192	6,545
Japan	3,305	3,350	3,465	3,332	3,100	3,077
World	64,550	66,430	69,225	70,030	69,363	69,600
Major Exporting Countries						
Middle East (ex Saudi Arabia)	13,811	15,368	16,552	16,529	16,654	17,248
Russia	7,250	7,806	8,100	7,557	7,563	7,148
Saudi Arabia	8,095	7,686	8,687	8,265	7,657	7,669
Asia Pacific (ex Japan)	5,420	5,994	5,845	6,407	5,800	5,587
US	8,135	7,956	8,820	9,292	9,646	9,791
World	64,550	66,430	69,225	70,030	69,363	69,600
Major sources of Imports for India (million tonnes)						
Middle East	130	130	134	109	112	127
Russia	3	5	37	82	87	85
West Africa	21	25	19	9	13	15
South & Central America	16	11	7	7	9	9
Other Asia Pacific	4	4	2	2	1	2
Mexico	8	8	5	3	3	1
World	204	214	231	231	239	262

Source: Energy Institute Statistical Review 2026; downloaded on 01 July 2026.



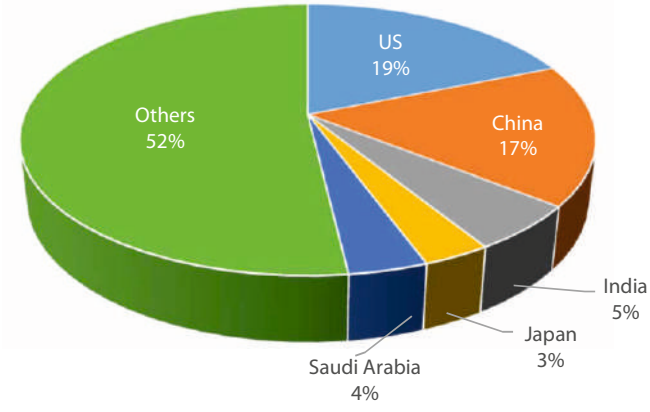
CRUDE OIL
Fundamentals

Crude Oil Production 2025



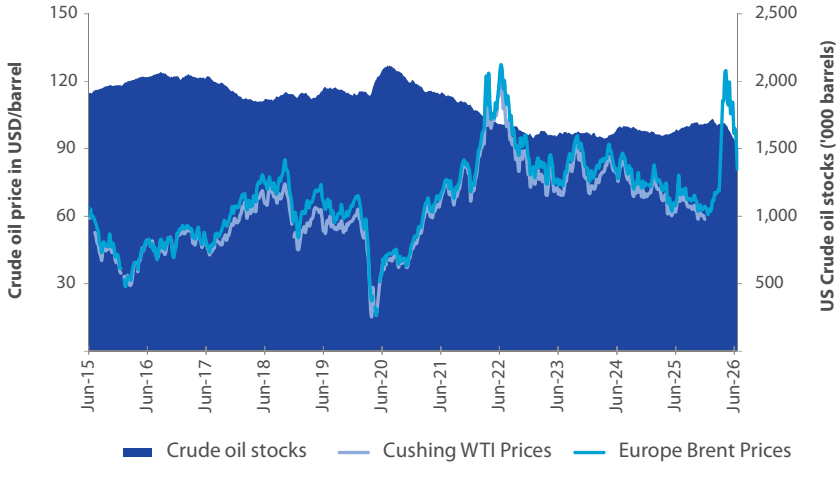
Source: BP Statistical Review

Crude Oil Consumption 2025



Source: BP Statistical Review

Crude Oil Prices and Inventory



Source: Energy Information Administration, US



CRUDE OIL
Fundamentals