

OIL AND GAS



SECTOR OVERVIEW

The Oil and Gas Sector is among the six core industries in India and plays a major role in influencing decision making for all the other important Sectors of the economy.

In 1997–98, the New Exploration Licensing Policy (NELP) was envisaged to fill the ever-increasing gap between India's gas demand and supply. India's economic growth is closely related to energy demand, therefore the need for Oil and Gas is projected to grow more, thereby making the Sector quite conducive for investment.

India is expected to be one of the largest contributors to non- Organisation for Economic Co-operation and Development (OECD) petroleum consumption growth globally. Total oil imports declined by 10 per cent year-on-year in February 2017. Fuel consumption in India increased by 10.7 per cent to a 16-year high of 196.48 million tonnes (MT) in 2016.

- 635 million metric Tonnes (MMT) of proven oil reserves (2P).
- 54 trillion cubic Feet of proven natural gas reserves and 96 trillion cubic Feet of estimated Shale gas reserves.

- Third largest consumer of crude oil and petroleum products in the world and second largest refiner in Asia.
- 60% of the prognosticated reserves of 28,000 MMT are yet to be harnessed
- Regasified Liquefied Natural Gas (RLNG) regasification facility is likely to increase from 47.5 million metric tonnes per annum (MMTPA) by 2022 from a current level of 22 MMTPA.

STATISTICS



- Oil imports constitute about 81% of India's total domestic oil consumption in 2015-16.
- Oil and Gas contributes about 34.4% to primary energy consumption in India.
- During 2015, natural gas constituted about 6.5% of the total energy mix
- India had 54 Trillion cubic feet of proven natural gas reserves at the beginning of 2015. Approximately 34% of total reserves are located onshore, while 66% are offshore.
- India is the fourth-largest LNG (Liquefied Natural Gas) importer in 2015 and accounted for 6.4% of global imports.
- India's Refining capacity is estimated to reach 256.55 MMTPA by 2019-20 after completion of projects undertaken by a number of refineries which are currently under various stages of implementation.
- India held nearly 635 MMT of proven oil reserves at the beginning of 2015, mostly in the western part of the country. About 49% of reserves are onshore resources, while 51% are offshore.

REASON TO INVEST

- Domestic LNG demand is expected to grow at a CAGR of 16.89 per cent to 306.54 Million Metric Standard Cubic Meter per Day (MMSCMD) by 2021 from 64 MMSCMD in 2015. Gas pipeline infrastructure in the country stood at 15,808 km in December 2015.
- State-owned Oil and Natural Gas Corporation (ONGC) dominates the upstream segment (exploration and production), producing around 25.93 MT of crude oil, which is approximately 60.5 per cent of the country's 36.95 MT oil output, as of March 2016.
- Import content in Oil and Gas Sector is in the range of 15% for refinery to 67% for upstream.
- A number of policy reforms have been taken by the Government to remove obstacles to investment and incentivize Oil and Gas Sector on the lines of ease of doing business, minimum Government maximum governance and promote Make in India initiative.
- Several private companies have emerged as important players in the past decade. Cairn India, produces more than 23% of India's crude oil production through its operation of major stakes in the Rajasthan and Gujarat regions and Krishna-Godavari basin. Reliance Industries Limited and Essar Oil have become major refiners.
- It is a transparent and level playing field for Indian private/foreign investors and national oil companies — both enjoy the same fiscal and contract terms.
- Supportive Government Regime — ease of doing business moved to Sector specific policy HELP (Hydrocarbon Exploration and Licensing Policy). Also to encourage private players and global oil companies, Income generated from storage and selling of Crude Oil in Strategic crude oil reserves has been exempted from Income Tax.
- Gas Initial is in place for Coalbed Methane (CBM) established at 9.8 Trillion cubic feet (Tcf) with the possibility of an upside.
- 96 TCF of technically recoverable shale gas resources available in India.
- Despite being a net importer of crude oil, India has become a net exporter of petroleum products by investing in refineries designed for export, particularly in Gujarat.
- Investment opportunities are in upstream, gas pipeline, City Gas Distribution (CGD) network, LNG Terminal and Petrochemical and Refinery.

- Plans afloat to set up India's largest grass-root refinery of 60 MMTPA capacity at west coast to be set-up by Oil and Gas CPSEs (Central Public Sector Enterprise).
- Thrust on developing gas based economy by connecting major cities with green highways, which will have vehicles running on CNG and LNG with adequate refueling stations.
- Two world class gas hydrate reservoirs have been discovered in ultra-deep waters of KG basin under national gas hydrate programme-2, which has opened up new avenues for alternative resources.



AGENCIES INVOLVED

Ministry of Petroleum and Natural Gas, Oil Industry Development Board, Petroleum Conservation Research Association, Directorate General of Hydrocarbons, Petroleum Planning and Analysis Cell, Petroleum and Natural Gas Regulatory Board, Centre For High Technology and Oil Industry Safety Directorate.

FOREIGN DIRECT INVESTMENT POLICY

- Exploration activities of oil and natural gas fields, infrastructure related to marketing of petroleum products and natural gas, petroleum products' pipelines, natural gas pipelines, LNG regasification infrastructure, market study, formulation and petroleum refining in private Sector, subject to the existing Sector policy and regulatory framework in the oil marketing Sector and the policy of the Government or private participation in exploration of oil and the discovered fields of natural oil companies - 100% FDI, automatic route.

- Petroleum refining by PSU, without disinvestment or dilution of domestic equity in existing PSUs - 49% automatic route.

FINANCIAL SUPPORT



Fiscal Incentives:

- The rate of cess on crude oil production has been revised to 20% advalorem basis from USD 69.23 per metric tonne
- Various exemptions from customs duty on goods imported for petroleum exploration licenses and movement of goods from one block to another under various types of licenses/mining leases etc., have been merged into a single exemption, with unified list of goods and conditions
- To facilitate smooth trade of natural gas across India thereby helping to build a gas-based economy, the central sales tax rules regarding inter-state transport of natural gas through common carrier pipeline have been amended.
- Keeping in view the bulky nature of Oil and Gas investments, an enhanced window has been made available to avail the benefit of additional depreciation of 15% on installation of capital equipment acquired in the previous year to be made before 31.03.17.
- To increase investment in exploration Sector, No Basic Customs Duty and Countervailing Duty (CVD) on imports of goods required for Exploration and Production (E&P) of hydrocarbon activities is also extended to operations undertaken to Exploration Licenses and Mining Leases issued or renewed before 1st April 1999.

State Incentives:

- Apart from the above, each state in India offers additional incentives for industrial projects. Incentives are provided in areas such as subsidised land cost, the relaxation of stamp duty on sale/lease of land, power tariff incentives, concessional rates of interest on loans, investment subsidies and/or tax incentives, backward areas subsidies, special incentive packages for mega projects.

Area based Incentives:

- Hydrocarbon Vision 2030 for North East India has been released. It envisages an investment of USD 20 Billion in upstream, downstream and midstream Sector in Hydrocarbon Sector in North East India till 2030. To incentivize E & P in the North East, 40 % subsidy on gas operation has been extended to private companies operating in the region.

MAJOR DEVELOPMENTS IN THE OIL AND GAS SECTOR



- Indian Oil Corporation (IOC) plans to invest around Rs 40,000 crore (USD 5.9 billion) to set up a 15 million tonne (MT) refinery at Nagapattinam in Tamil Nadu.
- ONGC has signed an agreement with the Government of Andhra Pradesh to invest around Rs 78,000 crore (USD 11.7 billion) in the Krishna Godavari basin for producing hydrocarbons by FY 2021-22.
- Honeywell International Inc., the US-based technology firm, plans to double the headcount at its Indian petroleum and polymer arm, Honeywell UOP, to 700, in order to tap opportunities from India's massive refinery upgradation programme and petrochemical capacity expansion.
- Investments in India's Oil and Gas Sector will likely touch Rs 2.5-3 trillion (USD 37.5-45 billion) over the next few years, which will help raise the share of gas in the country's primary energy mix to 15 per cent by 2030, as per British multinational Oil and Gas company BP Group.
- ONGC has launched a start-up fund of Rs 100 crore (USD 15 million) on its Diamond Jubilee year to encourage and promote new ideas related to Oil and Gas Sector, thereby giving a fillip to Government's Startup India initiative.

- Yara International ASA, a Norwegian chemical company, plans to acquire Tata Chemicals Limited's Babrala urea plant and distribution business in Uttar Pradesh for about Rs 2,670 crore (USD 400.5 million), on a debt and cash free basis.
- Heraeus, one of the world's largest recyclers of reforming catalyst, has opened a new facility at Udaipur which will allow companies to benefit from less transport costs, easier file processing, faster recycling times, better transparency and overall improved costing for catalyst recycling in the country.
- Royal Dutch Shell Plc, which has already invested USD 1 billion in India, has planned further investments in upstream and downstream segments of Oil and Gas Sector, and is also doubling its employee base at its Shell Technology Centre Bangalore (STCB).
- India and Iran have signed agreements related to crude oil imports, petrochemical complexes and gas field development, in addition to India committing to invest USD 20 billion in the port of Chabahar in Southeastern Iran.
- State-run Indian Oil Corporation Ltd (IOCL) plans to invest Rs 34,000 crore (USD 5.1 billion) on a petrochemical complex at Paradeep in the state of Odisha, which is expected to be commissioned by 2021.
- Petrogas Pvt Ltd, a joint venture of Isomeric Holdings Bhd of Malaysia and LEPL Venture Pvt Ltd of India, will collaborate with Krishnapatnam Port Co Ltd and the Government of Andhra Pradesh, to set up a Liquefied Natural Gas (LNG) regassification and floating storage terminal at Krishnapatnam Port an investment of around Rs 3,000 crore (USD 450 million).
- Essar Projects, the Engineering, Procurement and Construction (EPC) arm of Essar Group, in a joint venture with Italy's Saipem has won a USD 1.57 billion contract from Kuwait National Petroleum Company (KNPC) for setting up part of the Al-Zour Refinery Project in Kuwait.
- ONGC Videsh Ltd (OVL), the foreign arm of state-owned petroleum explorer ONGC, has planned to acquire up to 15 per cent stake in CSJC Vankorneft, which owns Russia's second-largest Oil and Gas field.
- Kirloskar Oil Engines Ltd (KOEL) and MTU Friedrichshafen, GmbH signed a memorandum of understanding (MoU) towards exclusive cooperation on the building and commissioning of Emergency Diesel Gensets (EDG).
- CDP Bharat Forge GmbH acquired 100 per cent equity shares of Mécanique Générale Langroise (MGL) for € 11.8 million (USD 12.91 million) to consolidate Bharat Forge's position in the Oil and Gas Sector by enhancing service offerings and geographical reach.

- Technip won a € 100 million (USD 109.37 million) contract from ONGC to build an onshore Oil and Gas terminal in Andhra Pradesh.

GOVERNMENT INITIATIVES



Major initiatives taken by the Government of India to promote Oil and Gas Sector are:

- The Government of India plans to unveil a new policy for renewing and extending the lease of 28 Oil and Gas blocks in the country, with a view to attract more investments into these fields.
- The Cabinet Committee on Economic Affairs, Government of India, has approved the awarding of contracts on 23 onshore and 8 offshore contract areas of discovered small Oil and Gas fields that earlier belonged to ONGC and Oil India Limited (OIL).
- India and Russia have agreed to enhance their bilateral engagement by signing three Memorandum of Understanding (MoU) on October 15, 2016 for co-operation in the field of hydrocarbons Sector during the India-Russia Annual Summit held at Goa.
- The Union Cabinet has approved the National Mineral Exploration Policy (NMEP), which will pave the way for auction of 100 prospective mineral blocks to attract private Sector in exploration, besides involving state-run agencies.
- The Ministry of Petroleum and Natural Gas is seeking to enhance India's crude oil refining capacity through 2040 by setting up a high-level panel, which will work towards aligning India's energy portfolio with changing trends and transition towards cleaner sources of energy generation.

- The Ministry of New and Renewable Energy (MNRE) plans to launch an integrated bio energy mission with an investment of Rs 10,000 crore (USD 1.49 billion) from FY 2017-18 to FY 2021-22, aimed at enhancing the use of bio-fuels like ethanol and biogas and reducing consumption of fossil fuels.
- The Union Cabinet has allowed state-owned oil firms to evolve their own crude oil import policies which involve freedom to choose source companies as well as pricing for their crude oil imports, thus allowing them to compete in the market effectively.
- The Government of India plans to incentivise gas production from deep-water, ultra deep-water and high pressure-high temperature areas which are presently not exploited.
- The Ministry of Petroleum and Natural Gas has announced a new 'Marginal Fields Policy', which aims to bring into production 69 marginal Oil and Gas fields with 89 million tonnes or Rs 75,000 crore (USD 11.25 billion) worth of reserves, by offering various incentives to Oil and Gas explorers such as exemption from payment of oil cess and customs duty on machinery and equipment.
- The Government of India entered into bilateral discussion with Norway to extend co-operation between the two countries in the field of oil and natural gas and hydrocarbon exploration.

FOREIGN INVESTORS

British Petroleum (UK), Cairn Energy (India), Shell (UK), Niko Resources (Canada), OILEX Limited (Australia) and Hardy Oil & Gas Plc. (UK).

GROWTH IN THE OIL AND GAS SECTOR

1. India's oil demand is expected to grow at a CAGR of 3.6 per cent to 458 Million Tonnes of Oil Equivalent (MTOE) by 2040, while demand for energy will more than double by 2040 as economy will grow to more than five times its current size, as stated by Mr. Dharmendra Pradhan, Minister of State for Petroleum and Natural Gas.
2. Gas production will likely touch 90 BCM by 2040, subject to adjustment to the current formula that determines the price paid to domestic producers, while demand for natural gas will grow at a CAGR of 4.6 per cent to touch 149 MTOE.

3. As part of International Energy Outlook 2016, EIA projects that India and China will account for about half of global energy demand growth through 2040, with India's energy demand growing at 3.2% per year. As per BP Energy Outlook 2016, India's energy consumption is projected to grow at 4.2% per annum upto 2035, faster than all major economies in the world.
4. Oil and Gas Sector plays a predominant role as over one third of the energy required is met by the hydrocarbons.
5. India's natural gas pipeline network is spread over 14760.6 km in 2016. Another 15000 km is envisaged to complete national gas grid and move towards a gas based economy, which is under various stages of implementation of increasing consumption of natural gas in operations.
6. In order to promote use of natural gas, priority for allocation of domestic gas was accorded to PNG (Piped Natural Gas) / CNG (Compressed Natural Gas) segments for meeting 100% demand and faster roll out of PNG connections and CNG stations. There are plans to connect 326 cities with city gas distribution network (CGD) by 2022.
7. In a bid to enhance oil security and protect supply disruptions, crude oil strategic storage of 5.33 MMT capacity was built at three locations viz. Visakhapatnam (1.33 MMT), Mangalore (1.5 MMT) and Padur (2.5 MMT). The project at Visakhapatnam is already commissioned and Mangalore and Padur are under advanced stage of commissioning. A detailed project report has been prepared for additional strategic storage of crude oil for 12.5 MMT at 4 locations viz. Chandikol (3.75MMT) in Odisha, Padur (2.5 MMT) in Karnataka, Rajkot (2.5 MMT) in Gujarat and Bikaner (3.75MMT) in Rajasthan, which would be completed in Phase II.
8. New Domestic Gas Pricing guidelines, reforms in existing contracts, calibrated marketing freedom for difficult areas, clarity on testing requirements and addressing other concerns in the existing areas under exploration and production have resulted into unlocking of reserves valued at USD 53.84 Billion.
9. E&P Sector has undergone complete re-engineering to reinvigorate exploration and production of India's hydrocarbon reserves. A number of path breaking policies have been formulated to revolutionize E&P Sector including Hydrocarbon Exploration and Licensing Policy, Discovered Small Field Policy and Gas Pricing Reforms.
10. The price of diesel has been made market determined effective October 19, 2014, resulting into better service delivery due to increased competition in the auto fuel Sector. The saving in subsidy is available for funding anti-poverty and social Sector schemes.
11. The Government is focused on providing access to affordable, reliable, sustainable and modern energy to every citizen. In a bid to promote clean cooking fuel, the Government has planned to increase LPG coverage by providing 100 million new LPG connections in next 3 years till 2019.
12. The Government has planned to roll out BS-IV auto-fuels throughout the country progressively by April 1, 2017 and leapfrog into BS-VI auto-fuels all over the country w.e.f.

April 1, 2020, which would facilitate major investment in refinery upgradation, auto industry, related manufacturing and services Sector.

13. There is a renewed focus on bio-fuels by promoting ethanol blending programme and bio-diesel programme.

INVESTMENT OPPORTUNITIES

1. Monetization of 67 discovered small fields thorough international competitive bidding.
2. Additional strategic storage of crude oil for 12.5 MMT at 4 locations viz. Chandikol (3.75MMT) in Odisha, Padur (2.5 MMT) in Karnataka, Rajkot (2.5 MMT) in Gujarat and Bikaner (3.75MMT) in Rajasthan.
3. Plan to connect 326 cities with city gas distribution network (CGD) by 2022. In order to promote use of natural gas, priority for allocation of domestic gas was accorded to PNG/CNG segments for meeting 100% demand and faster roll out of PNG connections and CNG stations.

Shale:

- India has technically recoverable shale gas resources of nearly 96 Trillion cubic feet.

Underground Coal Gasification:

- Coal gasification has been identified as one of the end uses under the Government's captive mining policy.

Opportunities for Pipeline Transportations:

- Compared to advanced economies like the US, where more than 60% of petroleum product movement happens by pipeline, in India, currently, only 35% of product movement happens over pipelines. The city gas and distribution Sector offers opportunities for both incumbents and new companies. The Petroleum and Natural Gas Regulatory Board allows the following incentives to authorised entities: the infrastructure exclusivity is available to the authorised entity for a period of 25 years. Exclusivity for the activity of marketing of natural gas is allowed to the authorised entity for a period of five years. For incumbents, the marketing exclusivity extends to a period of three years. Government has ensured City Gas Distribution (CGD) companies for availability of domestic gas for CNG (Transport) and PNG (Domestic) consumption.

The Refining Sector:

- India is already a refining hub with 23 refineries and expansions planned for tapping foreign investment in export-oriented infrastructure, including product pipelines and export terminals.

Opportunities for E & P Services and Equipment Companies:

- 48% of the country's sedimentary area is yet to be explored.
- Appraisal of 1.5 million sq. km. of un-appraised areas by capturing 2D seismic survey data for 48243 Line Kilometre (LKM) for onland areas of 22 sedimentary basins, to be acquired by ONGC (40835 LKM) and OIL (7408 LKM).
- Appraisal of un-appraised areas by encouraging survey agencies to acquire data through Multi Client Geo-Scientific survey, which would facilitate E&P companies to participate in bidding blocks/areas of their choice.
- Re-assessment of hydrocarbon reserves in all 26 sedimentary basins in India to be carried out by ONGC in 2017-18.

Offering of Exploration Blocks

- Offering of un-monetized discoveries through international competitive bidding under Small Discovered Field Policy for early monetization of reserves worth USD 10.76 billion. In accordance with Minimum Government — Maximum Governance, policy is packed with all possible reforms like uniform licensing, pricing and marketing freedom, easy to administer revenue sharing mechanism. Bids were launched on May 25, 2016 with bid closing date of October 31, 2016. Road shows are being organized at various parts of country and across the globe to attract investors. These fields are likely to be awarded by the end of this year.
- Marketing and pricing freedom would incentivize gas production from difficult areas, such as deep/ultra-deep water and high pressure/ high temperature thereby facilitating in monetization of 6.75 Trillion Cubic Feet of gas reserves valued at USD 23.07 billion.
- National Data Repository (NDR) would be operational in 2016 which would pave the way for implementation of Open Acreage Licensing Policy to give contractors flexibility of identifying acreages of interest round the year, without waiting for the bidding round.
- To ease out rigidities in the functioning of Production Sharing Contract (PSC) regime, the Government approved policy framework for relaxation, extension and clarifications for early monetization of hydrocarbon discoveries, which has helped in resolution of around 40 pending issues and move ahead with discoveries valued at USD 4.6 billion.

Opportunities for Foreign Investments and Technology Partnerships in the Upstream Sector:

- Securing supplies is expected to remain on top of India's energy agenda for the foreseeable future. While exploration activity has taken place on land and in shallow basins across the country, it is believed by many that deep water and ultra-deep water Oil and Gas resources hold the key to substantially increasing domestic production. This creates a plethora of opportunities for strategic investors having relevant technical expertise and financial muscle.

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