

Annual Report 2016-17



2017

Year of  
INNOVATION  
& TECHNOLOGY



Leveraging technologies for  
a sustainable planet



## Leveraging technologies for a sustainable planet

IndianOil is innovating, developing and deploying new technologies to reach energy to all in a sustainable manner. As India's largest commercial enterprise and the highest ranked Indian corporate in *Fortune's* 'Global 500' listing, IndianOil is investing in a big way in innovations and technologies to reduce dependence on limited energy sources. Numerous initiatives undertaken by IndianOil, like green auto fuels, energy-efficient technologies, tapping of alternative, renewable energy sources, etc., will ensure a better future and a green planet for the coming generations.



# CONTENTS

• From the Chairman's Desk	3
• IndianOil: The Energy of India	10
• Vision with Values	13
• Objectives and Obligations	14
• <b>Board of Directors</b>	15
• Core Team	17
• Senior Management Team	18
• Main Offices & Major Units	19
• Auditors, Registrar & Transfer Agent, Stock Exchanges, Bankers and Debenture Trustee	19
• Group Companies & Joint Ventures	20
• Performance at a Glance	21
• <b>Directors' Report</b>	23
• Awards & Recognitions	38
• Annexures to Directors' Report	41
• Annexures I - SC/ST/OBC Report	41
• Annexures II - Highlights of CSR activities	42
• Annexures III - Secretarial Audit Report	53
• Annexures IV - Report on Energy Conservation etc.	55
• Annexures V - Extract of Annual Return	61
• <b>Management's Discussion &amp; Analysis</b>	76
• <b>Business Responsibility Report</b>	92
• <b>Report on Corporate Governance</b>	109
• <b>Standalone Financial Statements</b>	128
• Independent Auditors' Report	129
• Balance Sheet	138
• Statement of Profit & Loss	140
• Cash Flow Statement	144
• Notes	146
• Income & Expenditure Account - Township etc.	231
• <b>Consolidated Financial Statements</b>	233
• Statement of Salient features of the Financial Statement of Subsidiaries, JVs and Associates	333
• Comments of the Comptroller and Auditor General of India	346
• <b>Notice</b>	349
• Attendance Slip & Proxy Form	357

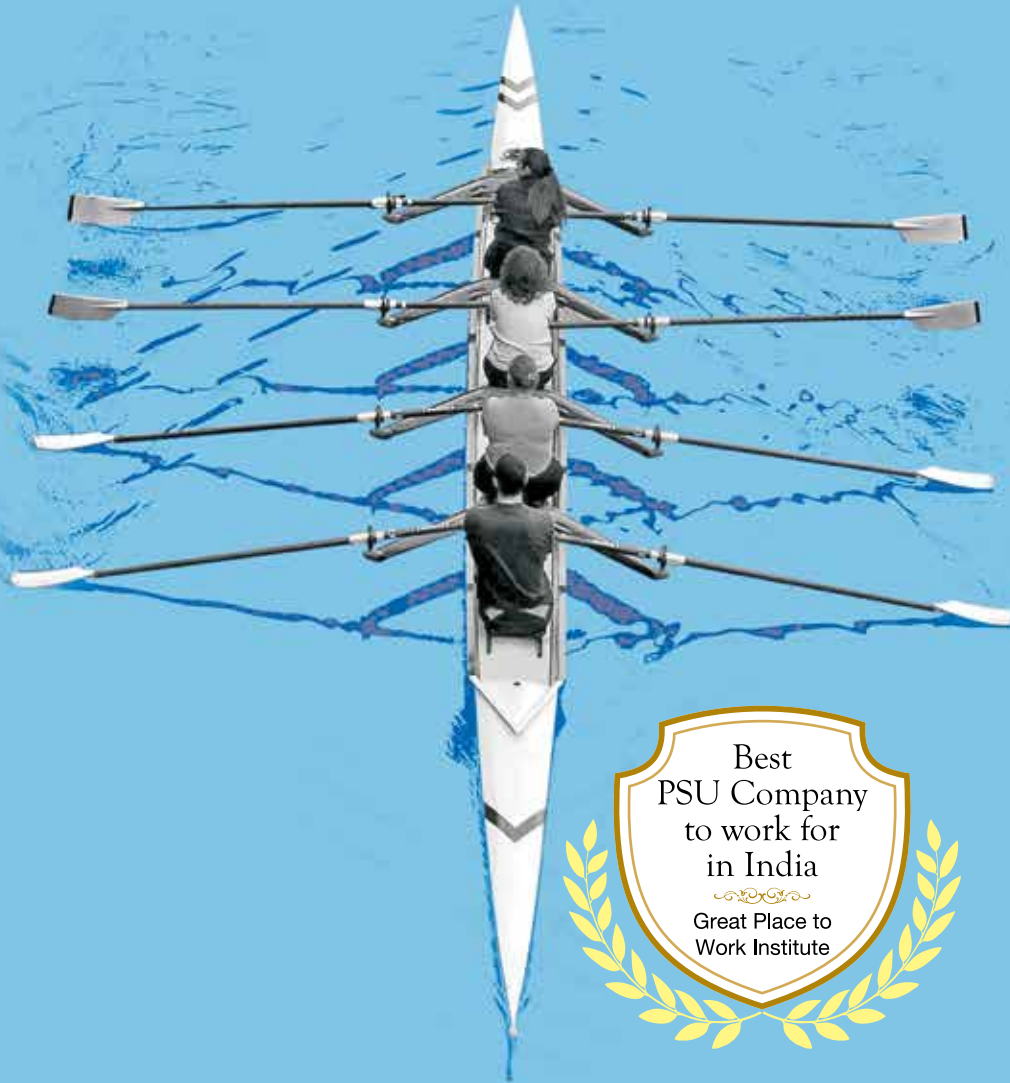


## Indian Oil Corporation Limited

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In this Report, one lakh corresponds to 0.1 million and one crore to ten million.

*Working Together  
Winning Together*



*IndianOilPeople...  
...towards Excellence*



**2017**  
Year of  
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## FROM THE CHAIRMAN'S DESK

### Dear Shareowners,

This is my first communication to you after taking over as Chairman on 1<sup>st</sup> June, 2017, and I consider it a privilege to share my thoughts with you through this forum. I do acknowledge that it is a great honour to lead IndianOil, which has been serving the nation with distinction for nearly six decades now.

IndianOil's corporate vision of being '*The Energy of India*' and becoming 'A globally admired company' and its core values of *Care, Innovation, Passion* and *Trust* differentiate it from the other corporates. Each of its business verticals remains strongly committed to respective core competencies, making IndianOil a strong player across the hydrocarbon value chain.

With a workforce encompassing varied age groups and expertise, IndianOil represents a perfect blend of youth and experience. This creates an environment highly conducive to innovative ideas, technologies, high-quality products & services, and safe & efficient operations while enhancing stakeholder value on a sustained basis. Such a positive environment is conducive to making the Company future-ready.

### Global Trends

In 2016, the global economy witnessed a slowdown in growth, slipping to 3.1 per cent from 3.4 per cent recorded in 2015. While growth in the advanced economies slipped from 2.1 per cent in 2015 to 1.7 per cent in 2016, it slid marginally from 4.2 per cent to 4.1 per cent in emerging economies. Global GDP growth is projected at 3.4 per cent in 2017 and 3.6 per cent in 2018.

In 2016, global primary energy consumption increased only by 1 per cent on a year-on-year basis compared to a 10-year average of 1.8 per cent. While oil and natural gas consumption grew by 1.6 per cent and 1.5 per cent respectively, renewable energy (including biofuels) grew at a robust 12 per cent.

The global oil demand rose to 96.8 mbpd (million barrels per day) in 2016-17 as compared to 95.3 mbpd in 2015-16. With increase in demand and restrictions on output growth by the producers, the surplus in the global oil markets fell from 1.5 mbpd in the year 2015-16 to 0.12 mbpd in 2016-17. Crude oil (Brent) prices averaged at \$48.62/bbl in 2016-17, only slightly higher than the average of \$47.26/bbl in 2015-16; the prices have been moving up further in 2017-18 and are projected to remain in a reasonable range around \$55/bbl. IndianOil, being a downstream major, is benefiting from this range-bound price. It is also helping us in being more bullish towards future expansion plans, which are essential for the Company's growth.

The OPEC countries and the United States have for long had a major say in the oil & gas sector, but other regions like Latin

Shri Sanjiv Singh



America and Africa too are likely to emerge as key players in the coming years. A shift in demand in favour of low-carbon fuels and slower energy demand growth underpinned by energy efficiency gains were the two clear trends that emerged during the year.

Alternative energy is gradually making headway based on cost-competitiveness against conventional options. Again, fall in costs is being driven by technological advancements and the scale of deployment. Though hydro and geothermal energy are competitive even today, renewables like solar PV and wind-power with cost reductions of 40-75 per cent and 10-25 per cent respectively, are coming to the fore. It is being estimated that, by the year 2040, more than 50 per cent of renewables-based power generation may not require subsidy support to become competitive.

The transportation sector is the largest oil consumer today, accounting for 57 per cent of the global oil demand. Renewables contribute to the sector directly through bio-fuels and indirectly through electricity generation. Though the number of electric vehicles (EV) is expected to increase manifold in the coming years, the transport sector is likely to be dominated by conventional fuels for many years to come.

Though several industry experts are predicting that liquid fuels would take a back seat soon, this soon may be a bit far, particularly in the Indian context. In fact, with continuously increasing demand for both oil and gas, India needs to handle this transition in an efficient and organised manner.



Hon'ble Prime Minister, Shri Narendra Modi, and other dignitaries at the inauguration of Petrotech-2016 Conference in New Delhi.



## Domestic Trends

India is one of the fastest growing major economies in the world today. Its GDP growth, however, slid to 7.1 per cent in 2016-17 from 8 per cent in the previous year, with the Government's demonetisation exercise in November 2016 impacting the third and fourth quarters. However, GDP growth has shown improvement in the current fiscal and is expected to improve further, following the successful introduction of the Goods & Services Tax (GST) from 1<sup>st</sup> July, 2017 and the forecast of a good monsoon.

India is now the third largest consumer of petroleum products in the world, next only to USA and China. With its robust economic growth leading to increasing demand for energy, consumption of petroleum products rose to 194 million tonnes in 2016-17 from 185 million tonnes in 2015-16, registering a growth of 5.2 per cent. Among major products, there was a perceptible slowdown in growth of petrol and diesel as compared to the previous year, while growth in consumption of LPG and ATF improved to 9.8 per cent and 12.1 per cent respectively.

The domestic crude oil production declined by 2.5 per cent to 36 million tonnes in 2016-17 as falling production and under-performance of many fields continued. Crude oil imports of over 213 million tonnes registered 5.2 per cent growth in quantity terms, with product imports too registering a 22% growth. With positive changes in exploration policy by the Government, domestic production trend is expected to move upwards.

India's natural gas consumption rose by 7 per cent during 2016-17 and LNG imports by 16 per cent as compared to the previous year. With steady growth in domestic demand, refinery throughput rose by 5.4 per cent to 245 MMT during the year.

The Government of India has upscaled the target for renewable power capacity to 175 GW, which includes 100 GW from solar energy, 60 GW from wind-power, 10 GW from bio-power and 5 GW from small hydro-power to be achieved by the year 2022. India is one of the first major markets where solar PV (utility) and onshore wind-power may become competitive by around 2020.

A vibrant economy and a large domestic market, coupled with healthy growth projections, make India an emerging global energy hub. Inspired by the holistic energy vision of our Hon'ble Prime Minister, the Ministry of Petroleum & Natural Gas is leveraging the combined strengths of oil & gas sector enterprises by reforming and restructuring all segments for better overall performance.

The Government of India targets to reduce dependence on imported oil by 10 per cent by the year 2021-22 by increasing domestic production of oil & gas, promoting energy efficiency, conservation, and increased utilisation of bio-fuels and other alternative fuels and renewables.

Accordingly, the significant potential of the domestic E&P sector is being explored through a new policy appropriately titled HELP (Hydrocarbon Exploration Licencing Policy) that

IndianOil refineries are gearing up to implement several major projects for capacity expansion and product quality upgradation.



IndianOil's pipeline terminal at Raipur. The Company is implementing all pipeline projects in-house.



promises a uniform licence regime. Together with bidding for small discovered fields and marginal fields policy, this is expected to augment availability of domestic oil & gas.

In the midstream segment, a gas-based economy is being promoted by incentivising domestic production and by creating infrastructure on a mega scale in the form of LNG import terminals, pipeline networks and city gas distribution (CGD) projects. Gas currently accounts for 6.5 per cent of India's energy mix and the Government plans to raise its share to 15 per cent by the year 2030. Considering this, new LNG import terminals coming up in the next 7-8 years will raise the combined capacity to over 50 million metric tonnes per annum (MMTPA) while the natural gas transmission pipeline network is being expanded from 16,100 km currently to about 30,500 km by the year 2020.

In the downstream sector, India is all set to emerge as a global refining hub through multiple brownfield and greenfield capacity expansion projects. India's current refining capacity is 234.50 MMTPA, making it the second largest refining hub in Asia. The proposed 60 MMTPA west coast refinery would enable India further influence the ever-changing market dynamics in the global oil industry, with better bargaining power as a major oil buyer.

Leveraging low international crude oil prices, the Government of India and the PSU oil marketing companies have undertaken major initiatives to make energy accessible and affordable across socio-economic divides. LPG as a cooking fuel is being mainstreamed all over the country through the *Pradhan Mantri*

*Ujjwala Yojana*. With a target to release 5 crore deposit-free LPG connections to poor households by the year 2019, over 2.2 crore connections were issued during the year, raising LPG usage across markets to above 70 per cent.

In line with the growing demand, the marketing and distribution infrastructure for petroleum products is being expanded and modernised in a big way. Fuel stations are getting a comprehensive makeover aimed at enhancing customer convenience and service.

In his inspiring inaugural address at the 12<sup>th</sup> PETROTECH Conference in Delhi in December 2016, the Hon'ble Prime Minister urged the Indian oil & gas enterprises to aim at becoming multinational energy majors. This would not only boost investments but create infrastructure and efficiencies in the system to effectively cater to the energy needs of a humungous and diverse customer base that is expanding year after year.

The task is not easy. Every segment of the oil & gas industry has to first find ways to cope with a continuously evolving market that would throw up opportunities and obstacles in equal measure. At the same time, revolutionary and transformative policy changes, growing indigenous technological prowess and an enabling work environment would ensure that India remains the 'bright spot.'

### IndianOil Performance – A Reassuring Present

From humble beginnings in the year 1959, IndianOil attained the status of an elite *Navratna* company by 1997 and became India's largest commercial enterprise in 1999. Then came the vision of becoming 'a major, diversified, transnational, integrated energy company' with ambitious forays into petrochemicals, gas marketing and E&P. In 2009, a year before earning the status of *Maharatna*, IndianOil redefined its vision to be '*The Energy of India*' and to become 'A globally admired company,' determined to transform from an oil company into a diversified energy major.

IndianOil's growth trajectory has been on an upswing in the recent past. The Company earned a record profit of ₹ 11,242 crore in 2015-16, only to better it with the highest ever profit of ₹ 19,106 crore in 2016-17, thereby becoming the country's most profitable public sector enterprise. The Company's net worth is close to ₹ 1 lakh crore. The IndianOil share was included in the prestigious Nifty50 stock index of the National Stock Exchange from 31<sup>st</sup> March 2017. The Company's share price more than doubled from a low of ₹ 195 (bonus-adjusted price) as on 1<sup>st</sup> April 2016 to ₹ 450 as on 16<sup>th</sup> May 2017, and the market capitalisation too rose to a record high of ₹ 2,18,831 crore on 16<sup>th</sup> May 2017.

The year 2016-17 was a landmark year for IndianOil refineries as they led the industry's enormous efforts that culminated



The 'smart terminals' at Jaipur (left) and Jharsuguda (right); over 60 of them are ensuring quick supplies and integrity of operations.



in extending the supply of cleaner BS-IV grade transportation fuels right across the country by 1<sup>st</sup> April, 2017, which involved major refinery upgrades, changes in supply logistics and other related transitions.

In another first aimed at timely implementation of the Government of India target of switchover to BS-VI fuels across the country by 1<sup>st</sup> April, 2020, IndianOil's Mathura Refinery became the first refinery in the country to produce BS-VI compliant petrol and diesel and supply the same to automobile manufacturers for their initial requirement.

The IndianOil Board approved some significant refinery projects during the year; these include revamp of old units and installation of new units for production of superior BS-VI fuels in various refineries at an expenditure of ₹ 15,400 crore; expansion of Barauni Refinery from 6 to 9 MMTPA; and capacity expansion of the PX/PTA (Paraxylene/Purified Terephthalic Acid) unit at Panipat Refinery.

The operations at Paradip Refinery, commissioned in February 2016, were progressively ramped up during the year and its capacity utilisation has now reached design level. Together with associated marketing and distribution infrastructure, this helped further consolidate the Company's operations in the East. In fact, the improvement in the critical operational parameters of IndianOil refineries year after year has been a significant contributor to the Company's profitability.

The Company derives a huge competitive advantage from its extensive pipelines network in reaching out to new markets and customers in a safe, cost-effective and eco-friendly way. Right from conceptualisation to commissioning, all

pipeline projects are being implemented in-house. With the commissioning of 1,102 km of pipeline sections during the year, the network expanded to 12,848 km, with the capacity of the liquid pipelines network at 93.7 MMTPA and that of the gas pipelines at 9.5 MMSCMD (million metric standard cubic metres per day).

IndianOil R&D lays equal emphasis on development and commercialisation of products & processes.





A fully automated fuel station with multiple value-added facilities in Vaishali district, Bihar.



Today, as a new India emerges, IndianOil is energising all key sectors of the economy with its products and services, reaching out to the remotest corners through over 46,500 customer touch-points spread across the country. These are seamlessly backed by a highly efficient network of supply locations.

The Vankor asset of Rosneft in Russia. IndianOil has committed major investments in the E&P assets of the Russian national oil company.



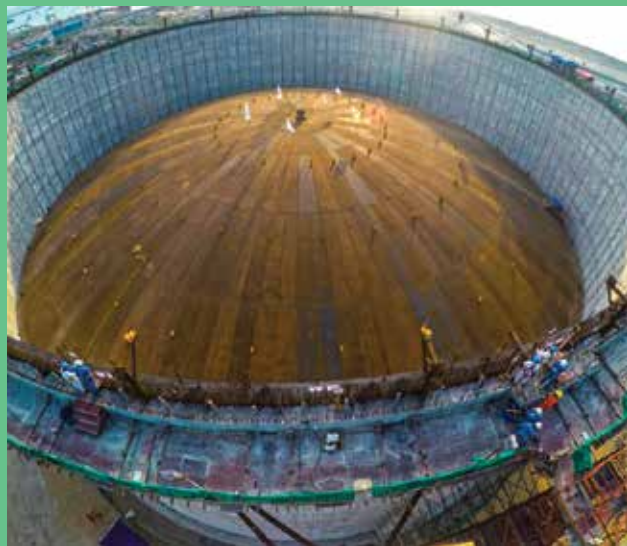
As IndianOil's fuel stations network expands year after year, the contribution of *Kisan Seva Kendra* outlets to overall sales has been going up steadily, which is a clear pointer to the high potential of rural markets. In bulk sales, the Company continues to focus on retaining its lead share with major customers without compromising on viability.

For the first time, Indane LPG cooking gas sales crossed 10 million tonnes during 2016-17, and about 1.53 crore new LPG connections were released, of which 93.25 lakh were under *Pradhan Mantri Ujjwala Yojana*.

IndianOil's R&D Centre, with a portfolio of over 550 active patents, lends the much-needed backend support to the Company in the form of proprietary research and commercialisation capabilities in lubricants, catalysts, refinery processes and pipelines operations.

The INDMAX unit at Paradip Refinery has showcased the Company's strengths in commercialisation of world-class technologies. Similarly, a grassroots INDAdapt<sup>®</sup> unit of 35 kilotonnes per annum capacity was commissioned at Guwahati Refinery for BS-IV gasoline production. Ind-Coker technology was successfully demonstrated at Panipat Refinery with significant increase in distillate yield. A delayed coking technology jointly licenced with EIL was deployed to revamp the 0.6 MMTPA Coker-A unit at Barauni Refinery. A 16-inch diameter in-line inspection tool for pipelines unveiled recently is the first in a series of tools fully designed & developed in-house. IndianOil R&D is also supporting the Company's petrochemicals business and its forays into alternative energy resources.

IndianOil achieves the incredible feat of raising 650-metric-tonne steel dome roof of the LNG storage tank by using pressurised air at the upcoming LNG import terminal at Ennore near Chennai.



IndianOil's petrochemicals and natural gas businesses have grown significantly in the past few years, with the Company emerging as the second largest player in the country in both the verticals, achieving the best ever sales performance in the year 2016-17. The Company's E&P business received a boost during the year with an IndianOil-led consortium acquiring substantial stakes in the Vankor and Taas assets of Rosneft, the national oil company of Russia.

During the year, adverse law & order conditions compromised petroleum supplies to certain parts of Jammu & Kashmir, Tripura and Manipur. However, IndianOil maintained near-normal supplies to these regions despite grave threats to its employees and transporters.

Similarly, as a savvy marketing entity, IndianOil quickly adapted to the Government's demonetisation drive launched in November 2016 and mainstreamed the popular cashless modes of payment across its sales network, besides disbursing the new currency notes through its retail points. With focus on cashless transactions, the Company is partnering several e-retailers, including banks, for e-payment gateways as well as tying up with transport aggregators to optimise supply & distribution. IndianOil's initiative in promoting Rural Card has earned the appreciation of *NITI Aayog*.

### A Resurgent Future

When we consider the overall business outlook, the substantial growth potential of the Indian economy and its

growing energy needs, coupled with the comprehensive reforms agenda of the Government and the relatively range-bound crude oil prices in the near-term, augur well for your Company.

As I had mentioned earlier, oil and gas will continue to play a significant role in fuelling the growth of Indian economy at least till the year 2040 and probably beyond. IndianOil has put in place a road map for scaling up its business operations across the value chain in line with the growing demand. The Company is focussing on several priority areas in order to fully exploit the emerging opportunities for growth, expansion and diversification.

Deregulation of diesel price and direct payment of LPG subsidy to consumers have changed the market dynamics. Adapting itself to the changing business scenario, IndianOil is streamlining its logistics by way of optimising the supply chain and infrastructure and launching a plethora of customer-centric initiatives.

As a technology-driven company, IndianOil is investing in IT to optimise operations and enhance customer experience. While the number of automated fuel stations crossed the 10,000 mark during the year, transparent and assured digital processes are being incorporated in bulk storage points to ensure delivery of right quality & quantity, and quick supplies. In addition, vehicle tracking systems, e-portals, mobile applications, etc., are helping raise productivity and strengthen stakeholder engagement.

With new growth avenues opening up in the Indian skies for regional connectivity through tier-II and tier-III airports, the Company is working on making its aviation fuel business cost-effective by offering low-cost fuelling infrastructure models at smaller airports through in-house expertise.

In line with India's aspirations to become a refining hub, IndianOil plans to raise its refining capacity from the current 80.7 MMTPA to around 150 MMTPA by the year 2030, through both brownfield expansions and greenfield capacity creation. IndianOil is also pursuing a 60 MMTPA integrated refinery-cum-petrochemicals project on the west coast jointly with other oil marketing companies (OMCs), that is, BPC and HPC, at an approximate cost of ₹ 2.7 lakh crore.

The petroleum distribution infrastructure is being expanded in line with the Company's growth plans. About 8,000 km of pipelines network is being added by the year 2021.

The Company is working to convert its refineries to produce BS-VI quantity fuels, the top global standard today, by 1<sup>st</sup> April 2020. This way, it would not only meet the domestic demand for green fuels but also create capability to meet global quality standards.