



IndianOil

*Sustainability Highlights*  
2016-17

**Leveraging Innovation and Technology  
for Inclusive Offerings**



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# About IndianOil

IndianOil is India's largest commercial enterprise and the top Indian corporate among the world's largest organizations. Being an integrated energy major, IndianOil has presence across the hydrocarbon value chain and alternative energy sources. With a sales turnover of ₹ 4,38,710 Crore and highest ever profit after tax of ₹ 19,106 Crore, IndianOil has emerged as the most profitable PSU in the country during 2016-17.

With a strong workforce of over 33,000 employees, IndianOil ranks 1<sup>st</sup> amongst Public Sector Companies in the 2017 listing of the 'Top 50 Best Companies to Work For' in India.



# About Sustainability Highlights

IndianOil is publishing Annual Sustainability Report for the past 11 years, disclosing sustainability performance on Economic, Social and Environmental indices. The theme for Sustainability Report 2016-17 is "Leveraging Innovation and Technology for Inclusive Offerings". The report delineates our challenges, opportunities and progress on various sustainability parameters. It is prepared in accordance with the "Global Reporting Initiative (GRI G4) guidelines" and in conformity with the Oil and Gas Sector Supplement (OGSS).

Underlining our commitment to reduce paper consumption, we have been printing only the hard copy of this Sustainability Highlights since 2012-13. The Sustainability Report is available in e-format only. The Sustainability Report and Highlights can be accessed from our corporate website at <http://www.iocl.com/Aboutus/sustainability.aspx>.



# *Future Ready IndianOil*

Alternate Energy & Sustainable Development department is dedicated to implement sustainability initiatives

BS-VI standard fuel for automotive trials

Most modern Paradip Refinery with a complexity factor of 12.2 based on Nelson Index made fully operational

Refining capability for processing 170 types of crudes

Largest customer interface with over 46,500 touch-points

Solarised over 6,600 Retail Outlets

Largest Pipeline network of 12,848 kms.

Manpower strength of 33,135

Holding more than 550 active patents with over 360 international patents

In-house technologies viz., INDMAX and INDAdapt successfully implemented at our refineries

Developed Oilivorous-S, environment friendly technique for safe disposal of oily sludge

Launched high performance DURAPAVE bitumen grade

Nurturing entrepreneurs for domestic hydrocarbon sector through start-up fund

Automation of nearly 10,000 Retail Outlets

Setting up 2<sup>nd</sup> Generation Ethanol projects

Venturing into Bio-CNG marketing

Exploring Li-ion Battery manufacturing opportunities

Stakeholder's engagement through new apps & portals



## Chairman's Message

*Dear Stakeholders,*

I have great pleasure in presenting Indian Oil Corporation's 12<sup>th</sup> Sustainability Report corresponding to the financial year 2016-17.

The theme of the Report is '*Leveraging Innovation and Technology for Inclusive Offerings.*'

It is through the support and patronage of our myriad stakeholders that IndianOil has grown over the past nearly six decades, from humble beginnings to its present status as India's largest commercial enterprise and a respected *Maharatna* PSU. We are proud to be India's top-ranked Fortune '*Global 500*' company and a trusted pan-India energy conglomerate serving diverse customer segments with a bouquet of leading brands, and a wide spectrum of products and services through over 46,500 customer touch-points.

India is the world's third largest consumer of energy, albeit with very low per capita energy consumption of 521 kgoe (kilogram oil equivalent). This is projected to rise to 1,100 kgoe by the year 2040, as per the projections of NITI Aayog, the premier policy 'think tank' of the Government of India.

India has also ratified the Paris Agreement on 2<sup>nd</sup> October 2016, which means that we will have to reduce emission intensity by 33-35% by the year 2030.

Our most pressing challenge, therefore, is to meet the growing energy demand of the nation with least impact on environment. At this juncture, we have to approach this judiciously, by using all forms of energy sources so that we can fulfill our short-term and mid-term commitments. However, our long-term strategy should be to progressively introduce cleaner and greener sources in the energy mix.

India is on its way to becoming a regional refining hub and, having already moved to BS-IV grade fuels in April 2017, the Indian refining industry is now in project mode for a quantum jump to world-class BS-VI grade fuels by April 2020. We at IndianOil are catalysing both these industry initiatives.



IndianOil is fully committed to the objectives of sustainability and the triple bottom-line of *People, Planet and Profit*. Our approach to Sustainability is in sync with the national goal of reducing energy poverty and preparing for a low-carbon future.

IndianOil's current alternative energy portfolio is 188 MW. This includes 168 MW of wind-power projects in Gujarat, Andhra Pradesh and Rajasthan and 20 MW of solar energy that comprises 9.5 MW grid-connected solar plants in Tamil Nadu, Rajasthan and 10.5 MW off-grid projects at our various locations. We plan to scale up this capacity to 260 MW by the year 2020.

We are also committed to reducing our specific carbon and water footprint by 18% and 20% respectively, by the year 2020. Rain-water harvesting systems at our 558 locations, with 950 hectares of catchment area, harvest over 3 billion litres of water annually.

Other initiatives include conversion of fuel stations to run on solar energy, bio-fuels and waste-to-energy projects. As part of this, 2G-ethanol and waste-to-energy plants are being set up and over 6,600 fuel stations have already been solarised till 31<sup>st</sup> March, 2017.

IndianOil is enhancing its refining capacity through brownfield expansions at its existing refineries and it is our endeavour to double our refining capacity by the year 2030. Now, as the lead partner of the world's largest green field 60 MMTPA West Coast refinery, we shall be leveraging our strength as the country's most experienced refiner to establish India as a regional refining hub and to boost the nation's energy security in refined products.

The mantra behind India's continuing success is the pursuit of excellence by *IndianOilPeople*, catalysed by the core values of *Care, Innovation, Passion and Trust*. Generations of IOCIans have reinvented themselves and the organisation to manage change and to stay ahead of competition. And today, the Corporation is leveraging *Innovation & Technology* across its functions and operations to emerge as a future-ready organisation.

Our state-of-the art R&D Centre is where we are shaping a low-carbon future. Besides lubricants technology we are also engaged in cutting-edge research in clean fuels, refinery technologies, catalysts, bio-energy, solar energy, Hydrogen energy, H-CNG blends, synthetic fuels, nano-technology,

battery technology, multi-feed (coal, pet-coke, biomass, etc.) gasification/liquefaction, and gas-to-liquid technologies.

We have also launched the *IndianOil StartUp Fund* to promote collaborative research, develop a vibrant & innovative eco-system, and nurture entrepreneurship in fields such as fuel efficiency, renewables, waste-to-energy, water efficiency, business process re-engineering, etc.

Supporting infrastructure for renewables is another key focus area for us. With the evolving nature of road transport, we are also setting-up bio-CNG plants and exploring opportunities for fast charging stations and battery replacement facilities at our fuel stations.

We understand that renewables cannot be the complete solution for today's energy challenges, while at the same time coal and oil are under increasing scrutiny as polluting sources of energy. Thus, to augment the shift towards less emission-intensive fuels, we are building import facilities, cross-country pipelines and distribution infrastructure to promote liquefied natural gas as a clean & green fuel for domestic, transport and industrial sectors.

I feel that the immediate solution lies in cleaner fuels and higher engine efficiencies as also 'horizon technologies' like advanced biofuels, coal gasification, fuel cells, methanol, E-mobility and Bio-CNG.

The Oil & Gas sector must help catalyse a sustainable evolution. Its own longevity and profitability depends on its adaptability and flexibility to integrate other energy forms as complementary and not adversaries.

IndianOil is evolving into an integrated energy and petrochemicals group that is in a state of readiness to take the optimal route to a low-carbon, high-efficiency sustainable future.

Your valuable suggestions are always welcome at [sustainability@indianoil.in](mailto:sustainability@indianoil.in).

I look forward to your continued support and best wishes!

Sanjiv Singh

**Sanjiv Singh**  
(Chairman)

# Our Sustainability Accomplishments in 2016-17



1 Pipelines Network added (km)

2 Emission reduction through Pipelines transportation (tCO<sub>2</sub>e)

3 Reduction in Specific Energy Consumption since 2014-15 (%)

4 Reduction in fuel & loss, since 2014-15 (%)

5 Estimated fuel savings through Energy Conservation projects in refineries, cumulative from 2012-13 (SRFT)

6 Customer Touch Points added (Nos.)





7 LPG connections distributed under Pradhan Mantri Ujjwala Yojana (lakhs)

8 Solarised Retail Outlets (Nos.)

9 Employees recruited (Nos.)

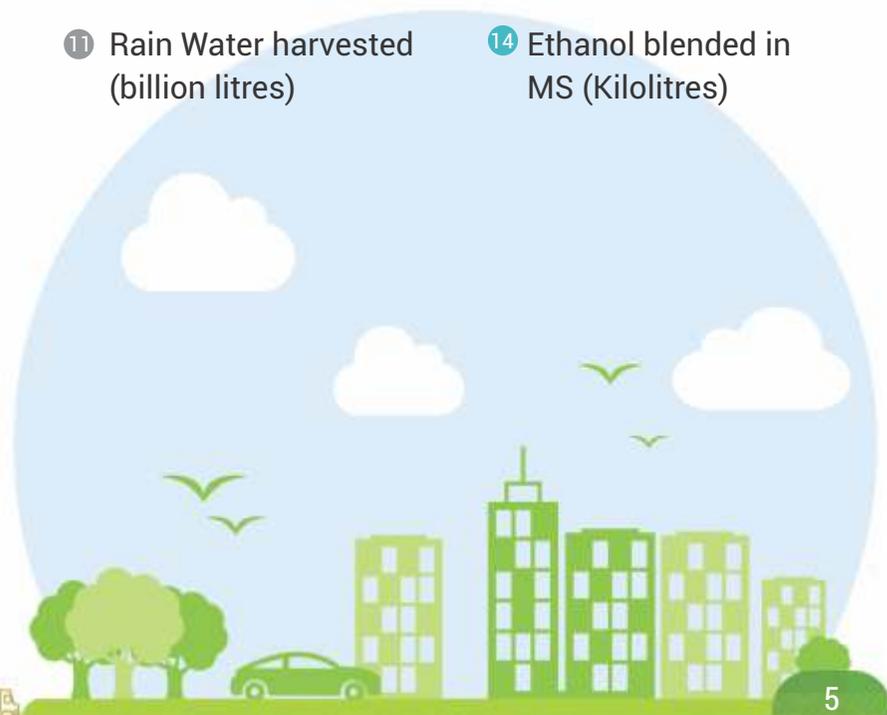
10 Renewable Energy Capacity added (MW)

11 Rain Water harvested (billion litres)

12 Solar Lanterns sold (Nos.)

13 CSR Expenditure (₹ Crore)

14 Ethanol blended in MS (Kilolitres)



# Supply Chain

## Exploration & Production

To meet the growing energy demand in long term, we discover and develop oil & gas fields in India and overseas.

## Transportation

We transport crude and finished oil & gas products through various modes such as ship, road, rail and pipelines.

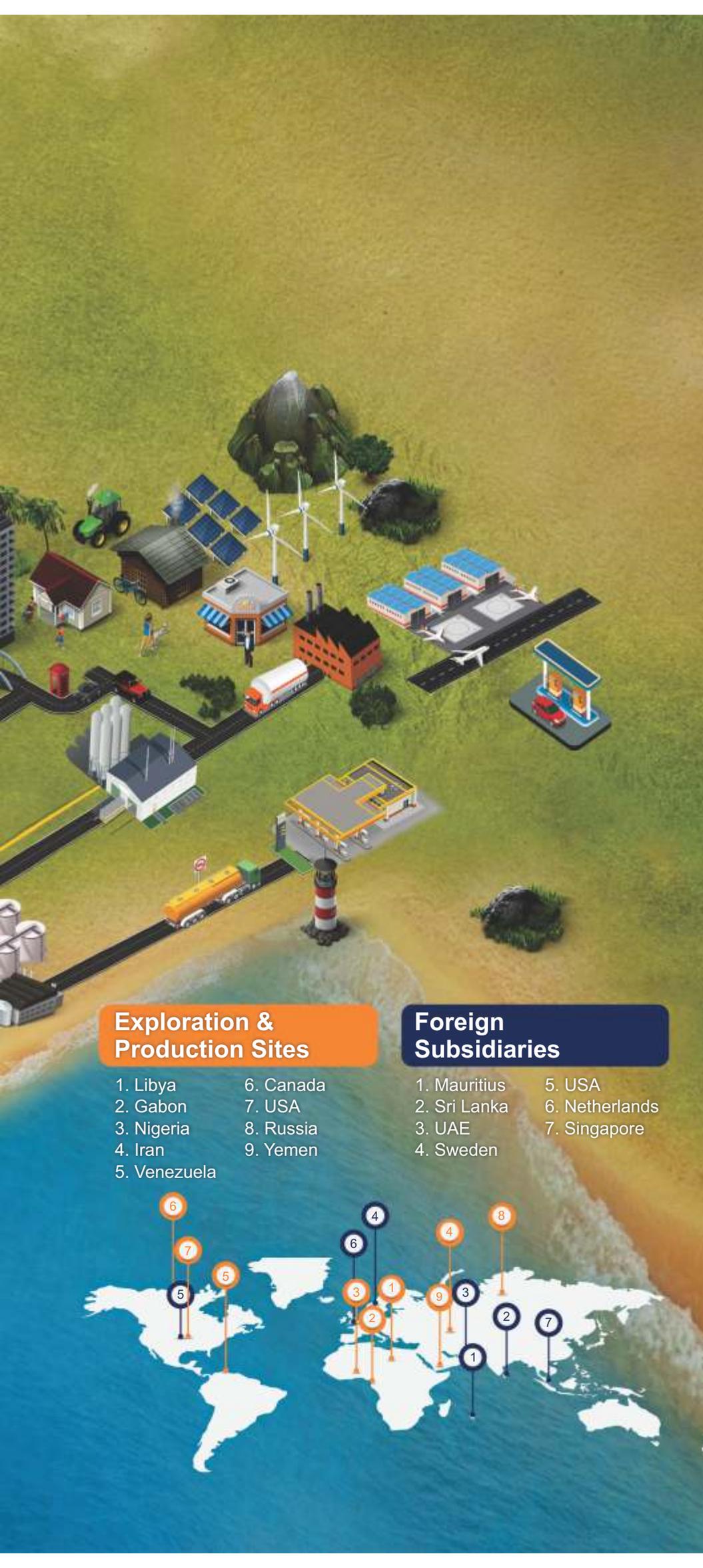
## Refining

We refine and process crude oil to produce petroleum products such as petrol, diesel, LPG, lubricants and petrochemicals, etc.

## Marketing

We deliver finished products to our customers through our 46,500+ touch points.





## Energy of India

Operating Refineries	9
Lube Blending Plants	10
Small Can Filling Plants	2
Oil Depots & Terminals	131
Aviation Fuelling Stations	104
LPG Bottling Plants	91
Pipelines Terminals	87
R&D Centre	1
Retail Outlets (i.e. fuel stations including Kisan Seva Kendra ROs)	26,212
Kisan Seva Kendra (Rural Fuel Stations)	7,051
LPG Distributors (including distributorship under Rajiv Gandhi Gramin LPG Vitaran Yojana)	9,570
SKO/LDO Dealers	3,904
Consumer Pumps	6,520
On-grid Solar Power Plants (9.5 MW)	2
Off-grid Solar Power Systems (10.5 MW)	180
Wind Power Projects (168 MW)	6
Petrochemical Plants	2
Explosives Plants	12
Cryogenics Plant	1

### Exploration & Production Sites

1. Libya
2. Gabon
3. Nigeria
4. Iran
5. Venezuela
6. Canada
7. USA
8. Russia
9. Yemen

### Foreign Subsidiaries

1. Mauritius
2. Sri Lanka
3. UAE
4. Sweden
5. USA
6. Netherlands
7. Singapore



# Stakeholder Engagement



IndianOil builds trust and long-term relationships with its stakeholders through structured engagement mechanism through various platforms.



Investors' Meet | Annual General Meetings | Events | Seminars | Workshops | Trainings | Grievance Redressal Forums | Customer Care Programmes | Helpline Numbers | Industry Forum Meetings | Dealer Conventions |

**WAY WE CONNECT**

Periodicals | Distributor/ KSK Conventions | Transporters' Meet | Meeting with Contractors/ Vendors' Awareness Programmes | Public Hearing | Website | Press Meet | Student Relations Programmes | Sponsorship Initiatives



# Sustainability in IndianOil



As a responsible corporate, IndianOil is committed to address the climate change risks by undertaking various mitigation and adaptation measures. These initiatives include carbon, water & waste management through renewable energy generation, energy efficiency, energy conservation, rainwater harvesting, waste water reduction, recycling & reuse, organic waste convertor, waste-to-fuel plant, carbon neutralized events, tree plantation, paper recycling, etc.



## Carbon and Water Management

IndianOil carries out carbon footprinting exercise of all its establishments and reports every year. Our continuous efforts to invest in various energy efficiency & conservation measures and renewable energy have helped our refineries (excluding Paradip Refinery) to achieve 10.09% reduction in specific carbon footprint till 2016-17, as compared to the level of base year 2012-13.

Water footprinting is carried out across the locations every year, through which we identify and implement various water conservation measures resulting into reduced specific water consumption. Our refineries (excluding Paradip Refinery) have achieved a specific water footprint reduction of 8.81% till 2016-17, as compared to the level of base year 2012-13.

**Energy Conservation & Energy Efficiency, promoting Renewables and Tree Plantation** are the key components of our environmental performance improvement initiatives.





## Rainwater Harvesting

IndianOil has installed 558 Rain Water Harvesting systems covering a catchment area of more than 1,000 hectares having an estimated rain water harvesting potential of 3 billion litres per annum. This is approximately equivalent to 3% of our annual water consumption.

## LED Implementation

IndianOil has taken a major drive to replace conventional lighting systems with LED lights throughout the Corporation. A policy guideline on Energy Efficient Lighting (LED Lighting) has been issued according to which we have replaced more than 1,50,000 conventional lights with LED lights, as on 31<sup>st</sup> March 2017.

## Carbon Neutral Events

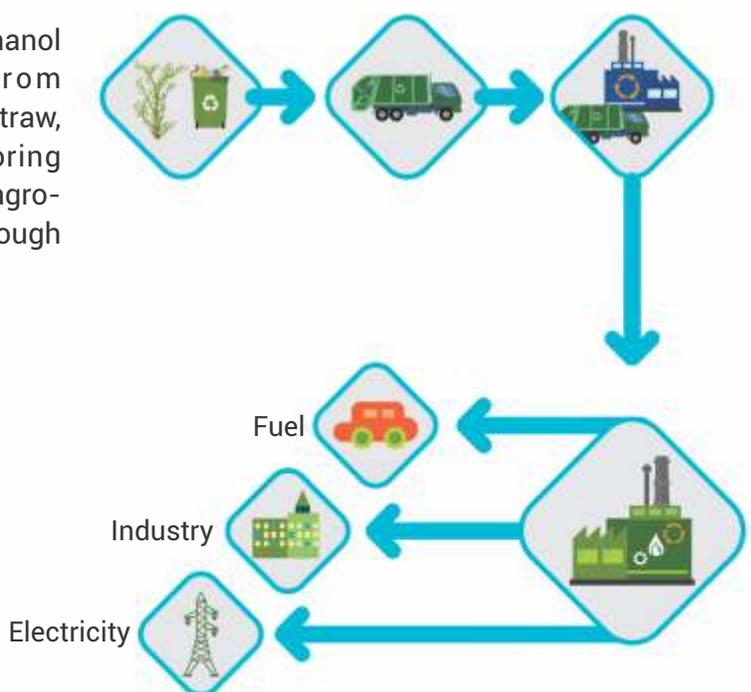
Carbon Neutral Events is an initiative through which emissions from our major business events are sequestered by creating carbon sinks through tree plantation at our installations. As on 31<sup>st</sup> March 2017, we have made more than 90 major events carbon neutral and planted more than 29,500 trees to offset GHG emissions of approximately 5,000 tCO<sub>2</sub>e released through the events.

## Bio-fuels

IndianOil is setting up second generation (2G) ethanol production plants to generate ethanol from lignocellulosic biomass like paddy straw, wheat straw, bagasse, etc. Further, IndianOil is also exploring opportunities to market Bio-CNG generated from agro-waste, industrial waste, municipal solid waste through its retail outlets.

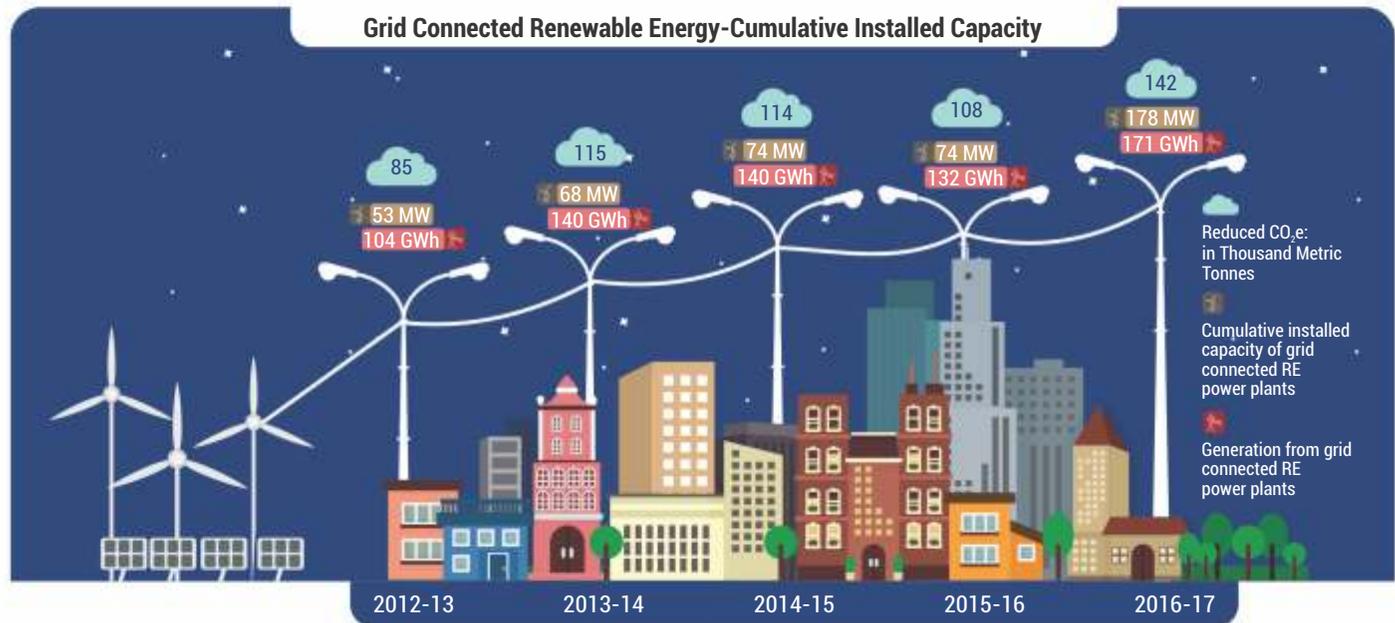
## Waste-to-Energy

IndianOil is setting up ten decentralized Waste-to-Energy plants of 5 tonnes per day capacity each at Varanasi, Uttar Pradesh as a CSR initiative. The first plant has been commissioned in December 2016.



## Alternate Energy

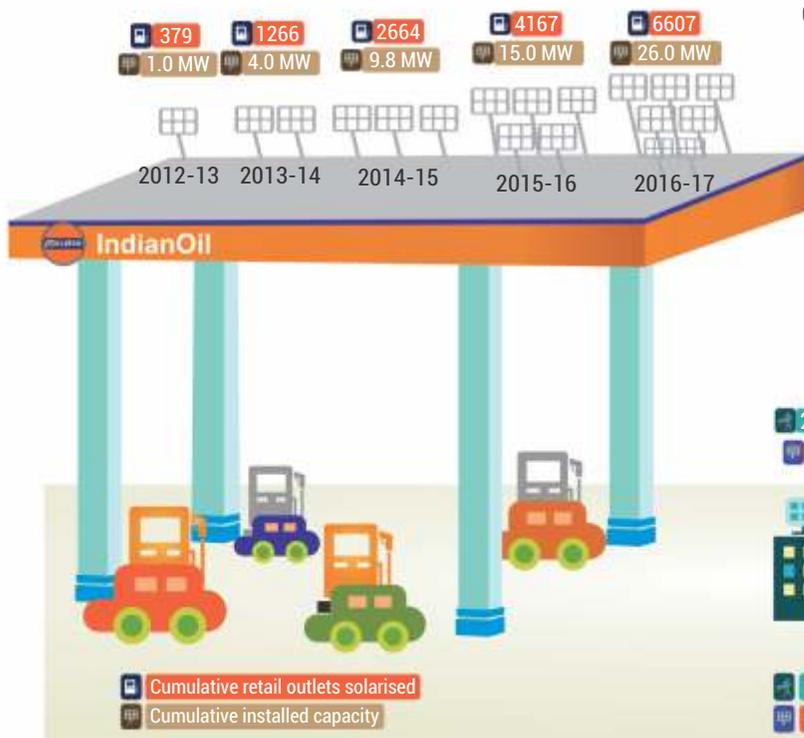
We have expanded our renewable energy basket by adding 103 MW of Solar and Wind power projects, during the year. Our cumulative installed capacity of renewable energy is 177.5 MW out of which 168 MW is wind power and 9.5 MW is solar power. The total energy generation, during the year, from our renewable energy projects was 171 GWh which has helped in reducing GHG emissions equivalent to 1,42,000 tCO<sub>2</sub>e.



## Retail Outlet Solarisation

Towards greening of our supply chain, we have solarised over 6,600 Retail Outlets with a total installed capacity of 26 MW, as on 31<sup>st</sup> March 2017.

**Cumulative Number and Installed Capacity of ROs solarised**



## Off-grid Solar Power

During the year, we have added off-grid solar power capacity of 8.8 MW raising IndianOil's cumulative capacity to 10.5 MW. The total power generation from these off-grid solar systems, during 2016-17, was 7300 MWh corresponding to an overall GHG emissions reduction of 6,059 tCO<sub>2</sub>e.

**Off-grid Solar Installed Capacity**

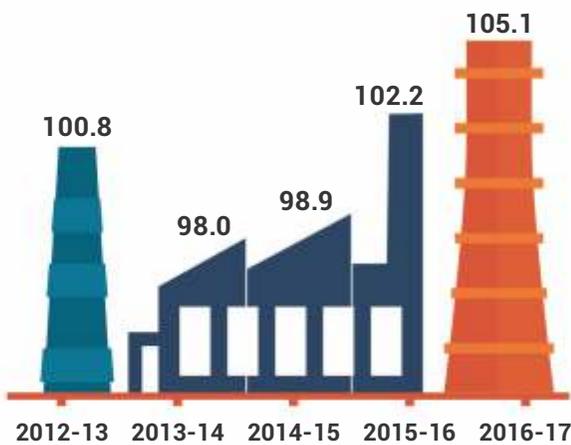


# Operational Performance

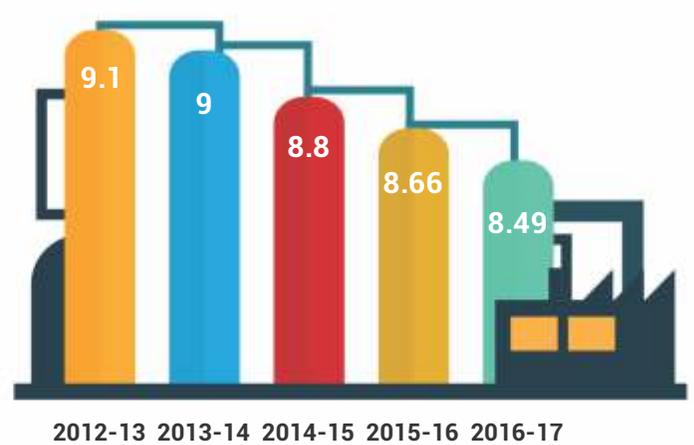


In 2016-17, our refineries achieved a record crude throughput of 65.19 million metric tonnes. We have commenced production and supply of BS-IV compliant fuels from all our refineries and undertaken fuel quality up-gradation projects to deliver BS-VI compliant fuels by 2020.

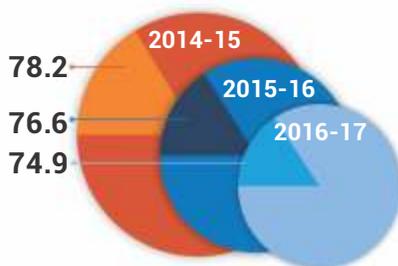
**Refineries - Capacity Utilisation (%)\***



**Fuel & Loss (%)\***



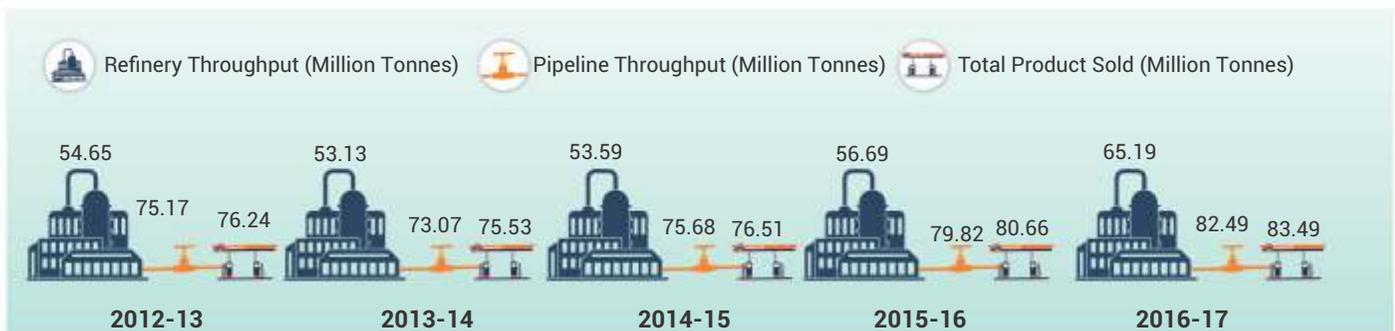
**Specific Energy Consumption (MBN)\***



**Energy Intensity Index (EII)\***



## Operational Excellence



\* Refineries division - excluding Paradip Refinery

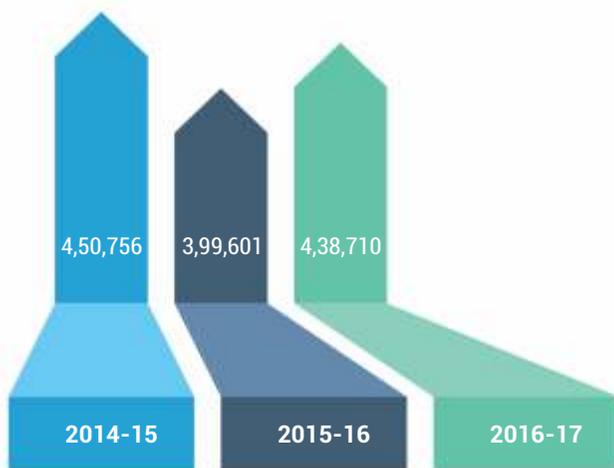


# Economic Performance

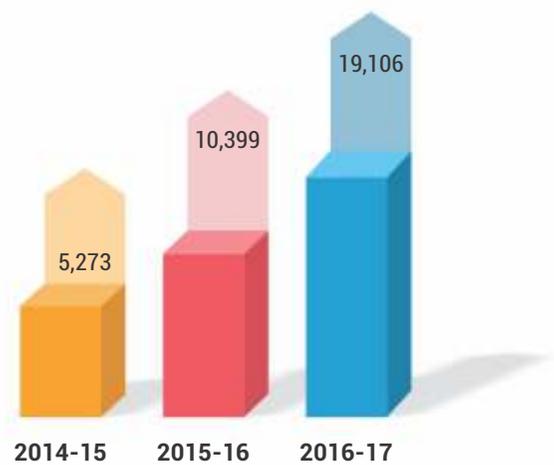


IndianOil achieved a sales turnover of ₹ 4,38,710 Crore and recorded the highest ever Profit after Tax of ₹ 19,106 Crore, during the year. Our market capitalization appreciated to ₹ 1,87,948 Crore in 2016-17 from ₹ 95,564 Crore in 2015-16. Our contribution to government exchequer was ₹ 1,79,014 Crore.

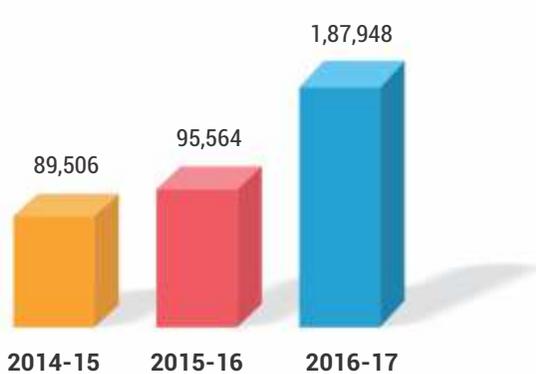
### Turnover (₹ Crore)



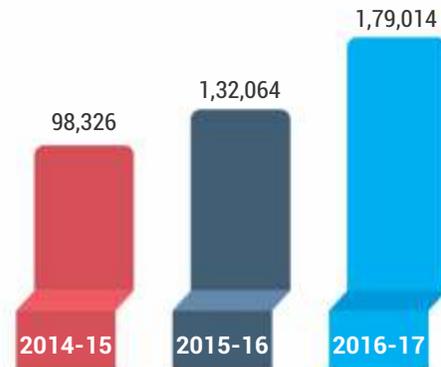
### Profit after Tax (₹ Crore)



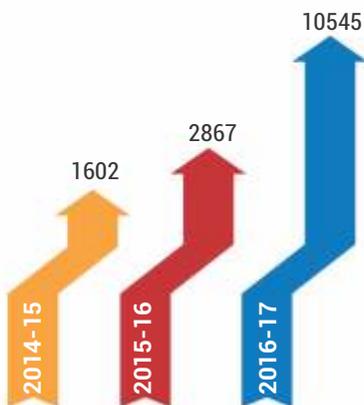
### Market Capitalization (₹ Crore)



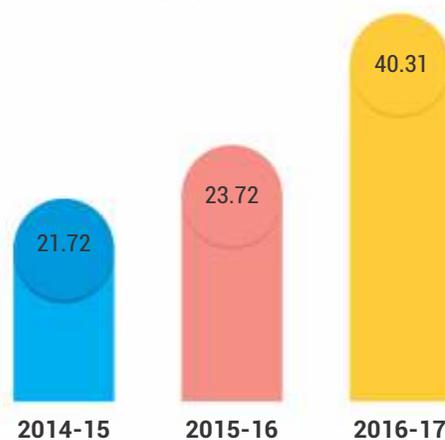
### Contribution to the Government (₹ Crore)



### Dividend (₹ Crore)



### Earnings per Share (₹)

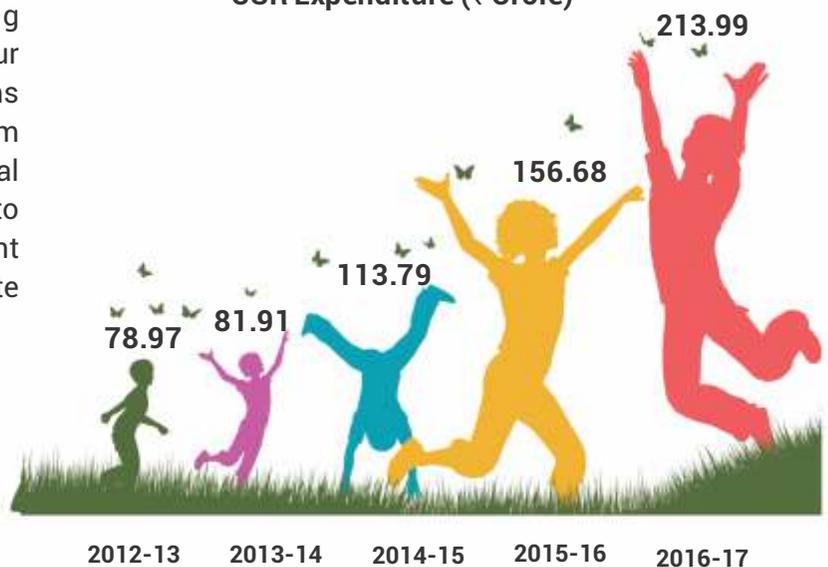


# Social Performance



As a responsible corporate, we ensure the welfare of communities in the vicinity of our operations. We involve the surrounding communities throughout the life cycle of our projects. We conduct safety training programs for rural communities also and sensitize them towards the safety, security and environmental aspects of our operations. In our commitment to promote socially inclusive growth, we spent ₹ 213.99 Crore in 2016-17 from our Corporate Social Responsibility (CSR) fund.

CSR Expenditure (₹ Crore)



## Contribution to Nation Building Initiatives

### Pradhan Mantri Ujjwala Yojana

- IndianOil spearheaded the initiative
- 93.25 lakh connections provided in 2016-17



### Skill India

- Established Skill Development Institute, Bhubaneswar
- Technical training imparted to 84 students



### Start-up India

- Promoting entrepreneurial prowess of India
- ₹ 30 Crore fund has been allotted for promoting promising start-ups in the domestic hydrocarbons sector



### Swachh Bharat Mission

- Setting up ten decentralized Waste-to-Energy plants at Varanasi
- Provided electronic toilets (e-SHE) in Hyderabad benefitting 42,000 women commuters in 2016-17



## Our focus areas

- Safe drinking water
- Healthcare and sanitation
- Empowering women and socially & economically backward groups
- Education and employment-enhancing vocational skills
- Environmental sustainability
- Protection of national heritage and promotion of art & culture
- Rural development projects



# Employees

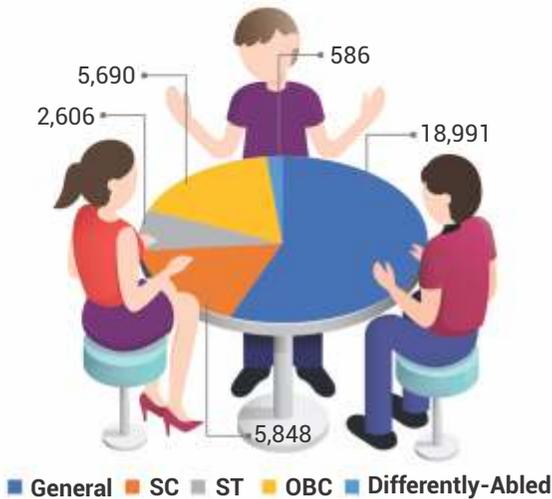


Employees are a key pillar who give the organization strength from its roots and make it stand tall and strong. The skills, experience and prowess of our employees is our key strength. IndianOil has always been known for its progressive people practices, which have helped us to be the top ranked PSU in the listing of 'Top 50 Best Companies to Work For' in India. Our core values - care, innovation, passion and

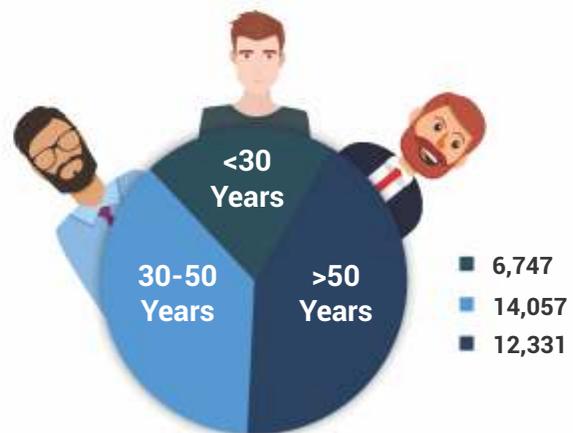
trust – bind our workforce and instil in each a sense to give their best towards achieving organizational goals and take the company to new heights with extraordinary performances.

The IndianOil family now stands strong at 33,135 employees with 16,545 employees in the officer grades and 16,590 employees in the staff grade.

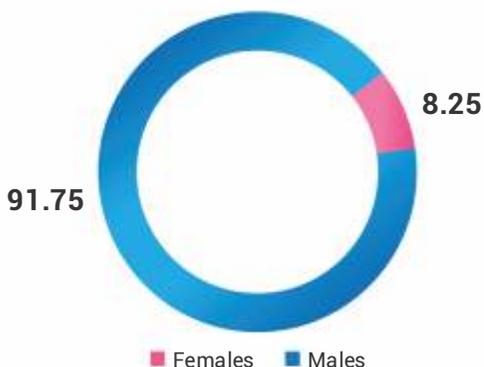
**Total no. of Employees (by Category)**



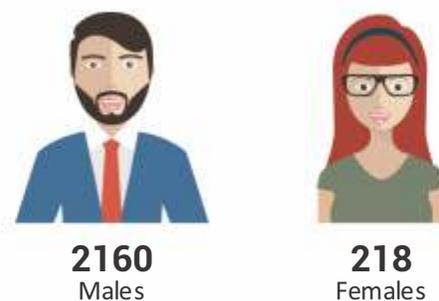
**Employees (by Age Group)**



**Total Employees (by Gender %)**



**Total no. of Employees Recruited (by Gender)**

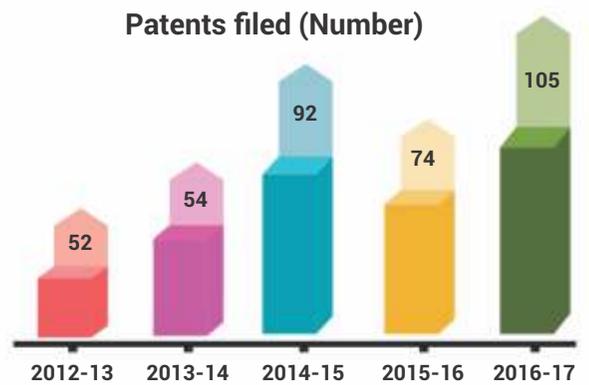


# Product Responsibility

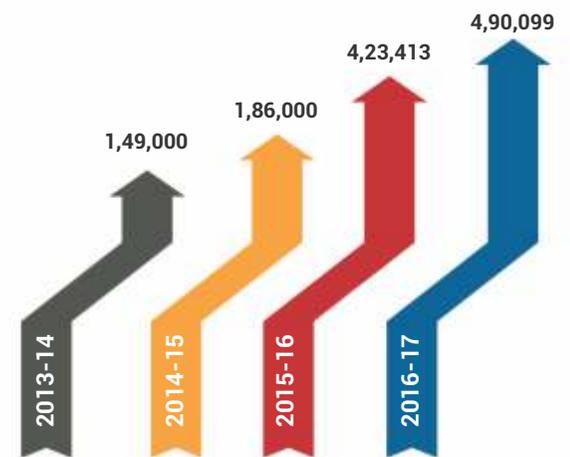


We ensure all our products are complying with the regulatory norms. We conduct various programs viz., Conventions, Seminars, Workshops, Clinics, Trade shows, Spot campaigns, etc. to educate customers about our products, usages, applications, safe handling and disposal practices. During the year, no incident of noncompliance of regulatory or voluntary codes of product information and labeling has been reported.

Through our relentless efforts we achieve product excellence. Our world class R&D Centre at Faridabad provides a competitive advantage by developing technologies, process solutions and innovative products.



**Ethanol procured (Kilolitres)**

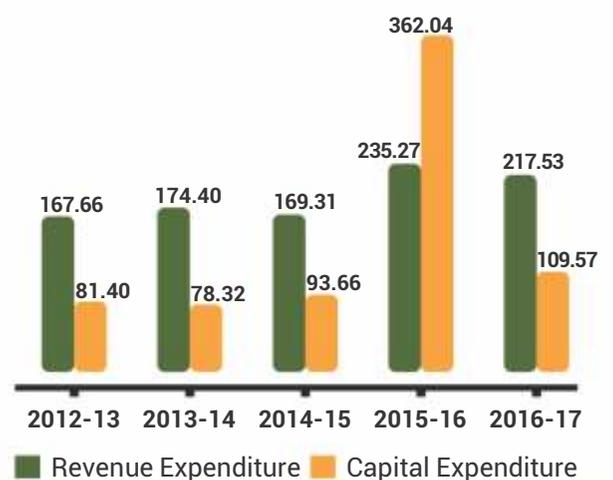


## Our Research Arena

3.54% of ethanol blending achieved in 2016-17



**Amount spent on R&D activities (₹ Crore)**

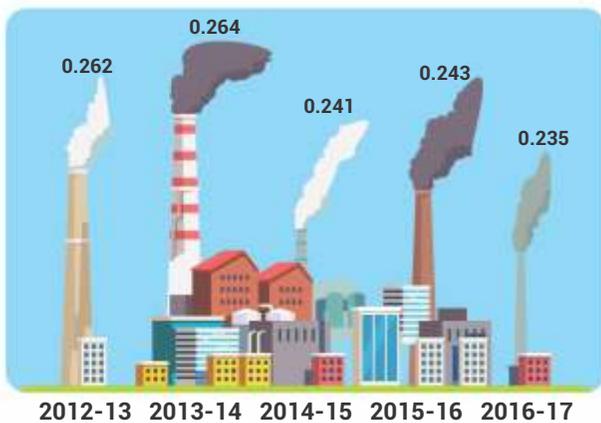


# Environmental Performance

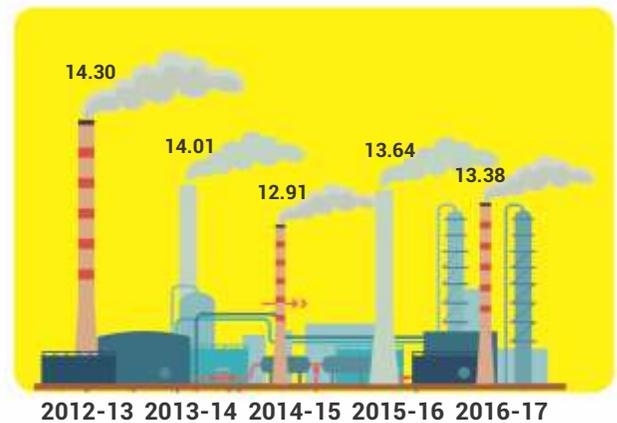


We quantify the environmental impacts of our operations in terms of GHG emissions, energy consumption, water and waste footprints. Our efforts to minimize and mitigate the impacts of climate change, through various sustainability initiatives, have resulted in significant improvement of the environmental indicators over the years.

**Year on Year Specific Emissions (tCO<sub>2</sub>e/MT of crude processed)\***



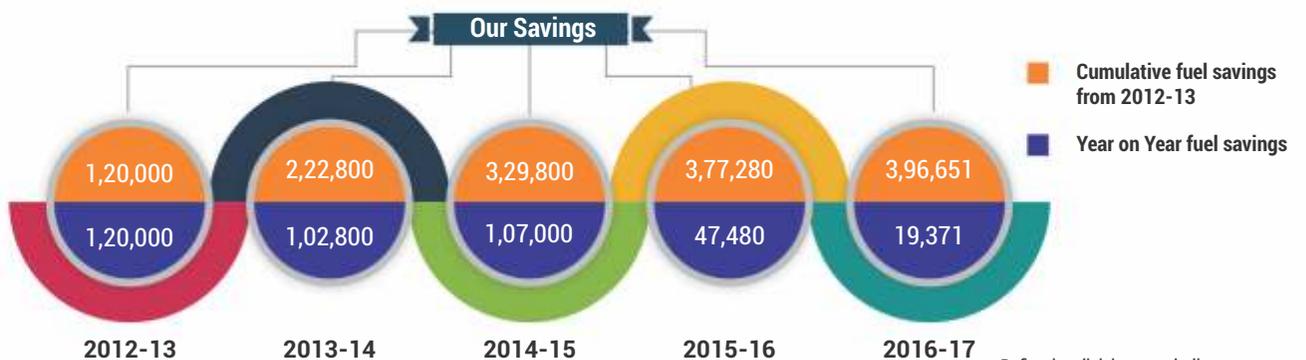
**Year on Year Scope 1 & Scope 2 Emissions (million metric tonnes of CO<sub>2</sub>e)\***



**Waste Water Generated vs Recycled & Percentage of Water Recycled\***



**Energy Savings in Standard Refinery Fuel Tonnes (SRFT)\***



\* Refineries division - excluding Paradip Refinery



# Our Sustainability Horizon



**Wind Power**



**Grid Connected Solar Power**



**Off-grid Solar Power**



**Retail Outlet Solarisation**



**Waste Paper Recycling**



**Solar Street Lights**



**Solar Lanterns**



**Carbon Footprinting**



**Water Footprinting**



**Sustainability Reporting**



**Sustainability Workshops**



**Carbon Neutral Event**



**Energy Conservation**



**Energy Efficiency**



**Green Building**



**Rain Water Harvesting**



**Waste to Energy**



**Community Development**



**Swachh Bharat Abhiyan**



**Tree Plantation**

Released on 27<sup>th</sup> October, 2017



**IndianOil**

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