

CATALYSING SUSTAINABLE GROWTH

SUSTAINABLE DEVELOPMENT REPORT 2018-19



CATALYSING SUSTAINABLE GROWTH

India has embarked on a mission to soaring its economy to a USD 5 trillion mark by 2024. This ambitious target must be achieved in a planet friendly and sustainable manner. Globally, guiding principles such as The Sustainable Development Goals (SDGs) are created to channelize all action towards long term development.

The government has advanced towards implementation of Nationally Determined Contributions (NDCs) committed as part of Paris Agreement in 2015. The nation-wide target capacity installation for renewable energy is 175 GW by 2022. The nation is actively participating in initiatives like Swachh Bharat Mission, Cleaning of Rivers, Zero Effect Zero Defect, Make in India, Smart Cities Mission and Housing for All.

Considering the limited natural resources and gravity of the economic and social challenges, India needs additional momentum towards sustainable growth. Energy sector has a pivotal contribution in inducing the country's progress. As a leader in the sector and a Maharatna, BPCL is determined to fuel India's developmental journey.

Focused vision, large and dedicated employee base, worldwide presence and satisfied customers are fundamental to the company's ability to become a good corporate citizen. BPCL is a business that emphasises on contributing equally to the betterment of People, Planet and Profit. Additionally, company's commitment towards corporate social responsibility, health & safety and care for the environment intensifies its role in nation building.

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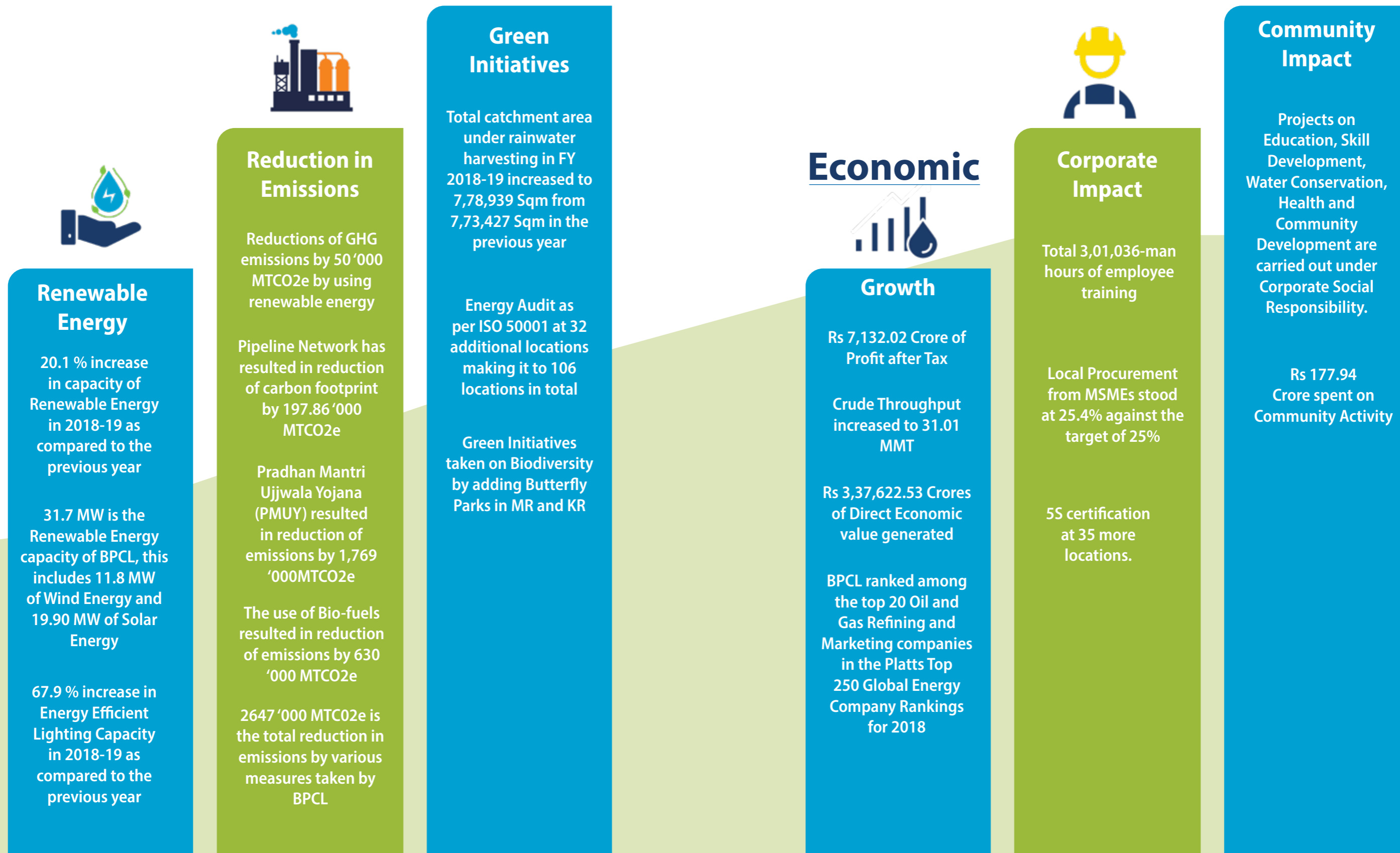
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Performance Highlights

Environment



Social





Message from the CMD

Dear Stakeholders,

In the current times, sustainability has gone beyond being a mainstream phenomenon. Worldwide, businesses have started recognizing sustainability as an indispensable requirement. BPCL is always conscious of the role its business operations play and the impact it has on the lives of millions globally. We constantly strive to create value for all our stakeholders.

As we are committed to sustainable development and inclusive growth, we have been reporting our sustainability initiatives and practices for over a decade. We are happy to present our Sustainability Report for the year 2018-19, 'Catalysing Sustainable Growth', which captures BPCL's progress on environmental, social and economic parameters.

The year 2018-19 was crucial to us in terms of milestones achieved and benchmarks created in

physical performance.

BPCL ranked 275th in the Fortune Global 500 list for 2019, up from 314 in the previous year. We also ranked among the top 20 Oil and Gas Refining and Marketing companies in the Platts Top 250 Global Energy Company Rankings for 2018. BPCL's fully integrated, expanded and modernized Kochi Refinery is now the largest PSU Refinery in the nation with installed capacity of 15.5 MMTPA and was dedicated to the nation by Hon'ble Prime Minister of India in January 2019. Our consolidated gross revenue from Operations was at INR 3,40,879 crores, as compared to INR 2,79,438 crores in the year 2017-18. The Company recorded the highest ever refining throughput exceeding 31 MMT and peak market sales crossing 43 MMT, registering a growth of 8.7% and 4.5%, respectively.

At the consolidated level, the net profit attributable to BPCL stood at INR 7,802 crores

BPCL's Research and Development Centre has been involved in developing cutting edge technology, innovative products / processes and cleaner fuels to increase the Company's profitability and reduce its environmental footprint.

in the year 2018-19, as against INR 9,009 crores in the previous year. The Group has recorded Earnings per Share of INR 39.67 in the year 2018-19, as against INR 45.80 in the previous year after.

We constantly use our reach and resources to trigger ripples of development and facilitate sustainable innovation in our Operations. Towards mitigating climate change risks and contributing to national energy security through substitution of fossil fuels, simultaneously creating new employment opportunities in a sustainable way, BPCL is in the process of setting up three 2G Ethanol Bio-Refineries in the states of Orissa, Madhya Pradesh and Maharashtra.

In the year 2018-19, our renewable energy capacity has been increased from 26.4 MW to 31.7 MW and the energy efficient lighting capacity has been increased from 7.5 MW to 12.7 MW. This has led to reduction of GHG emissions by approximately 50,000 Metric Tonnes of Carbondioxide equivalent (MTCO₂e).

The Bio-Refineries are expected to produce Ethanol 100 KL per day using lignocellulose biomass as feedstock (rice straw/maize stalk) using indigenous technology. The 2G Ethanol produced, will be used for blending in Motor Spirit (Petrol). Numaligarh Refinery Limited, our subsidiary company, has started construction of a 2G Bio-Ethanol plant in Numaligarh, Assam through a Joint Venture named Assam Bio-Refinery Private Limited with M/s Chempolis Oy of Finland and M/s Fortum 3 BV of Netherlands as partners.

BPCL is carrying out a market survey for the availability of Used Cooking Oil (UCO) to assess the capacity of UCO based Biodiesel production.

BPCL is in talks with Biodiesel manufacturers to encourage them to use UCO as their feedstock. BPCL has also taken initiatives in the field of production of Compressed Bio-Gas (CBG) from Biomass waste/ Biomass sources like agricultural residue, cattle dung, sugarcane press mud, municipal solid waste, sewage treatment plant waste, etc. Production of CBG has multiple advantages including reduction of import of Natural Gas, reducing emissions, aiding the rural economy, etc. In this context, BPCL is encouraging the entrepreneurs to set up these plants in the future. In compliance with the Auto Fuel Vision and Policy - 2025 requirements, BPCL is undertaking projects in its Refineries to enable production of BS VI grade fuels and will be ready well before the stipulated date of 1st April 2020 for nationwide rollout. BPCL's Research and Development Centre has been involved in developing cutting edge technology, innovative products / processes and cleaner fuels to increase the Company's profitability and reduce its environmental footprint.

With the proliferation of digitalization, there has been a revolutionary change in the methods of doing business and delivering value. We are treading on the path to embed digital capabilities in all aspects of our Operations in order to improve efficiency, reduce costs, achieve maximum optimisation of processes, aid in decision making and enhance customer experiences. Also, 98% of our retail outlets across the country are now capable of transacting digitally.

The growing climatic concerns and the need for reducing carbon emissions has led to the penetration of electric vehicles. The national target for electric vehicle penetration is 30% of new sales of cars and two-wheelers by 2030. This provides us with an opportunity to diversify into a new portfolio, while catering to the requirements of the other sectors such as commercial vehicles,

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aviation, shipping and petrochemicals, which will continue to depend on conventional fuels. We have inculcated the principles of sustainability in our everyday Operations through process innovations, responsible consumption of resources and behavioural changes. In the year 2018-19, our renewable energy capacity has been increased from 26.4 MW to 31.7 MW and the energy efficient lighting capacity has been increased from 7.5 MW to 12.7 MW.

Enhancing use of solar power in line with Government of India's National Solar Mission, we have registered a 20% growth in our solar installations. Mumbai Refinery has added 348 KW of solar power generating capacity to the existing one, taking the total to 1 MW and Kochi Refinery installed a 120 KW solar plant during the year 2018-19.

This has led to reduction of GHG emissions by approximately 50,000 Metric Tonnes of Carbon Dioxide equivalent (MTCO_{2e}). The total catchment area dedicated to rainwater harvesting has increased from 7,73,427 Sqm to 7,78,939 Sqm in the year 2018-19 to reduce dependency on other water sources. Study on carbon sequestration has been carried out at a few sample locations to understand the environmental impacts caused by our business Operations. The same study shall be replicated across all the other business units to make the locations carbon neutral.

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outlets have increased to 1,313 in 2019 which is equivalent to 8.9 % of the total retail outlets. BPCL has laid down a road map for next 5 years to solarise its retail outlets, depots, installations and LPG plants wherever feasible.

Our corporate values guide us to contribute significantly towards the society and work for the welfare of the underprivileged. CSR initiatives are undertaken based on social, environmental and economic considerations. We partner with several credible and capable institutions to initiate and support various projects that benefit the underprivileged and marginalised sections of society. We are working towards enhancing the capabilities of the youth by jointly managing Skill Development Institutes (SDIs) along with oil industry members at Visakhapatnam, Bhubaneswar, Ahmedabad, Guwahati and Rae Bareilly.

We have taken the lead in developing the SDI in Kochi and have worked towards placement/employment-linked skilling of women, unemployed youth and the disabled. With these initiatives, we support the promotion of higher education and employability skills to strengthen the 'Skill India' initiatives of the Government of India. We have contributed substantially towards creating an 'Open Defecation Free' country and participated enthusiastically in the national mission of 'Swachh Bharat Abhiyan', constructing and renovating more than 3,500 toilets in schools and communities.

State Level Coordinator (SLC) Maharashtra was awarded the All India First prize for 'Best Performance Award in National Level Competitions for SAKSHAM 2018' for setting an all-time record of enrolling 15.35 lakh students. BPCL was also awarded the SKOCH Silver Award for Leadership in the Oil and Gas Sector in

BPCL has consistently contributed towards the goal of achieving Sustainable Development and made significant progress in the core thrust areas of Education, Skill Development, Water Conservation, Community Development and Health & Hygiene under the Corporate Social Responsibility (CSR) program.

the CSR Category for Project Boond on water conservation. BPCL has managed to reach out to 16,500 patients with both, surgical and non-surgical medical aid by extending its support to the world's first hospital on a train.

BPCL enrolled 0.9 crore new LPG consumers under the 'Pradhan Mantri Ujjwala Yojana' (PMUY) in the year 2018-19 and has, till August 2019, issued more than 2 crore LPG connections under the scheme. The consumers were educated on safe usage and benefits of LPG through several mass awareness campaigns. To address concerns of affordability and enhance LPG adoption and usage, the consumers in PMUY focused rural areas were provided with a refill swapping option of 5 Kg cylinder for 14.2 Kg cylinder.

The success in all our endeavours would not have been possible without the steadfast support of our stakeholders. We thank all our customers, associates, business partners, investors and the Government of India and Ministry of Petroleum and Natural Gas for their contribution and guidance in helping us grow and efficiently use our capabilities.

Looking forward, we recognise the changes occurring in the energy landscape and the business environment. As we continue to leverage opportunities and mitigate risks, we are confident of a sustainable, profitable and successful future. We have always strived to spearhead innovation for sustainability, and we will continue to do the same to excel in all our pursuits.

D. Rajkumar
Chairman & Managing Director

About This Report

Bharat Petroleum Corporation Limited (BPCL) is happy to present its 13th Annual Sustainable Development Report for FY 2018-19 centred around the theme 'Catalyzing Sustainable Growth'.

ABOUT THIS REPORT

'This report has been prepared in accordance with the GRI Standards: 'Comprehensive option'. BPCL has reported on all indicators for each identified material aspects and the management approach for the identified material topics. The report has been developed in adherence to all the reporting principles with respect to content and quality as per GRI Standards. This year BPCL has reported on Water and Occupational Health and Safety in line with the revised GRI Standards of 2018.

BPCL also adheres to disclose on the Oil and Gas Sector Supplement (OGSS), the International Petroleum Industry Environmental Conservation Association (API/PIECA/OGP) and the American Petroleum Institute's Oil and Gas Industry Guidance on Voluntary Sustainability Reporting (2010), Sustainability Development Goals (SDGs), NVG of SEBI and Citizen Charter.

BPCL reports on its triple bottom line performance for the period April 1, 2018 to March 31, 2019 as per annual financial reporting cycle. Data/ Information which forms a part of this report is collected on a cloud platform from the corporate and operative levels. The report interweaves the alignment of BPCL's structure, Operations, business and its environment and social initiatives with the UN Sustainable Development Goals (SDG).

The report is externally assured by a third party, KPMG in India, appointed through an e-tendering process. The assurance is conducted as per International Standard on Assurance Engagement (ISAE) 3000 (revised) and AA1000 (2008) Assurance Standard Limited (Type 2) at moderate level. BPCL seeks assurance for their Sustainable Development Report every year and the assurance process is facilitated by the Corporate HSSE Team.

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The most recent Sustainable Development Report was published in November 2018 and the previously published Sustainability Development Reports are available on the link below:

<https://www.bharatpetroleum.co.in/sustainability/sustainability-reports.aspx>

REPORTING BOUNDARY

During FY 2018-19, there has been no significant change in terms of organization, structure, ownership structure or supply chain. However, the Integrated Refinery Expansion Project (IREP) has led to the expansion of Kochi Refinery from 9 to 15.5 MMTPA. Food Grade Quality Hexane (FGQH) and Polymer grade Propylene have been added as new products in BPCL's product portfolio.

BPCL's report boundary comprises of its seven Business Units and Pipeline Entity. The/ directly controlled seven Strategic Business Units (SBUs) operating in India are Refineries (Mumbai and Kochi), Retail, Lubricants, Industrial and Commercial, LPG, Aviation and Gas. In the report local refers to India and Mumbai Refinery (MR) and Kochi Refinery (KR) are the most significant area of Operations for BPCL. The boundary excludes BPCL's Retail Outlets, LPG Distributors, Joint Ventures, Subsidiaries and In-transit product movement.

As per the requirement of GRI Standards management approach for each material topic has been included in each section of this report.

Feedback and Suggestions

The feedback and suggestions from all internal and external stakeholders are appreciated and can be sent at the following address:

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BPCL At A Glance

Bharat Petroleum Corporation Limited (BPCL) in the petroleum sector, is India's 'best performing' Maharatna Public Sector Undertaking.

OVERVIEW

Bharat Petroleum Corporation Limited (BPCL) in the Petroleum sector, is India's 'best performing' Maharatna Public Sector Undertaking. BPCL started its journey in 1860 as the Burma Oil Company. In 1952, Government of India took over its reins and renamed it as Bharat Refineries Ltd. Later in 1977, it was renamed as Bharat Petroleum Corporation Ltd. BPCL has played the role of a pioneer in more ways than one, ensuring the energy needs of the nation are met uninterruptedly.

IMPORTANT MILESTONES

BPCL conducts its Operations pan-India through its seven Business Units and its pipeline network of 2,241 Kms. The business units include Refinery, Retail, Lubricants, Industrial and Commercial, Liquefied Petroleum Gas, Aviation and Gas. The product portfolio of BPCL comprises of MS, HSD, Lubricants, Aviation fuel, Bitumen, LPG, Solvents and now added Food Grade Quality Hexane (FGQH) and Polymer grade Propylene as well. BPCL has its headquarters located in Mumbai, Maharashtra, India and has four regional offices in Delhi, Mumbai, Kolkata and Chennai.

BPCL upholds its principles to ensure generation of immense value at three fronts of sustainability i.e. social, economic and environmental. BPCL also strives to identify opportunities to ensure sustainable progress towards reaching larger goals. The Sustainable Development

Report of BPCL thus highlights its journey towards enhancing the value it creates for all its stakeholders.

Business Units


BPCL

- Refinery
- Retail
- Lubricants
- Industrial and Commercial
- Liquefied Petroleum Gas
- Aviation
- Gas

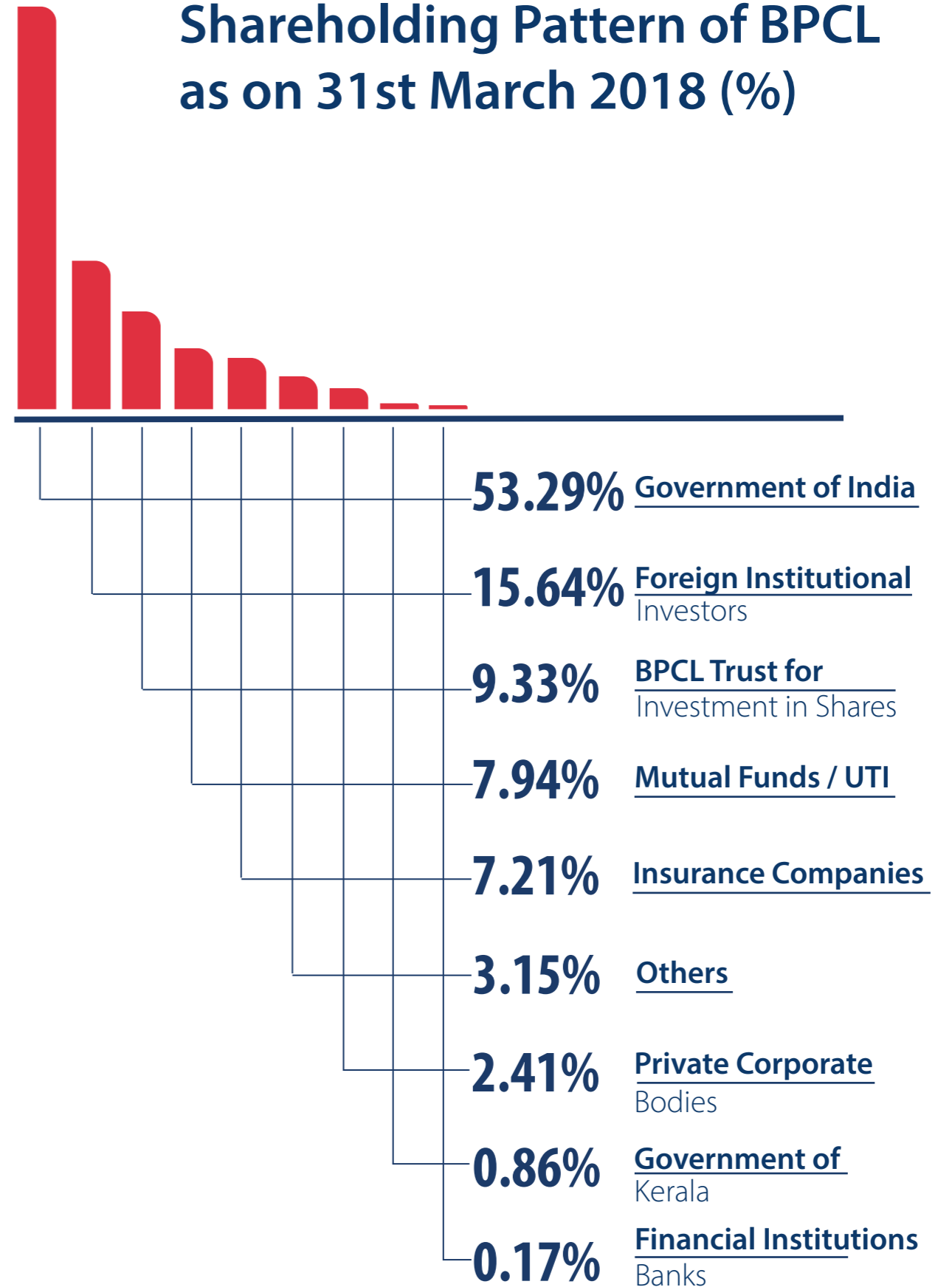
BPCL's Operational Presence



BPCL serves the nation across a wide range of customer base from households to industries. This seamless and efficient product procurement and delivery is ensured through its strategic Business Units (BUs).

- 02** Refineries
Mumbai and Kochi
- 76** Retail
Installation/Depots/TOPs
- 52** LPG
Bottling Plants
- 04** Lube
Blending Plants
- 56** Aviation
Fuelling Stations/ On-wheels
-  **Industrial and Commercial**
For Industrial Customers
- 16** Gas
Geographical Areas
- 2241** Pipeline
In Kilometres

Shareholding Pattern of BPCL as on 31st March 2018 (%)



Presence Across Value Chain and Diversified Product Offering

REFINERIES



Growth 2018-19

Both Mumbai and Kochi refinery delivered their best ever crude throughput and crude processing performances. A growth of 8.7% in crude throughput was observed over FY 2018-19.

It has been an excellent year for BPCL in terms of the operational performance of its Refineries, where a tremendous progress has been observed. Both Mumbai and Kochi Refinery delivered their best ever crude throughput and crude processing performances. A growth of 8.7% in crude throughput was observed in 2018-19.

BPCL's production of MS and HSD was highest ever due to the higher crude throughputs delivered by the Refineries in 2018-19. The Refineries demonstrated their constant endeavour to maximize value-added products to meet the market demand by optimizing crude mix and maximization of the unit intakes. The Refineries have a well-established Energy Management System accredited with ISO 50001:2011. The efforts of energy conservation across Refineries resulted in reduction of Specific Energy Consumption as compared to previous year.

The Refineries have aggressively pursued digitalisation in order to become "Smart" factories. Some of the initiatives have already been implemented and many are in the course of action to achieve the dream of a digitally equipped Refinery. A few of the initiatives include wireless vibration monitoring system, robotics and drones used for surveillance and inspection, intelligent P&IDs, machine learning for forecasting failure of rotary equipment, etc. The Refineries also achieved the PAT (Perform Achieve and Trade) target for 2018-19.

Mumbai Refinery (MR)

Mumbai Refinery surpassed its previous year's crude processing level by 5%. In 2018-19, MR processed 14.77 MMT of crude which was the highest ever achieved against 14.05 MMT of crude oil processed in 2017-18. The total throughput for the year stood at 14.78 MMT highest ever



achieved against 14.29 MMT of the previous year. Mumbai Refinery achieved a capacity utilisation of 123.08% as compared to 119.08% in the previous year. There has been an addition of Pharmaceutical Grade Quality Hexane (FGQH) during the FY 2018-19.

Mumbai Refinery had the privilege of successfully hosting the 23rd Refineries and Petrochemicals Technology Meet (RPTM) in collaboration with Centre for High Technology (CHT) at Mumbai from 12th – 14th January 2019. This mega International event organised on the theme, "Aligning Refineries towards Sustainable Future" saw participation of more than 1200 delegates from across the world. A group of 32 overseas personnel from M/s Dangote Oil Refining Company Limited, Nigeria were trained for 3 months in MR on various process units.

Kochi Refinery (KR)

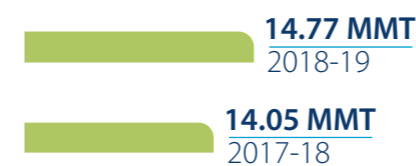
Kochi Refinery has made significant progress in achieving its highest ever crude processing of 16.05 MMT as compared to 14.10 MMT in the previous year. The Refinery saw an increase in its total throughput by 13.8 % with 16.23 MMT of production in 2018-19.

The capacity utilisation for Kochi Refinery was at 103.54% in FY 2018-19. There has been an addition of Food Grade Quality Hexane (FGQH) and Polymer grade Propylene in the portfolio during the FY 2018-19. As part of the Integrated Management System, KR was recertified to the new standards of ISO 9001:2015, ISO 14001:2015 standards for Quality, Environment & Occupational Health and Safety Management Systems.

Various business excellence tools such as Six Sigma and 5S are at various levels of implementation. Additional initiatives such as underwater videography of jetty pipeline support structures at canal and river crossings, laser scanning of coke drums, and on-stream Acoustic Emission Testing etc are additional initiatives taken at KR.

The Refineries are in the process of implementing the AIMS (Meridium) software upgrade to the latest version along with new modules.

Crude Processing Rate Mumbai Refinery



Crude Processing Rate Kochi Refinery



PIPELINES



Pipelines are the most sustainable and optimised mode of transportation for various petroleum products. In FY 2018-19, pipelines saw an increase in throughput by 2.47% with 15.34 MMT of petroleum products. In 2018-19, product movement through pipelines observed an increase of 7% as compared to the previous year. The total product transported through these pipelines during the reporting period was 6108 MMT-KM. MS and HSD constituted major portion of overall products transported through pipelines.

Heat Traced Pipelines were laid in Kochi Refinery and Mumbai Refinery and became operational in FY 2018-19, for transporting high pour product. BPCL envisions to double its "Pipelines Network" by the year 2024-25 and is also partnering with IOCL and HPCL in laying the world's longest LPG pipeline from Kandla to Gorakhpur (length 2757 km and capacity of 8.25 MMTPA). Another project envisaged is for laying multipurpose pipeline from Bina Dispatch Terminal to POL Terminal at Panki, Kanpur (approx. length 355 Kms, throughput 3.5 MMTPA) for transporting MS/HSD (High Speed Diesel) & SKO. BPCL also envisages to lay a cross-country multipurpose pipeline from Irugur, Tamil Nadu to Devangunthi, Karnataka (length 294 Kms).

The pipelines have been accredited to Integrated Management System (ISO 9001:2015, ISO 14001:2015 & OHSAS 18001:2007 Certificates) since 2010 for their operational excellence and timely maintenance. They also have a state-of-the-art SCADA system incorporated with a proven leak detection system at Mumbai and Bijwasan.

The network expansion by the private players has continued to bring about change in the petroleum retailing sector. The oil sector peer market share fell to 91.1% in FY 2018-19 from 92.1% of the previous year. The nation's retail petroleum sector in FY 2018-19 grew by 3.7% but the Public Sector Enterprise retail growth was observed to be only 2.6% which depicted a marginal shift towards the private players. BPCL's retail business registered a growth of 2.6% which was in line with the Public Sector Enterprise's retail growth. A total market sale of 27.30 MMT was registered in 2018-19. The MS and HSD volumes grew at 6.4% to 7.4 MMT and

1.4% to 18.93 MMT respectively. BPCL recorded a growth of 15.8% on CNG sale and de-growth of 13.3% and 6.7% on SKO and Auto LPG respectively in the alternative fuel segment. Service offerings, environment friendly fuels, network expansion, digitalisation and governance were the key focus areas that helped BPCL. There were several initiatives taken up with the focus on providing environment friendly fuel such as making BS VI products in National Capital Territory (NCT) available, commissioning of 81 CNG ROs, promoting sales of the premium branded fuel, 'Speed' and expanding the network of 'Speed 97' to 41 ROs and also its re-positioning as highest Octane Unleaded Petrol. The sale for "Speed" achieved was 379 TKL with a conversion of 3.6%.

Network expansion is the other area on which BPCL has strong focus. 355 New Retail Outlets (NROs) with 89 of them in key priority rural markets, 34 Company Owned Company Operated (COCO) Outlets and 6 One Stop Trucker Shop (OSTS) Outlets were commissioned in 2018-19.

At the end of 2018-19, BPCL has a total of 14802 number of retail outlets post these annual additions. 136 number of new Retail Outlets offering Pure for Sure (PFS) service standards added to the previous list of PFS ROs, increasing the total to 8,183 PFS ROs. BPCL also has 1,403 PFS Platinum ROs across India, equipped with fully automated and computerized offerings, monitored through CCTV, assuring the promise of purity with improved service.

The shopping convenience under the brand 'In & Out' operating in 150 ROs of BPCL has added 39 more Quick Service Restaurants raising the total to 121 apart from alternate shopping options like florists, vehicle repair shops, etc. (available at select ROs). Services like money transfer and insurance continue to be operated across 1000 retail outlets. Financial inclusion services at 477 ROs and 16 FINO Payments Bank branches at its ROs have been commissioned in the last year through FINO Payments Bank to extend convenience to customers for financial Operations. The services included are AEPS (Aadhar Enabled Payment System), Micro ATMs and API (American Petroleum Institute) based DMT (Domestic Money Transfer) and bill payment services. The digital transactions facilitated 'Service to Customers' achieved a 30%

increase and value as INR 6,341 crores in FY 2018-19. A Driver Insurance Scheme was also launched by the BU, which provides Accident Insurance benefits of INR 3 lakhs to drivers and INR 1.50 lakh to helpers. Approximately 2 lakh drivers and 2 lakh helpers have been enrolled, with an addition of 9,000 drivers and helpers every month.

The Integrated Management System (IMS) at all operating locations across India was implemented. Comprehensive Audits, Governance Audits and Interlock Assessment Audits were conducted extensively. Energy Audits as per ISO 50001 were conducted at 32 additional locations and 5S certification was obtained for 35 more locations. The second largest solar power plant of capacity 1.45 MW was commissioned in Manmad Installation. The target of nil Loss Time Accident (LTA) was achieved by the retail Operations and the Tank Lorry in-transit accidents were reduced by 3.8%. About 9,000 ROs have been equipped with Enterprise grade Dual Connectivity to facilitate robust data transfer between ROs and Data Management Centre. The automation and digitisation system imbibe greater transparency which directly translated to customer trust, good governance, better asset utilisation and inventory management.



RETAIL

Market Growth Figures

Retail

14802	Retail Outlets 2018-19
8183	Pure for Sure Outlets 2018-19
1403	Pure for Sure Platinum Outlets

LIQUEFIED PETROLEUM GAS (LPG)

The market sale for LPG registered as 6.49 MMT in FY 2018-19, which showed an increase by 8.4% highest amongst all oil industry peers for the third consecutive year. Only BPCL in the oil industry witnessed an increase in market share achieving a growth of 0.3% over the previous year with the current share at 26.55%. 826 new distributors were added to the BPCL family, surpassing all records and taking the total distributor network to 5907. The newly added distributors added 1.2 crore new LPG customers making the domestic customer base as 7.83 crores. The second cylinder facility was extended to 14.4 lakh new customers to support their growing fuel needs.

Under the Pradhan Mantri Ujjwala Yojana, 0.9 crore new LPG consumers were enrolled. Education on safe usage and benefits of LPG to these users was imparted through several mass awareness campaigns such as Pradhan Mantri LPG Panchayat, Safety Clinics and 'House to House' safety education by Ujjwala Suraksha Mitra/Ujjwala Didis, Nukkad Nataks, etc. BPCL conducted more than 23,000 LPG Panchayats during FY 2018-19. A swapping option between 14.2 Kg and 5 Kg cylinder was also extended in PMUY to focus rural areas to enhance the adoption of LPG while addressing the concern of affordability. 2 Kg cylinder was also launched keeping in view the applications in small size eateries and requirements of the migratory population in big cities and for students.

LPG BU maintains stringent Health & Safety standards which led to its recognition, for the 9th consecutive year, as the 'Best LPG Marketing Organisation' by Oil Industry Safety Directorate. There are several safety initiatives taken up by the BU such as installing Vehicle Tracking System (VTS) in the fleet of Bulk LPG Tankers for monitoring purpose and avoiding night driving and imparting training to Bulk LPG Tanker drivers. BPCL commissioned a Green Field LPG bottling plant at Raipur of 5,858 TMT, which recorded a growth of 7.5% and achieving capacity utilization of more than 100% from its 52 bottling plants across the country. Implementation of PAHAL, initiative of the Ministry was done to ensure timely and seamless transfer of subsidy to its customers. BPCL had enrolled 6.8 crore LPG customers for direct transfer of benefit (under PAHAL) and disbursed INR 26,564 crores directly into customer bank accounts.

Market Growth Figures

LPG

- 5907** Distributor Network
2018-19
- 7.83 Cr** Domestic Customer Base
2018-19
- 1.2 Cr** New LPG Customers
2018-19

Only BPCL in the oil industry witnessed an increase in market share achieving a growth of 0.3% over the previous year with the current share at 26.55%.

2018-19

LUBRICANTS

The Lubricant BU registered a market sales volume of 238 MMT in FY 2018-19. The Indian lubricant market is expected to grow with a CAGR of 2.5%. Moving beyond domestic boundaries, MAK lubricant brand is expanding itself overseas through its export channel, ensuring its establishment as a reliable brand worldwide. The market share for BPCL's Lubricant business was at 17.7%.

MAK Lubricants has established position in the automotive and industrial segments. Three distinctive channels viz. Retail, Bazaar, & Industrial aid marketing of MAK Lubricants. The Lubricants business thus focusses on BPCL Retail Outlets, bazaar network, authorized service stations, & Industrial and Institutional customers for its larger share of business.

The market growth figures for the BU were at 12.5% in the Institutional channel, 5.9% in the export channel, 4.2% in the OEM channel and 4.0% in the Bazaar channel during the year 2018-19.

The retail channel registered ground-breaking growth of 1.53%. With efficient internal coordination high potential retail outlets were identified in each sales area for better focus. Frequent activities and campaigns were conducted in these Retail outlets to tap their potential.

Initiatives like the MAK Quick Oil Change (QOC) machine, MAK Dispenser, focus on rural Retail units, product specific campaigns, MAK QUIK APP for customers and other value-added measures increased the reliability and visibility of the brand and ensured significant value proposition being offered to customers. Since Retailers and Mechanics play a pivotal role in use of MAK products, ground level activities were conducted to enrol and engage them to support sales. Network expansion was focused by the BU and new distributors were appointed under different categories to strengthen its primary network pan India.

The SIES SOP Star Award instituted by SIES School of Packaging under the 'Rigid Plastic-Ancillary Packaging' was awarded to the new MAK Lubricants packs for the ergonomically functional and innovative, futuristic packaging used.

Market Growth Figures

Lubricants

- 12.5%** Institutional Channel
2018-19
- 5.9%** Export Channel
2018-19
- 4.2%** OEM Channel
2018-19
- 4.0%** Bazaar Channel
2018-19



The SIES SOP Star Awards for Excellence in Packaging

INDUSTRIAL AND COMMERCIAL (I&C)

Market Growth Figures

I & C

15.6% Market Share
2018-19

The Industrial & Commerce business achieved an overall sale of 5.75 MMT and encountered an unparalleled growth of 10.5% to become the industry growth leader.

2018-19

The Industrial and Commerce Business has made a distinguished mark for itself as a market leader which ensures that its growth and productivity are aligned to customer needs and market trends. In year 2018-19, the BU achieved an overall sale of 5.75 MMT and encountered an unparalleled growth of 10.5% to become the industry growth leader. I&C observed a market share of 15.6% amongst all the oil sector peers this year. This was a significant increase from last year by 0.6% resulting in BPCL being the only Public Sector Enterprise to have increased its market share in the current financial year. I&C was successful in achieving profit by maintaining balance between volume and value in a highly competitive and discount driven market.

In FY 2018-19 the focus areas for the business were seamless customer service and offerings, best value for customers, enhanced logistics solutions and 'Riding the Digital Wave'. Several digital initiations were undertaken by I&C.

The product portfolio was also enhanced by the BU as it introduced Polymer Grade Propylene and Solvent D-80 in this year. The launch of the two new product helped I&C to foray into the niche market for these specialty products and it also made further developments in foraying into petrochemicals by initiating test marketing for the first imports of petrochemicals.

80 Consumer Pumps were commissioned across the country, covering various sectors like mining, industrial, STU and Defence, across geographies resulting in a record sale of 1.488 MMT of HSD in 2018-19. Bitumen sourcing was also introduced at all major ports across the Indian coastal line, ensuring improved logistics optimization and enhanced presence in the major markets away from the Refinery economic zones.

AVIATION

Market Growth Figures

Aviation

25.9% Market Share
2018-19

The Aviation Business recorded its highest ever sale of 1,989.68 TMT this year against 1,790 TMT of last year. It registered a growth of 11.1% while the industry growth stood at 9.9% which places BPCL well above the registered sectoral growth in the market. There was also an increase in the market share from 25.6% last year to 25.9% this year. In the domestic segment, a growth of 24% growth was recorded, predominantly due to higher uplifts

by Indigo Airlines. This growth was witnessed by BPCL despite heavy discounts in the OMC sector due to surplus of Aviation Turbine Fuel.

Three new Aviation Fuelling Station (AFS) were commissioned at Ranchi, Kannur and Srinagar airports along with four new AFS stations under UDAAN i.e. Regional Connectivity Scheme of Government of India at Salem, Shillong, Ambikapur and Pakyong have also been undertaken. These new inclusions have increased BPCL's presence to a total of 56 airports in India.

Market Sale Figures

Aviation Fuel

1,989.68 TMT
2018-19

1,790 TMT
2017-18

GAS

1797 TMT of gas was handled in 2018-19. The market sales increased from 1036 TMT in 2017-18 to 1078 TMT in FY 2018-19, registering a growth of 4.05%. 276 TMT and 443 TMT of Gas was provided to Mumbai and Kochi Refinery respectively for their in-house requirements out of the total gas throughput handled. The remaining 1078 TMT was supplied to customers in Fertilizer, Power, CGD, Steel and other industrial sectors in the country. BPCL also exceeded 1MMT per year mark for the second time in a row.

In September 2018, Gas BU achieved its highest ever monthly sales of 150 TMT. Imports also increased to 10 cargoes of LNG at Dahej Terminal in 2018-19, as compared to 5 cargoes in the previous year. Taking a step further towards ensuring environmental sustainability, BPCL incorporated a wholly owned subsidiary in 2018-19 for handling Natural Gas business.

Market Sale Figures

Gas

1078 TMT
2018-19

1036 TMT
2017-18



BPCL serves the local and international markets and extends its products to customers from all segments. BPCL has its presence in 5 countries and does not own any reserves in India.

The map represents the number of countries and locations in which BPCL operates, including 26 discoveries till 2018-19. BPCL has a presence in 26 blocks out of which 13 are in India and 13 are overseas. BPCL does not undertake any direct Operations at its international locations. Only the subsidiaries have overseas Operations.

Country	Nos	Block	%
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★ Discovery Location

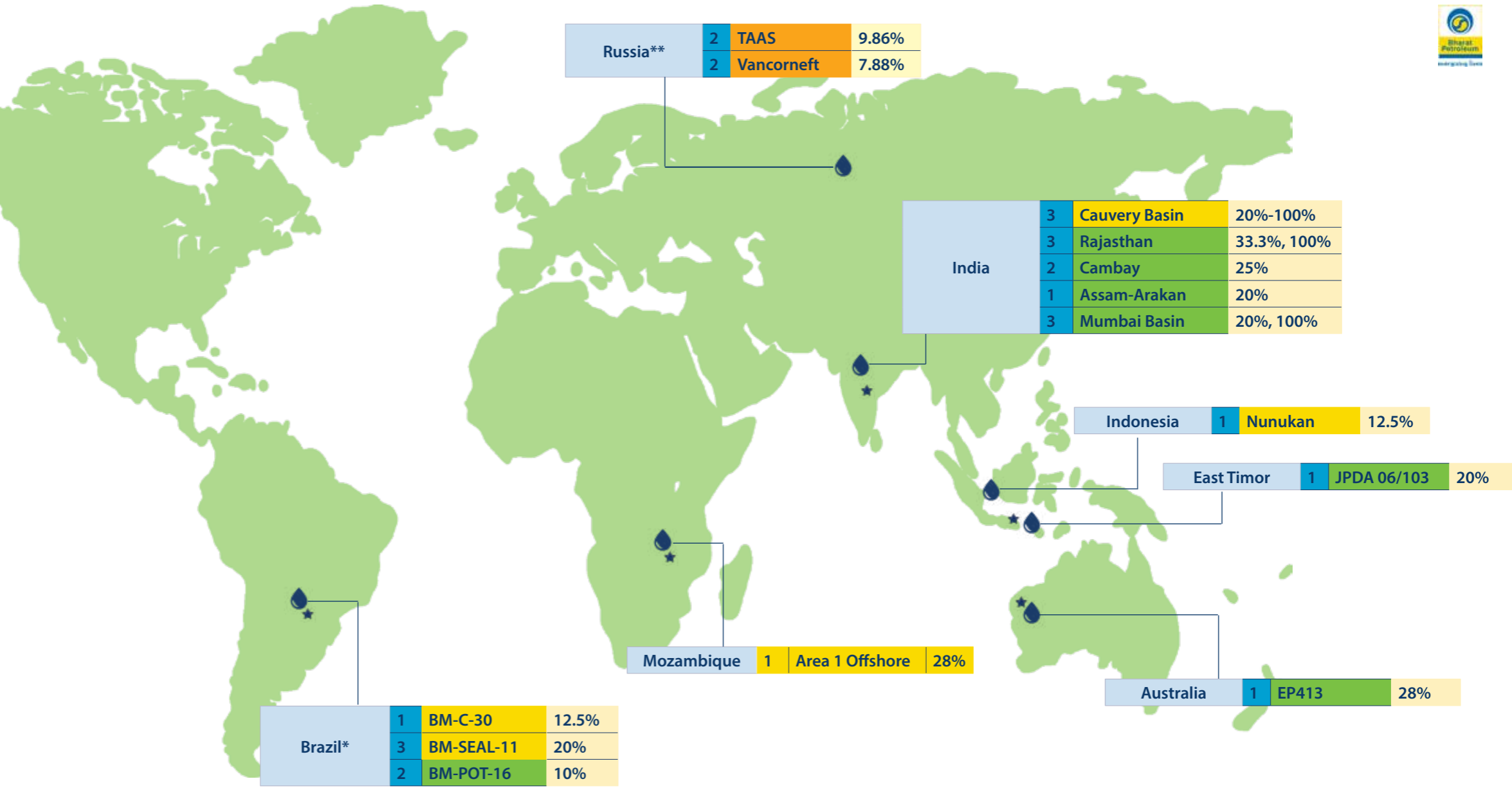
■ 26 Exploration Discoveries

■ Block in Appraisal Stage

■ Producing Blocks

* Held through 50-50 JV with Videocon Ind.

** Held through SPVs with OIL & ICCL



Products Marketed by BPCL

Products Sold Directly

- Fuel Oils (FO/LSHS/HPS)
- Toluene
- Benzene
- Naptha
- Solvents
- Aviation Turbine Fuel (ATF)
- Bitumen
- Sulphur
- Food Grade Quality Hexane (FGQH)
- Polymer grade Propylene

Sold Retail Dealers & Distributors

- Motor Spirit (MS)
- High Speed Diesel (HSD)
- Superior Kerosene Oil (SKO)
- Mineral Turpentine Oil (MTO)
- Liquefied Petroleum Gas (LPG)
- Lubricants

BPCL's Network

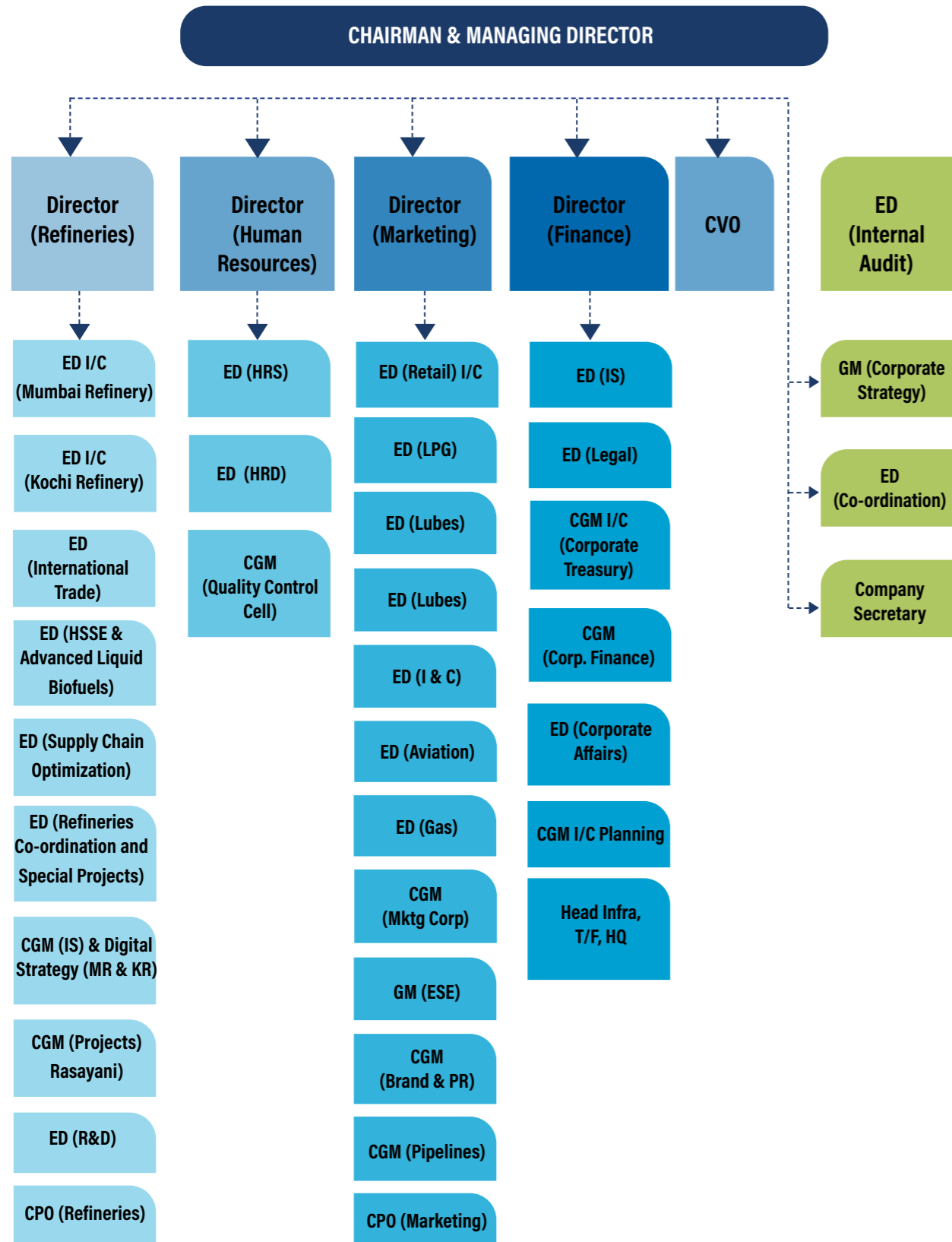
Subsidiaries (Indian) – 5

- Numaligarh Refinery Limited (NRL)
- Bharat Petro Resources Limited (BPRL)
- Bharat Petro Resources JPDA Ltd [Subsidiary of BPRL]
- BPCL-KIAL Fuel Farm Private Limited (BKFFPL)
- Bharat Gas Resources Limited (BGRL)

Subsidiaries (Foreign) – 6

- BPRL International B.V. (The Netherlands) [Overseas subsidiary of BPRL]
- BPRL Ventures B.V. (The Netherlands) [Overseas subsidiary of BPRL]
- BPRL Ventures Mozambique B.V. (The Netherlands) [Overseas subsidiary of BPRL]
- BPRL Ventures Indonesia B.V. (The Netherlands) [Overseas subsidiary of BPRL]
- BPRL International Ventures B.V. (The Netherlands) [Overseas subsidiary of BPRL]
- BPRL International Singapore Pte Ltd. (Singapore) [Overseas subsidiary of BPRL]

Organizational Structure



Values

- Trust is the bedrock of our existence
- Customer centricity is intrinsic to our achievements
- Development of people is the only way to success
 - Ethics govern all our actions
 - Innovation is our daily inspiration
- Collaboration is the essence of individual action
- Involvement is the way we pursue our organizational goals

Vision

- We are the most admired global energy company leveraging talent and technology
- We are the first choice of customers, given our constant pursuit for customer service quality excellence
- We exploit profitable growth opportunities outside energy to give back to society and environment
 - We are role models for implementing efficient Health Safety, Security and Environment initiatives
- We are a great organisation to work for as we ensure both personal and professional growth equally
- We are an organisation that constantly learns, improves and innovates
 - We take social responsibility seriously as a model corporate entity

Mission

- Participate prominently in nation-building by meeting its growing energy needs, and to support this endeavour, pursue the creation of economic surplus by efficiently deploying all available resources and aiming towards global competitiveness in the energy sector
- Strengthen and expand areas of core competencies throughout the country, total quality management in all spheres of business and maintain the status of a leading national company
- Create awareness among people on the imperatives of energy conservation and efficient consumption of petroleum resources, by disseminating information through appropriate media
 - Availing ourselves of new opportunities for expansion / diversification arising from the liberalization of the economy to achieve a global presence
- Promote ecology, environmental up gradation and national heritage
 - Information on training, other mechanisms, suggestion schemes

Culture

- We care for people
 - We enrol people through open conversations
- We remain result focused with accountability for governance
 - We proactively embrace change
- Our every action delivers value to the customer
 - We collaborate to achieve organisational goals



05

Corporate Governance and Ethics

Good governance goes beyond just compliance, it should be embodied in the culture of the organisation.

As a responsible organisation, BPCL has proactively upheld good governance practices and constantly strive to create and enhance value for all its stakeholders. The company endeavour to enhance its standards as its prestige rests on the conduct of all the employees and other stakeholders with which it is involved.

To ensure fairness to the Stakeholders through transparency, full disclosures, empowerment of employees and collective decision making.

Bharat Petroleum Corporation Limited's philosophy on Code of Governance

Over the years, BPCL has received various awards for its good governance practices. In FY 2018-19, BPCL received the 'Golden Peacock Award 2018' for 'Excellent Corporate Governance' from the Institute of Directors for its stellar achievement in meeting a high level of commitment to all stakeholders, while conducting its governance in a fair, transparent and ethical manner.

Further, Corporate HSSE has received the Corporate Governance Award from Indian Chamber of Commerce in recognition of the excellent performance demonstrated in the area of Corporate Governance and Sustainable Development and for nurturing innovation.



Board of Directors Composition

The Board of Directors is the highest Governance body. It reviews the compliance of all laws applicable to the Company. The Board has adopted a Code of Conduct for the Directors and also for the Senior Management of the Company and the same has been posted on the website of the Company. There is a system in the organization of affirming compliance with Corporate Governance by the Board Members and Senior Management Personnel of the Company.

gender, age, race, colour, ancestry, marital status or affiliation with a religious or union organisation or minority group. Besides, there were no incidents of discrimination reported in the Company. As on 31st March 2019, BPCL Board comprised of 11 Directors represented by 5 Whole-time Directors including Chairman & Managing Director, 2 Part-time (Ex-Officio) Directors (Government Directors) and 4 Part-time (Non-official) Directors (Independent Directors) including one Women Director. The Board met sixteen times during the year.

BPCL, being a Government Company, all the Directors are appointed as per the nomination from the Government of India. The nomination of the Director is suggested to the Board and shareholders for approval under the provision of Companies Act, 2013. The process of appointment of Directors (Whole-time Directors, Nominee Directors and Independent Directors), however, is done by the Government of India in line with the Directorate of Public Enterprises (DPE) Guidelines applicable for Central Public-Sector Enterprises (CPSEs). DPE Guidelines lay down the criteria of eligibility for the selection of Directors. The Board of Directors are selected based on their requisite core skills, expertise and competencies in the context of Business of the Company.

The Board of Directors have adopted and delegated to Sustainable Development Committee (SDC), the implementation of Business Responsibility Policy based on the principles of National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business as issued by the Ministry of Corporate Affairs, Government of India. The SD Committee's knowledge enhancement on sustainability parameters takes place during the review and finalisation of the Business Responsibility Report (BRR) and Sustainable Development Report (SDR). The SD Committee reviews the sustainability initiatives twice in a year and reports directly to the Board.

BPCL does not engage or support direct or indirect discrimination in appointment of the Board members, compensation, termination or retirement based on caste, religion, disability,

The SD Committee also assesses materiality topics and ESG parameters driven by Corporate HSSE department. The list of Board of Directors for 2018-19 is given below:

COMMITTEES OF THE BOARD

In order to make informed decisions in the best interest of BPCL, the Board has constituted various committees. These Committees are formed in line with the requirements of the organisation.

Various committees exist with different roles under the provisions of Department of Public Enterprises (DPE) Guidelines / Companies Act. The Economic, Environmental and Social aspects of BPCL's Operations are monitored by respective Board committees.

Committees of the Board*

- Audit Committee
- Project Evaluation Committee
- Nomination and Remuneration Committee
- Stakeholders' Relationship Committee
- Sustainable Development Committee
- Risk Management Committee
- Corporate Social Responsibility Committee



BPCL was recognized by Mumbai Customs for consistency in maintaining the highest standards of Corporate Governance

*Details mentioned in Annual Report FY 2018-19

Board of Directors

	Name of Director	Gender	Designation
1	Shri. D. Rajkumar	Male	Chairman & Managing Director
2	Shri. R. Ramachandran	Male	Director (Refineries)
3	Shri. K. Padmakar	Male	Director (Human Resources)
4	Shri. K. Sivakumar	Male	Director (Finance) (up to 07.05.2018)
5	Shri. N. Vijayagopal	Male	Director (Finance) (w.e.f. 17.12.2018)
6	Shri. S. Ramesh	Male	Director (Marketing) (upto to 23.09.2018)
7	Shri. Arun Kumar Singh	Male	Director (Marketing)
8	Dr. K. Ellangovan	Male	Government Director
9	Shri. Rajiv Bansal	Male	Government Director
10	Shri. Rajesh K. Mangal	Male	Independent Director
11	Shri. Deepak Bhojwani	Male	Independent Director (upto 30.11.2018)
12	Shri. Gopal Chandra Nanda	Male	Independent Director (upto 30.11.2018)
13	Shri. Vishal Vinod Sharma	Male	Independent Director
14	Shri. Vinay Sheel Oberoi	Male	Independent Director
15	Shri. Harshadkumar P. Shah	Male	Independent Director
16	Ms. Jane Mary Shanti Sundharam	Female	Independent Director
17	Dr. Tamilisai Soundrarajan	Female	Independent Director (upto 23.3.2019)

Percentage of male individuals within the Board of Directors (as on 31st March 2019)	90.9 %
Percentage of female individuals within the Board of Directors (as on 31st March 2019)	9.09%
Percentage of below 30 individuals within the Board of Directors (as on 31st March 2019)	0%
Percentage of 30-50 years individuals within the Board of Directors (as on 31st March 2019)	0%
Percentage of 50+ years individuals within the Board of Directors (as on 31st March 2019)	100%

COMPENSATION/ REMUNERATION OF THE BOARD OF DIRECTORS

1. Board Composition and the various committees of the Board and their responsibilities are available in the Annual Report 2018-19.

Link: <https://www.bharatpetroleum.com/pdf/OurFinancial/69646-BPCL-Annual-Report2018-191-ec00d8.pdf>

2. The details regarding selection procedure, qualification, remuneration determination process and training of the Directors is available in the Annual Report 2018-19.

Link: <https://www.bharatpetroleum.com/pdf/OurFinancial/69646-BPCL-Annual-Report2018-191-ec00d8.pdf>

3. The details regarding Conflicts of Interest, collective knowledge of highest Governance body, evaluating the highest governance body performance are available in the Annual Report 2018-19

Link: <https://www.bharatpetroleum.com/pdf/OurFinancial/69646-BPCL-Annual-Report2018-191-ec00d8.pdf>

BOARD EVALUATION

At BPCL, appointment/ nomination of all the Directors is made by President of India through the Ministry of Petroleum and Natural Gas (MoP&NG) including fixation of remuneration of the whole-time Directors and Employees. Stakeholders' views are not considered during determination of the remuneration of Directors. Performance linked incentives are payable to the Whole-time Functional Directors as employees of the organisation as per the policy applicable to all employees of BPCL.

The Part-time (Independent) Directors receive sitting fees for each Board/ Audit Committee/ other committee meetings attended by them during 2018-19. For computing the compensation, only regular heads of compensation (one-time payments and perquisites are excluded) are considered. The major components are Salary & Allowances, Contribution to Provident Fund and Other funds, other Benefits and Perquisites and Performance Related Pay.

The fixed remuneration component is accompanied by a variable component, based on the performance of the Management. The Performance Related Incentive Scheme for Management Staff (PRISM) is evaluated based on targets in the MOU with MoP&NG. At the beginning of each financial year, BPCL signs a Memorandum of Understanding (MOU) with the MoP&NG. The MOU specifies targets for various parameters including physical, financial, social and environmental parameters.

The process of Board evaluation can be referred to as reported in Annual Report, FY 2018-19. The Board evaluated on a numerous parameter but not with respect to governance of economic, environmental, and social topics.

The provisions of Section 134 (3)(p) of the Act shall not apply to a Government Company in case the Directors are evaluated by the Ministry, which is administratively in charge of the Company as per its own evaluation methodology.

BPCL, being a Government Company, the performance evaluation of the Directors is carried out by the Administrative Ministry (MoP&NG), Government of India, as per applicable Government guidelines.

CORPORATE MEMBERSHIPS

BPCL is a part of several industrial and trade associations. Some of them are listed below:

- Confederation of Indian Industry (CII)
- Federation of Indian Chambers of Commerce and Industry (FICCI)
- Bombay Chamber of Commerce and Industry
- ASSOCHAM
- Indian Merchant Chambers
- World Energy Council-Indian Member Committee
- World LP Gas Association
- Federation of Indian Petroleum Industry (FIPI)
- Bio Diesel Association of India
- The Advertising Standards Council of India
- National Accreditation Board for Testing and Calibration Laboratories



MoU finalised with MoP & NG

ETHICS AND INTEGRITY

BPCL's Code of Conduct and corporate values guide individual behaviour at BPCL. Compliance with applicable laws and regulations, market standards and business ethics is a fundamental aspect of the corporate culture. BPCL has formulated specific procedures, processes and systems in place, under which the "Code of Conduct, Procedure and Disclosures for Prevention of Insider Trading in the Securities of BPCL" and "Code of Corporate Disclosure Practices" have been adopted. The policy formulated by BPCL on ethics, corruption and bribery prevention covers its entire Operations. All the management / non-management and contract employees must comply with all applicable laws.

The Company has taken implementation of government policies in a proactive manner and has also provided all necessary information regarding ethical conduct to the employees on the intra link.

Further, BPCL also follows a vigorous mechanism to communicate concerns with the various stakeholders. The primary level of grievance redressal is tended to BU level. If the grievance stays unresolved, such critical concerns are then taken up by the Committee of Functional Directors. After review of the critical concerns the discussion is initiated with the Board of Directors. The aggregate number of concerns raised during FY 2018-19 cannot be disclosed due to confidentiality reasons. Significant risks are identified through the risk assessment process and 100% of the Operations are assessed for risks related to corruption.

No case regarding Anti-competitive behaviour has been filed in 2018-19, though there are pending cases regarding the same. Details of the case filed by stakeholder against BPCL regarding unfair trade practices, irresponsible advertising and/or anti-competitive behaviour during the last five years and pending as on end FY 2018-19 are mentioned in the table below:

Ethics & Integrity

BPCL

BPCL has formulated specific procedures, processes and systems in place, under which the "Code of Conduct, Procedure and Disclosures for Prevention of Insider Trading in the Securities of BPCL" and "Code of Corporate Disclosure Practices" have been adopted.

	No. of cases filed in the last five years	No. of cases pending as on end of FY 2018-19
Unfair Trade Practices	Nil	Nil
Irresponsible Advertising	Nil	Nil
Anti-competitive Behaviour	5	5



Details of cases regarding Anti-competitive behaviour are as follows:

1. RIL /Essar/Shell had filed a complaint before the Petroleum & Natural Gas Regulatory Board (PNGRB) against PSU (Public Sector Undertaking) OMCs (Oil Marketing Companies) and upstream Companies alleging collusion, cartelization and predatory pricing for MS and HSD-Sub Justice.
2. A complaint was filed by RIL before the Competition Commission of India alleging cartelization and misuse of its dominant position-Sub Justice.
3. India Glycols Ltd Vs Indian Sugar Mills Associates & Ors. alleging that (ISMA) on behalf of member companies (including BPCL) have lobbied with Government of India for increasing the price of Ethanol from various suppliers- Sub Justice (Multiple cases are filed on this issue in several forums) (These cases have been dismissed by CCI vide order dated: 11/05/18 and 18/09/18 against both such orders appeal has been filed before NCLAT, this is pending for final hearing).
4. CCI (Competition Commission of India) vide its own cognizance started an enquiry against OMCs by observing that OMCs are behaving like a cartel by fixing petrol prices. A Preliminary objection was taken by Respondent OMCs that CCI does not have jurisdiction and PNGRB has jurisdiction to hear this issue. The Commission ordered DG

investigation which should cover the entire value chain of price build up. BPCL challenged the said order in the Delhi High Court vide WP 7303/2013 and Delhi High Court vide order dated 22.11.2013 ordered a stay in the said proceedings-Sub Justice.

5. Appeal filed against order dated 11.2.2014 passed by CCI in suo-motu case no. 95/2013. Federation is alleging unfair terms in Dealership Agreements for a) Not allowing to use petroleum products of other OMCs and b) Reserving Dealer land just for selling oil and impose condition to give land to OMC when dealership is terminated-Sub Justice.

Public Grievance in BPCL is monitored through the Centralized Public Grievance Redress and Monitoring System (CPGRAMS), which is an online web-enabled system, viz. <https://www.pgportal.gov.in/>, developed by National Informatics Centre (NIC) and Department of Administrative Reforms and Public Grievances (DARPG).

Grievances received from the public are centrally scrutinized at the corporate level and sent for redressal to various Strategic Business Units (SBUs)/Entities through a well-established online network with an escalation matrix to ensure timely & qualitative closure. BPCL redressed and closed 6,539 grievances out of 6,730 grievances received in FY 2018-19 with an average disposal time of 13 days, as against the norm of 30 days fixed for disposal.

VIGILANCE MECHANISM

Vigilance Awareness Week

Awareness being the first step towards action, BPCL enthusiastically organized a variety of /programs across the country during the Vigilance Awareness Week from 29th October to 3rd November 2018 with the theme "Eradicate Corruption – Build a New India".

'Vigilance Plus'

The ninth edition of Vigilance magazine 'Vigilance Plus' was released, which had articles on good governance, ethics & values, experiences of individuals, poems and highlights of the activities conducted during the year including Vigilance Awareness Week 2018

BPCL constantly endeavours to enhance its ethical standards and encourages sound business practices and good corporate governance through an effective balance of preventive and detective vigilance measures. The motto is "Vigilance for Corporate Excellence". The Company has adopted an approach of proactive and participatory vigilance awareness.

It has conducted various training programs and conferences which enabled Vigilance officers develop a comprehensive understanding of various guidelines and processes. Vigilance Awareness sessions were conducted for employees working at operating locations and commercial offices by Vigilance officers during their visits, to enhance knowledge and awareness on the operational aspects of various circulars and guidelines issued by the Central Vigilance Commission (CVC) and the Ministry. Comprehensive System Studies were conducted in critical areas at BPCL and observations, analysis, inferences and recommendations were discussed with business role holders to bring about the suggested improvements expeditiously. Corporate Vigilance also carried out thorough investigations into the Complaints and Source Information. All employees (100%) are communicated about the anti-corruption policy and procedure regularly and are imparted exclusive trainings on the same. There is no bifurcated value available for anti-corruption trainings, but the total number of trainings conducted contains the data for the same. The complete details on vigilance information is available in the public domain. Complaints including those received online, were investigated both directly by Team Vigilance and through Businesses / Entities within the stipulated time frame.

Vigilance took effective action on complaints with the purpose of safeguarding the interests of stakeholders. Emphasis was laid on early completion of investigations and concluding the same. A summary of investigative complaints handled by Vigilance during the year 2018-19 is given below:

Opening Balance as on 01.04.2018	Received during the year	Total	Disposed during the Year	Closing Balance (as on 31.03.2019)
47	34	81	24	57





06

Opportunities, Risks and Challenges

The Indian economy is the world's fastest growing major emerging market economy with an average economic growth of around 7% for the year. During the year 2018, India's primary energy demand grew by approx. 4%, outpacing the global demand growth.

The petroleum products consumption in the country grew by around 2.6% in the year 2018-19 as against around 5.9% in the previous year. Although, India is short on crude oil production, however it has sufficient capacity of refining. India is the world's fourth largest and Asia's second

largest refiner and a net exporter of petroleum products, with total installed refining capacity of 249.4 MMTPA as on 1st April 2019. The PSU refiners, together with their group companies, contribute 65% of the country's overall refining capacity. The total crude processed by Indian Refiners during FY 2018- 19 stands at around 257.2 MMT, as against 251.9 MMT in the previous year, indicating an increase of 2%.

Operating in this dynamic environment BPCL is exposed to various risks. Some of the risks arising from financial instruments are mentioned below:

Credit Risk

Credit risk is the risk of financial loss to the Corporation if a customer or counterparty to a financial instrument fails to meet its contractual obligations arises principally from the Corporation's trade and other receivables, cash and cash equivalents and other bank balances, derivatives and debt securities.

- Trade and other receivables from Customers
- Cash and cash equivalents and other bank balances
- Derivatives
- Investment in Debt securities

Market Risk

Market Risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices.

- Currency risk
- Interest rate risk
- Commodity rate risk
- Price risk

Liquidity Risk

Liquidity risk is the risk that the Corporation will encounter difficulty in meeting the obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. Liquidity risk is managed by Corporation through effective fund management. The Corporation has obtained fund and non-fund based working capital lines from various banks. Furthermore, the Corporation has access to funds from debt markets through commercial paper programs, foreign currency borrowings and other debt instruments.

Some critical risks identified by BPCL for FY 2018-19 are mentioned below:

Regulatory Compliances

BPCL ensures to keep its employees aware with regular workshops which are conducted in collaboration with external consultants. Issuance of informative circulars to SBU's / entities on amendments and changes of statutory requirement are a regular affair at BPCL. Some of the identified regulatory compliance risks are:

- Challenges in exploring mobile dispensing stations as an alternate delivery at consumer premises.
- Non-movement of Pet coke due to change in Government regulations, affecting Kochi Refinery Operations.

Infrastructure Risk

Inadequacy of infrastructure is a glaring issue for the oil and gas industry. Creation of midstream and downstream infrastructure in the form of pipelines, processing facilities, import and export terminals, storage facilities, plants and a transmission and distribution network need to gather momentum, as they are complex, capital intensive and high gestation period projects. Oil & Gas sector in India has a fundamental requirement of robust and a well-designed infrastructure augmentation plan, commensurate with the planned / anticipated growth in oil and gas demand.

are challenges related to availability of space and creation of infrastructure for example right of way is difficult to obtain for laying pipeline.

To meet the demand, major investments in development of gas infrastructure (Pipelines, Terminals and CGD Networks) will be required. The Oil and gas companies have taken determined steps to augment infrastructure to cater the growth and ensure efficient and safe Operations. The Government has also prompted the establishment of strategic crude oil reserves aimed at ensuring crude availability in the event of supply disruptions. Going ahead, the limitation of expansion in existing infrastructure due to space and cost constraints also must be factored in infrastructure planning.

BPCL has some depots which are old depots and are now located in the cities due to city expansion. They need to be relocated but, there

HSSE Risks



Health, safety and security of assets and people is of paramount importance for ensuring sustainable, responsible and successful Operations. While adequacy of laid down processes and system are a necessity to ensure safe Operations, human behaviour plays a significant role in adherence to the same. Hence, continuous capacity building, training and development of a safety culture is necessary

for ensuring a safe working environment. Further, as technology has become pervasive, cyber security has taken centre stage in ensuring safety of information, data and financial transactions.

BPCL has laid down a process of quarterly reviewing the HSSE performance and imparting safety awareness at field level. The company also conducts HSSE audits and capability enhancing sessions due to which there has been an improvement with respect to compliance of Audit points and upgraded Safety culture. BPCL undertakes Sustainable Development initiatives to minimise environmental pollution (air, water and soil), compliance to the laws of the land, reducing emissions, impact on staff/property and enhancing brand image.

Human Resource Risk

One of the major challenges faced by BPCL is Succession planning for key positions in SBUs / entities and shortage of people having required domain expertise. These risks may impact the business performance. Engagement of contract labour leading to distortion of direct to indirect labour ratios is also realised as a challenge. This may lead to high risk of labour costs being equalized with company employees and all other

associated compliance and litigation issues. Further, with increasing digitalization and technological advancements, investment in human capital for up skilling and competency building of the talent pool in the oil and gas industry is imperative to leverage its benefits. The tangible assets and competencies must be complemented by the intangible human assets aided by data analytics and digital Operations.

Loss of Profitability and /or Market share

BPCL executes planning for optimising inventory holding well in advance. To ensure minimal effect of this risk on the Operations, coordination with crude oil suppliers, Supply chain office, Refineries,

crude chartering and crude Operations teams was undertaken to ensure nil dry outs and no loss of production. Commodity price hedging is also undertaken to protect Refinery margins.

Competition

Post deregulation of diesel in 2014, the Indian petroleum sector witnessed active competition from private companies, impacting the market share of the PSU players. Though the private players are yet to gain a substantial market share, their presence and activity cannot be overlooked. Redefining the marketing strategy, ensuring uninterrupted product availability, increasing

presence in potential growth centres, creating value propositions for customers and leveraging technology and digitalization shall be pivotal to effective response to the competition. Further, other threats include coming up of Electric Vehicles, CNG Network expansion, threats due to alternative sources of energy i.e. wind , solar etc and effective penetration in rural market.

Higher crude oil prices

High Crude oil prices, though favourable for oil exporting countries and conducive for upstream investments, have adverse impact on oil importing countries like India, spiking up inflation, worsening the twin deficits of current and fiscal account and hurting economic growth. India witnessed high crude oil price volatility, amplified with adverse movement in the exchange rate in FY 2018-19. With India projected to grow at an impressive rate of around 7% per annum in the next few years, there will be an increase in energy demand by three fold by year 2035 from the current levels. The economy faces serious risk from adverse movements in the crude oil prices.



BPCL together with other Oil & Gas PSUs has undertaken a study on "Climate Change Risks: Preparedness for Oil and Gas Sector" through TERI, New Delhi to act against consequences of climate change. The study has provided a comprehensive analysis of threats from climate change and a way forward to tackle the challenges. BPCL has taken steps in carrying out further studies as per the recommendations given in the report. The financial implications and other risk and opportunities arising from climate changes will be worked out in near future.

Each of the SBUs have their own peculiar risk. The risks are divided into two categories i.e. Prioritized Risks reportable to Audit Committee /Board and SBU/Entities Risks reportable at the SBU / Entity Heads / Business Councils. The Risk review happens annually, and Risk workshops are held once in two years. Eight workshops were conducted, covering all the major SBUs in 2018-19. The mitigations are sought for the identified risks and the Risk Register is updated. The major risks are identified and discussed during these workshops. The workshops are facilitated by the external consultants.

The Risk Management Steering committee (Board level committee) is appraised about the risks twice in a year and the feedback is then taken up to the Audit committee on annual basis. The risks which are identified are not only business-related risks, but also environmental and social risks. The identified risks by the SBUs and the entities are then conveyed by the Risk Coordinators/ Risk

Champions to the Risk Management team for collation. The risks related to environment and social topics are also reviewed by the SD committee twice in a year and appropriate mitigation actions are taken. The seven heads under which the corporate Risks are communicated to the Audit committee mostly remain constant, yet the sub-risk under them may vary. A total of 124 risks were identified, 77 were dealt at the SBU level itself and the 47 critical ones were discussed with the Audit committee in the year 2018-19. The process of collation of the Risks from the SBUs and the entities is undergoing digitization. DRM tool (Deloitte Risk Management) is being used which will help in making risk collation process digital.

As a part of leveraging technology in Enterprise Risk Management Framework, BPCL is trying to implement Risk Monitoring Tool (DRM) developed by Deloitte. DRM is a software package which would be installed in the BPCL intranet wherein users would be able to login and provide their inputs for risk identification, mitigation plans and incident reporting. This tool helps to monitor risks on a real time basis and further facilitates in documentation of the risks and related information. It also captures and consolidates risk information enabling the monitoring and management of the risks faced by the organization through role/ user-based dashboards which provide bird's eye view of the identified risks. This tool will help to replace the current practice of manual collection of risk identification, mitigation plans, incident reports and updates.

RISK MANAGEMENT FRAMEWORK

Risk Management is the overall process of risk identification, risk analysis, and risk assessment. Risks can be assessed at an organizational level or a departmental level for projects, individual activities, or specific risks. Different tools and techniques may be appropriate in different contexts. Risk assessment provides an understanding of risks, their causes, consequences, and their probabilities.

BPCL's Board of Directors have the overall responsibility for the establishment and oversight of its risk management framework. The Risk Management Committee has been constituted by the Board. The Risk Management Committee has defined roles and responsibilities, which includes reviewing and recommending the risk management plan and the risk management report for approval of the Board with the recommendation of the Audit Committee. BPCL has adopted a Risk Management Charter and Policy for self-regulatory processes and procedures for ensuring conduct of business in a risk conscious manner and for managing risks on an ongoing basis.

At BPCL, Risks and Opportunities are identified with mitigation strategy and a detailed Hazard Identification and Risk Assessment (HIRA) and Aspect Impact (AI) has been prepared and documented for all functions. The figure below provides an illustrative view of BPCL Risk Assessment & Management Framework as applicable to all project stages namely

- Planning / Design & Engineering (including management of change)
- Construction and Commissioning
- Operation and Maintenance
- Decommissioning and asset disposal

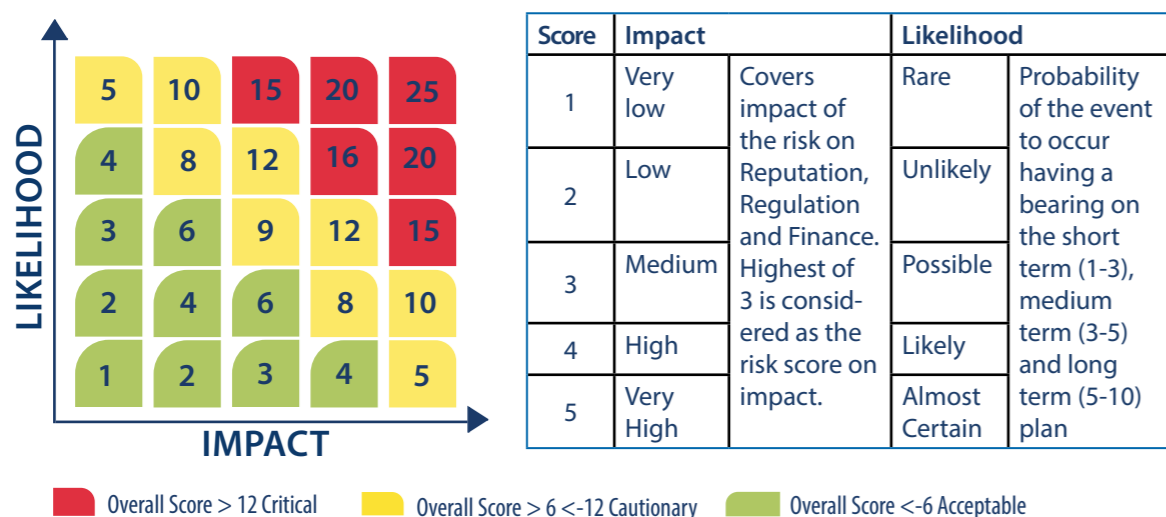
The aim for carrying out a risk assessment is to ensure that human health, assets, and the environment are protected, and the necessary resources are allocated in a prioritised and defensible manner to ensure that any unacceptable risks identified will be reduced to acceptable levels. As a process for review of risks and mitigation plans, workshops are conducted for Major SBUs / Entities. During the workshops, brain storming sessions are held for identification / review of risks, evaluation of risks were done based on their impact and likelihood and the mitigations plans were drawn for each of the risks identified.

BPCL identifies and manages its risks in accordance with the regulatory requirements laid down by Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015; Department of Public Enterprises (DPE) Guidelines, May 2010 and Companies Act, 2013. It also adheres to all regulations and takes all measures to prevent any harm caused to the environment and society due to its Operations. The risks are reviewed, and procedures/processes are established to ensure proper risk management. This process helps in identification of the mitigation plans.

BPCL is well positioned and fully equipped to deal with the challenges and leverage the opportunities, thereby moving ahead in its journey to become the most admired energy company.

The Company has taken decisive strides towards expanding its presence across the hydrocarbon value chain, building capacities, pursuing digital opportunities for operational efficiencies and delivering enhanced value to customers, exploring the evolving energy landscape and ensuring good corporate governance to create value for all the stakeholders.

RISK PRIORITIZATION- APPROACH AND METHODOLOGY





07

Stakeholder Engagement and Materiality

BPCL enterprises to create an earnest relationship with its key stakeholders, with the aim of creating value over time and delivering sustainable growth for them. BPCL endeavours to develop and strengthen the relationship with its stakeholders by engaging and obtaining inputs on business strategy from them. This exercise helps in understanding the perspective of the stakeholders on the economic, environmental and social topics which are significant to them.

BPCL has a matured mechanism in place to engage with its key stakeholders. The engagement helps to determine their priorities which enables BPCL to undertake measures to address them to develop stronger relationships. The engagement is about combining the perspective of the stakeholders into governance, organizational and management strategy for effective decision making. Though this process the vision of sustainability is driven across the organization. BPCL engages with its stakeholders regularly through various formal and informal forums, to identify their issues, concerns and to address them suitably.

BPCL aims to engage with all its stakeholders in a sustained manner. It is committed to disclosing its performance on sustainability parameters, in a transparent manner. It also intends to address the key impacts (positive and negative) across the value chain. The process of communicating or interacting with the stakeholders is referred to as Stakeholder Engagement. It helps an organisation achieve a desired outcome and enhance accountability.

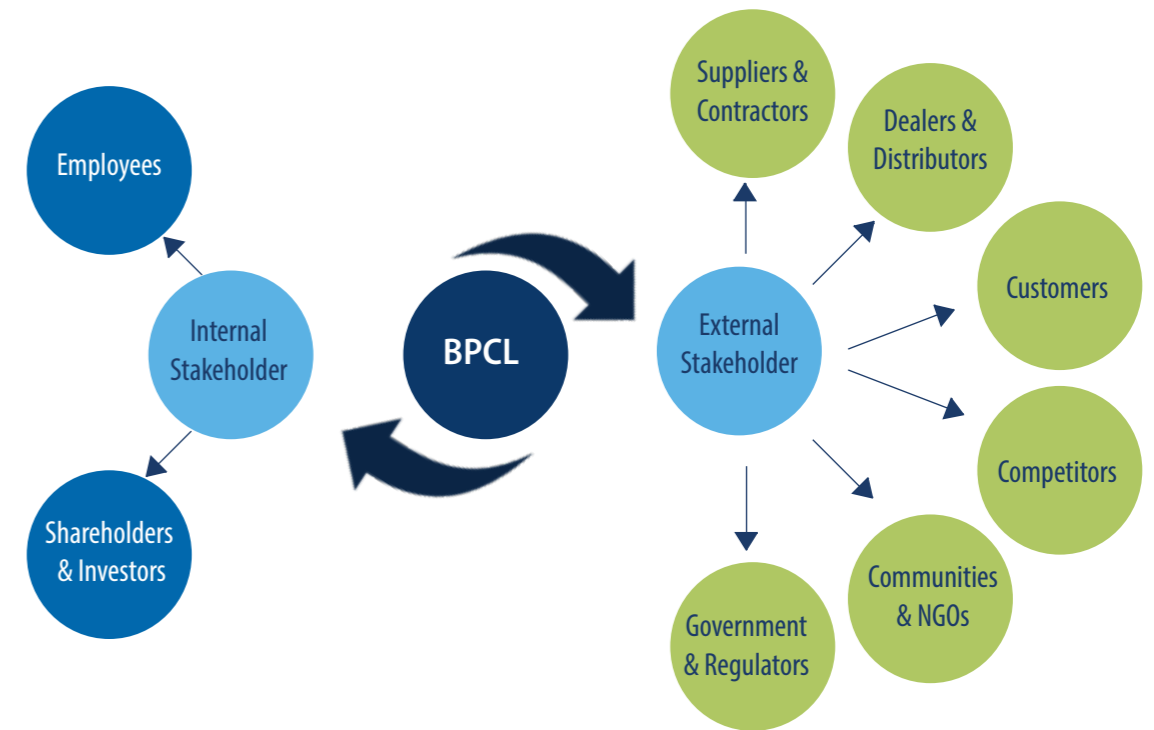
In FY 2018-19, stakeholder engagement was conducted to prioritise the material topics in accordance with the changing business scenario. The material topics used till the previous year were from the engagement exercise conducted in 2015-16.

The initiation of the process was done by identifying the key stakeholders which are bifurcated into internal and external. Stakeholders are any individual or group that may affect or may be affected by the organisation's activities.

The key stakeholders were identified from the complete list of stakeholders in consultation with the business units and corporate office. The criteria used to prioritize stakeholders are their willingness to engage, ease of access, impact on BPCL by them, impacted by BPCL and having knowledge of the context.

Fig: Stakeholder Engagement Process and Materiality Matrix Development

STAKEHOLDERS IDENTIFIED FOR BPCL



Employees as Stakeholders



THE PROCESS OF STAKEHOLDER ENGAGEMENT

Management Interaction

- Define prioritization of stakeholders
- Identify issues material to the company

Stakeholder Interaction

- Identify issues material to key stakeholders

Analysis

- Map issues material to both BPCL and its stakeholders
- Identifying concerns of immediate focus, those gaining importance, and those which are no longer a concern for BPCL

Review and Validation

- Review findings and materiality matrix

Act

- Develop plans and set targets for material issues
- Monitor progress and report

Engagement with the stakeholders is conducted through various channels at regular intervals. Please find below, details of engagement with stakeholders.

Stakeholders		Frequency and Mode of engagement	
	Annual	Periodic	Needs Based
Customers	Customer Meeting Customer Satisfaction Survey	Online communication Customer feedback Satisfaction survey	Customer Meeting
Communities and NGOs	-	Project reviews are undertaken periodically	Interaction with community focus groups
Dealers and Distributors	Award Functions	Meetings and training sessions	Individual Interactions with Dealers and Distributors
Employees	Performance appraisal	Training, Wellness programs, online Communication	Personal Interaction
Government and Regulators	Memorandum of Understanding with Regulators	Meetings with Regulators	Meetings for new policy developments and Ministry Directives
Shareholders and Investors	Annual General Meeting (AGM) for shareholders	Quarterly reports, Quarterly investor meets, Press Releases	Investor Meetings
Suppliers and Contractors	Vendor meets	Inspection visit to facility, emails and phone calls	Vendor Meets

Sustainable Initiatives at Lucknow LPG plant



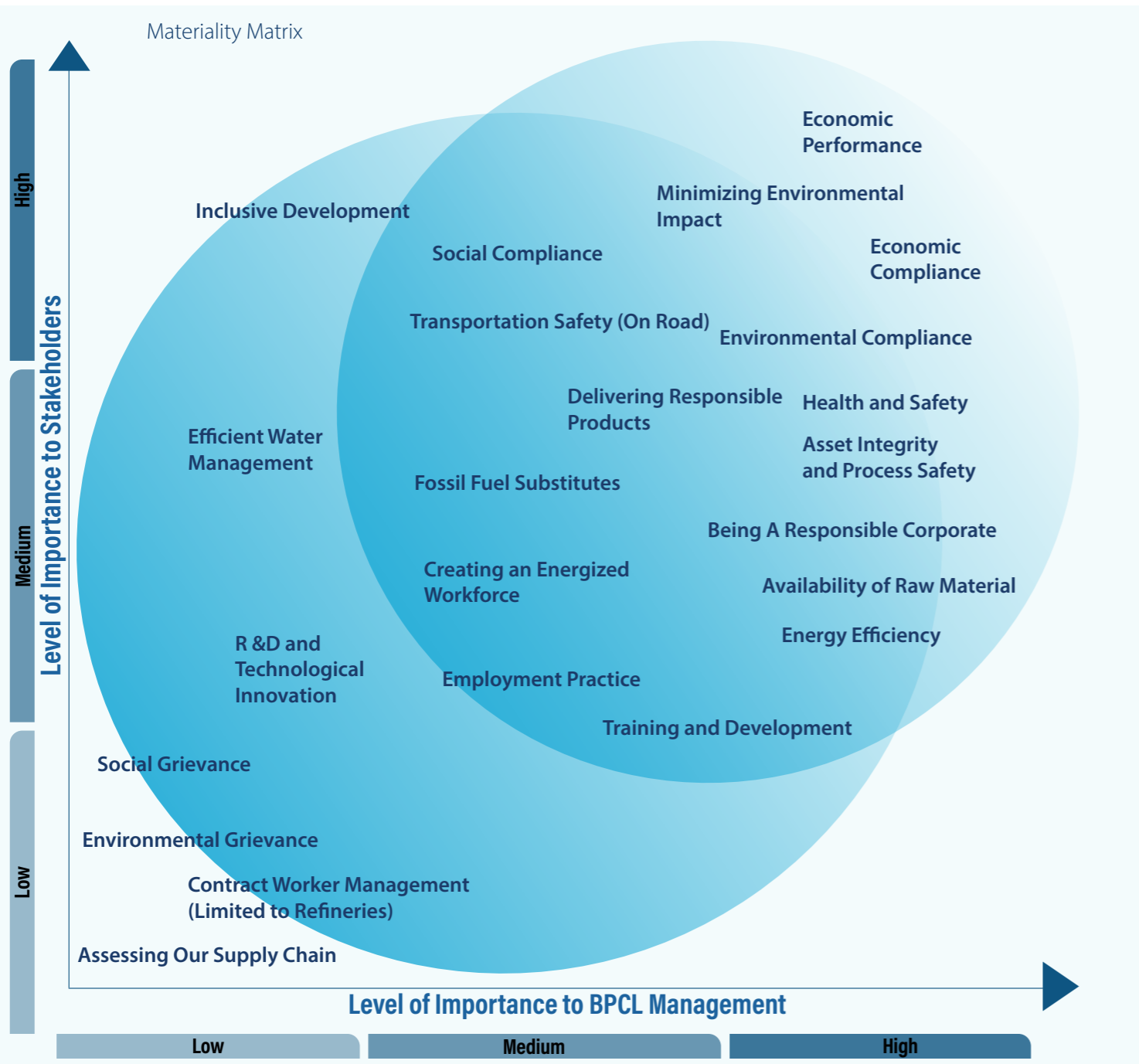
The engagements with the stakeholders brought out the key concern areas. BPCL's response to the key topics and concerns are stated below

Stakeholders	Key Topics & Concerns	BPCL Response
Shareholders & Investors	Compliance, Governance, Ethical Operations, Economic performance	Growth and profitability, Sustainable Development practices
Employees	Career progression, Occupational Safety, Wellness and benefits	Safe and healthy work environment Encourage a culture of continuous learning, Prompt grievance redressal
Suppliers & Contractors	Training and capacity building, Transparency in bidding process, Occupational health and safety, Timely payment of dues	E-tendering, Training Sessions, Implemented OHS policy, supply Chain Advisory Note time to time
Customers	Competitive pricing, Grievance Redressal, Quality and quantity of Product, Quality of service	Process innovations, Adoption of green Technologies, Quality products and services
Government & Regulatory	Target vs. achievement as per the Memorandum of understanding	Create systems and processes to implement Board approved policies
Dealers & Distributors	Product quality and continuous supply, Facility maintenance, Safety during product handling, Technological improvements	Timely supply of products, Maintenance of facilities
NGOs & Communities	Local employment, Training and Inclusive growth, Long term Engagement with NGO's	CSR programs implemented to foster Community development, Skills training to improve livelihood opportunities

Prioritisation of Material Topics and Materiality Matrix

Material topics have the potential to significantly affect the sustainability performance of an organization. A universal list of material topics was compiled with the reference to the study of primary and secondary sources to understand the material topics for BPCL. Material topics with potential impact on BPCL were identified

from this universal list and prioritized on the basis of stakeholder responses and BPCL's senior management feedback. Responses received on the specific questionnaires shared were analysed. The analysis was used to draw the Materiality Matrix. The resultant Materiality Matrix is presented below:



GRI Category	Material topic	GRI Topic	Boundary	Impact by BPCL
Economic	Economic performance	GRI: 201: Economic performance	Internal	Direct and Indirect
	Availability of Raw material	GRI 204: Procurement practices	Internal and External	Direct and Indirect
	Economic Compliance	GRI 419: Socioeconomic compliance	Internal and External	Direct
Environment	Energy efficiency	GRI 302: Energy	Internal and External	Direct
	Efficient Water Management	GRI 303: Water	Internal and External	Direct
	Minimizing Environmental Impact	GRI 301: Material GRI 305: Emissions GRI 306: Effluents and Waste	Internal and External	Direct and Indirect
	Fossil Fuel Substitutes	GRI OG2, OG3 and OG14	Internal and External	Direct and Indirect
	Environmental Compliance	GRI 307: Environmental compliance	Internal and External	Direct
	Delivering Responsible Products	GRI 416: Customer health and safety	Internal and External	Direct and Indirect
Social	Inclusive Development	GRI 413: Local communities	Internal and External	Indirect
	Employment Practice	GRI 401: Employment	Internal	Direct
	Creating an Energized Workforce	GRI 402 Labour/ Management Relations	Internal	Direct
	Training and Development of Employees		Internal	Direct
	Health and Safety	GRI 403: Occupational Health and Safety	Internal and External	Direct and Indirect
	Transportation Safety (on road)	GRI 403: Occupational Health and Safety	Internal and External	Direct and Indirect
	Asset Integrity and Process Safety	GRI OG13: Asset Integrity and Process Safety	Internal and External	Direct and Indirect
	Being a Responsible Corporate	GRI 205: Anti-corruption GRI 206: Anti-competitive behavior GRI 415: Public Policy	Internal and External	Direct
	R&D and technological innovation	Non-GRI	Internal and External	Direct
	Social Compliance	GRI 419: Socioeconomic compliance	Internal and External	Direct

The response of the stakeholder engagement this year got a few new material topics added to the list, yet the GRI topics remained the same. The report contains data and information collected on a regular basis. All the strategic business units on BPCL across the nation are considered,

they include Refineries (Mumbai & Kochi), Retail, LPG, Aviation, Gas, Industrial & Commercial and lubricants as the boundary for each material aspect. The joint ventures, LPG Distributors, retail outlets and subsidiaries are excluded from the boundary of material aspect.

Management Approach for Material Topics

GRI Category	Material Topics	GRI Topic	Management Approach
Economic	Economic Performance	Economic Performance	<p>BPCL aims to harness economic interests while simultaneously achieving better sustainability performance. Economic performance for BPCL is the economic value added for both shareholders and other stakeholders. The Company ensures to utilise their resources in the most efficient and responsible manner.</p> <p>Further, the Company is proactive in identifying and managing the risks related to their Operations. It has in place Risk Management Steering committee and a Risk Monitoring Tool (DRM) for comprehensive risk management. The Company is energising the Indian economy and acting as a building block for the nation.</p> <p>For Details on Management Approach refer chapter Corporate Profile and for boundary refer Stakeholder Engagement and Materiality.</p>
	Availability of Raw material	Procurement practices	<p>Availability of raw material is critical for sustainable business Operations. BPCL procures raw material in the most sustainable, economic and responsible manner. BPCL strives to extend sustainable procurement to the complete value chain.</p> <p>For Details on Management Approach refer chapter Operations of BPCL and for boundary refer Stakeholder Engagement and Materiality.</p>
	Economic Compliance	Socio economic compliance	<p>Internal and External Compliance is the corner stone of all Operations at BPCL. The Company has policies, systems and adequate monitoring mechanism for sustained and effective compliance uniformly across the Company. BPCL expects every employee to be aware of the legislation and regulations that apply to their work.</p> <p>For Details on Management Approach refer chapter Corporate Profile and for boundary refer Stakeholder Engagement and Materiality.</p>

Environment	Energy efficiency	Energy	<p>BPCL has undertaken various energy conservation initiatives and benchmarked them with global standards. BPCL believes in improvement in Operations/maintenance as well as the development of new projects for energy conservation. BPCL is leveraging technological advances and innovations for improving performance, energy efficiency and finding more carbon-neutral solutions. BPCL public reports scope 1, scope 2 and Scope 3 emissions according to Greenhouse Gas Protocol Standards.</p> <p>For Details on Management Approach refer chapter Ecological Sustainability and for boundary refer Stakeholder Engagement and Materiality.</p>
	Efficient Water Management	Water	<p>BPCL understands the criticality of the natural resources. It has taken initiatives to conserve water and emphasizes on Rain Water Harvesting, recycling and reuse of water. Not only initiatives but advisories have been developed and circulated for effective water conservation and making location water neutral.</p> <p>For Details on Management Approach refer chapter Ecological Sustainability and for boundary refer Stakeholder Engagement and Materiality.</p>
	Minimizing Environmental Impact	Material Emissions	<p>BPCL believes that it is their responsibility to recognise and manage the impact it has created on the environment due to its business Operations. BPCL has put in place a well-established and an effective Integrated Management System accredited with ISO standards and Energy Management System (EnMS), accredited with ISO 50001:2011 certification in their significant location of Operations. The Company is also committed to attain the highest standard in health, safety environment and security performances and continuously improving their performance on the same.</p> <p>For Details on Management Approach refer chapter Ecological Sustainability and for boundary Stakeholder Engagement and Materiality.</p>

	Fossil Fuel Substitutes	GRI Oil and Gas Sector Supplement GRI OG2, OG3 and OG14	<p>BPCL has increased its renewable capacity to mitigate the climate change threats arising out of use of conventional power and to meet the nation's target of developing 175 GW power from renewable energy sources by 2022. BPCL gives importance to leveraging technological advances and innovations for improving performance, energy efficiency and finding more carbon-neutral solutions.</p> <p>For Details on Management Approach refer chapter Ecological Sustainability and for boundary Stakeholder Engagement and Materiality.</p>
	Environmental Compliance	Environmental compliance	<p>BPCL adheres to all the environmental rules and regulation of the land where it operates. It has in place various monitoring mechanisms for sustained and effective compliance.</p> <p>For Details on Management Approach refer chapter Ecological Sustainability and for boundary Stakeholder Engagement and Materiality.</p>
Social	Delivering Responsible Products	Customer health and safety	<p>Customer safety is of utmost importance at BPCL. To maintain customer trust and loyalty, quality becomes a non-negotiable aspect to be adhered. BPCL believes in the motto 'Pure for Sure' and strives to deliver quality product to consumers. All products undergo safety testing as per the requirements to assess health and safety impacts. All marketing communication related to the products and services adheres to ASCI (Advertising Standards Council of India) voluntary standards on marketing and communications.</p> <p>For Details on Management Approach refer Operations of BPCL and for boundary Stakeholder Engagement and Materiality.</p>
	Inclusive Development	Local communities	<p>BPCL takes steps to empower the communities across the country. The CSR programs to empower the community are governed by Board level CSR committee, which monitors the initiatives on a regular basis. BPCL's CSR initiatives are in line with the Government of India's Mission on community development.</p> <p>For Details on Management Approach refer Community Impact and for boundary Stakeholder Engagement and Materiality.</p>

Social	Creating an Energized Workforce	Employment Labour/ Management Relations Training and Education	<p>BPCL is committed to provide a work environment where employees are committed to their work. BPCL provides various employee benefits to its employees and work towards providing a safe working environment.</p> <p>For Details on Management Approach refer People Oriented Approach and for boundary Stakeholder Engagement and Materiality.</p>
	Training and Development of Employees		<p>Employees are the most valued resource for any organisation. BPCL has various Codes and Policies in place which covers all employees. BPCL endeavours to provide on the job and leadership training to their employees for their skill and self-development and for company's progress and growth.</p> <p>For Details on Management Approach refer People Oriented Approach and for boundary Stakeholder Engagement and Materiality.</p>
	Health and Safety	Occupational health and safety	<p>Safety is an integral and uncompromised part of BPCL. At BPCL, safety is embedded in the culture with the motto of 'Safety First – Safety Must'. BPCL has HSSE policy in place. CSMS the highest-level document in BPCL's safety management system and describes the corporation's strategic approach to safety management. It applies to all BPCL Operations, assets, and facilities, employees, contractors, and other relevant stakeholders. There is a strong commitment from top management towards safety and use of effective risk management tools and techniques. The safety culture is driven, on priority, by the top management and executed at every level through the Health and Safety Committee.</p> <p>For Details on Management Approach refer chapter Health and Safety and for boundary Stakeholder Engagement and Materiality.</p>
	Transportation Safety (on road)	Occupational Health and Safety	<p>Safe transportation of petroleum products is of utmost importance for BPCL. BPCL gives weekly safety tips on BPCL Social media and have set high standards for vehicle safety. BPCL provides information on driver behaviour across a range of areas such as speeding, harsh braking and seat belt compliance and support drivers to drive safely.</p>

Corporate Profile

Social			<p>Various Road safety trainings are conducted, and road safety standards are followed. Be it at home or o/n the road, safety to BPCL is always important.</p> <p>For Details on Management Approach refer chapter Health and Safety and for boundary Stakeholder Engagement and Materiality.</p>
	Asset Integrity and Process Safety	GRI OG13: Asset Integrity and Process Safety	<p>BPCL has established Process Safety Events identification and Measurement System in accordance to American Petroleum Institute (API) Recommended Practice (RP) 754 Standard. In addition, Process Safety Events are also increasingly reported by leading process companies in their sustainability reports. BPCL ensures that process safety events are monitored, recorded, analysed and the learning is shared across the locations. To maintain high safety standards every location has a HSSE (Health, Safety, Security, and Environment) role holder. His primary responsibility is to ensure adherence to the HSSE Policy.</p> <p>For Details on Management Approach refer chapter Operations of BPCL and for boundary Stakeholder Engagement and Materiality.</p>
	Being a Responsible Corporate	Anti-corruption	<p>One of the core Values of BPCL is “Ethics govern all our actions”. BPCL’s Code of Conduct and corporate values guide individual behaviour at BPCL. The policy formulated by BPCL on ethics, prevention of corruption and bribery covers its entire Operations. All the management / non-management and contract employees must comply with all applicable laws.</p> <p>For Details on Management Approach refer chapter Corporate Governance and for boundary Stakeholder Engagement and Materiality.</p>
	Social Compliance	Socio-economic compliance	<p>Compliance is taken very seriously in all Operations at BPCL. The Company has policies, systems and adequate monitoring mechanism for sustained and effective compliance uniformly across the Company. BPCL expects every employee to be aware of the legislation and regulations that apply to their work.</p> <p>For Details on Management Approach refer chapter Corporate Profile and for boundary Stakeholder Engagement and Materiality.</p>

The global energy landscape is going through some exciting times. The factors pivotal to such transformation include climatic concerns driving changes in the energy mix in favour of natural gas and renewables, increasing electrification in mobility, industries and buildings; impending implementation of cleaner fuel policies, such as IMO (International Maritime Organization) 2020 regulations and changing demand supply dynamics. Nevertheless, the demand for energy continues to rise, particularly in emerging economies.

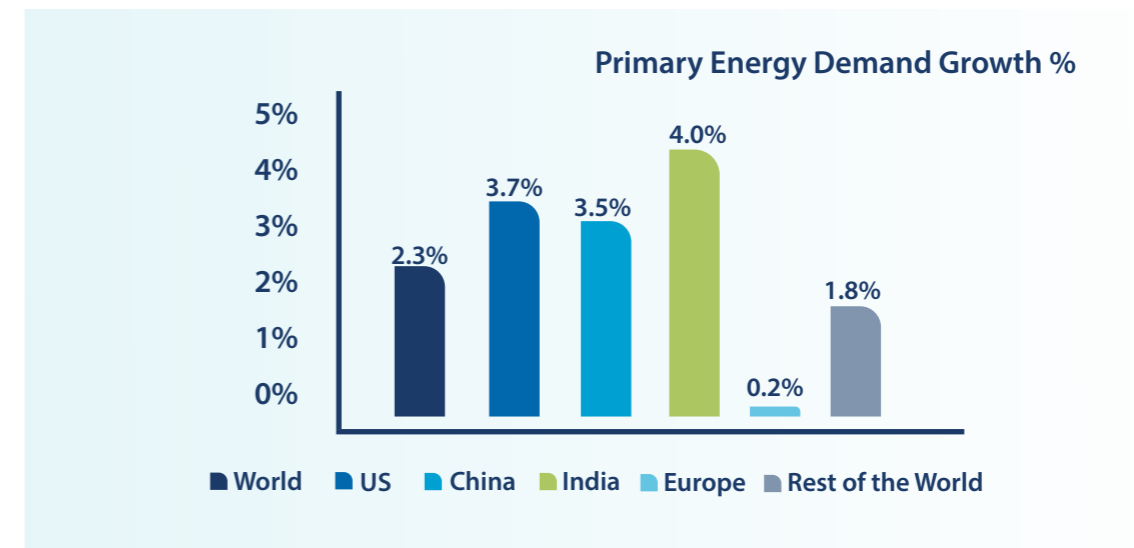
According to IMF (International Monetary Fund) data, in nominal GDP (Gross Domestic Product) terms, India ranks 7th in the world, while it is at an impressive 3rd position in PPP (Purchasing Power Parity) terms.

The global energy demand recorded a resounding growth of around 2.3% in 2018, its fastest pace of growth in this decade, driven by increasing energy needs propelled by a strong global economy while the demand for oil grew by 1.3%.

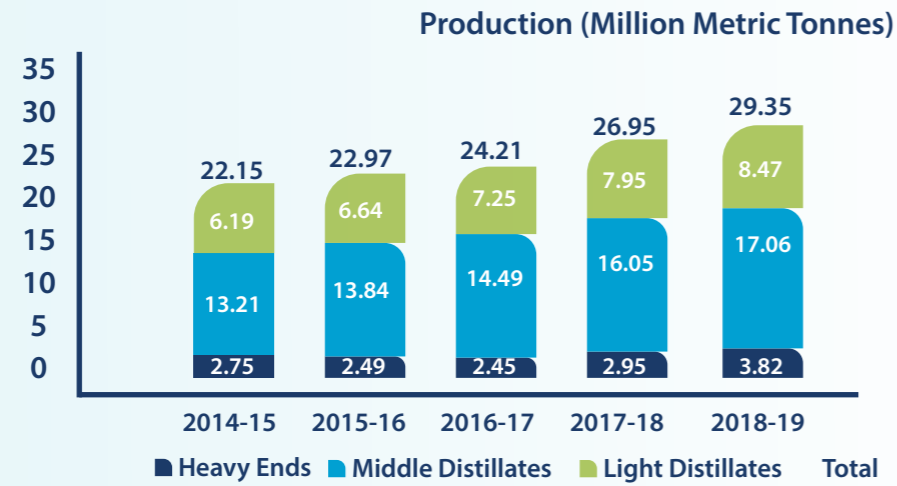
Being an important part of Oil and Gas marketing companies, BPCL registered a growth of 4.51% with market sales volume of 43.07 MMT in FY 2018-19 as compared to 41.21 MMT in the previous year. As on 31st March 2019, BPCL’s market share amongst the public sector oil companies was 23.83%, as compared to 23.75% at the end of the previous year, an increase of 0.08%.

India is one of the world’s fastest growing major emerging market economy with an average economic growth of around 7% for the year.

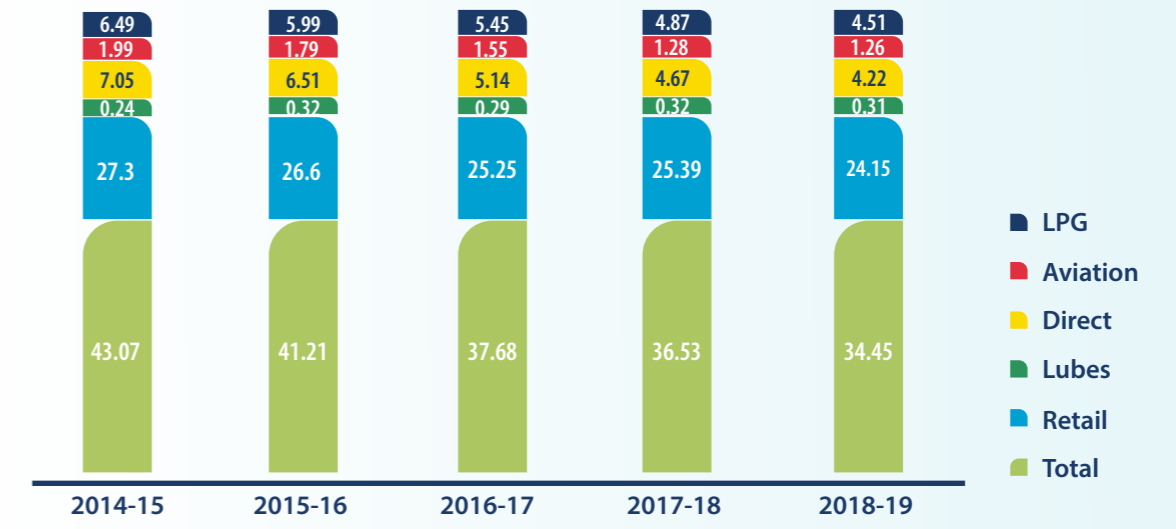
BPCL continuously endeavours to enhance its Triple Bottom Line performance to drive sustainable growth. It has taken several strategic steps to ensure optimal use of resources and better productivity. Nevertheless, BPCL weighs its performance by its steady financial growth which is a must as it influences all stakeholders.



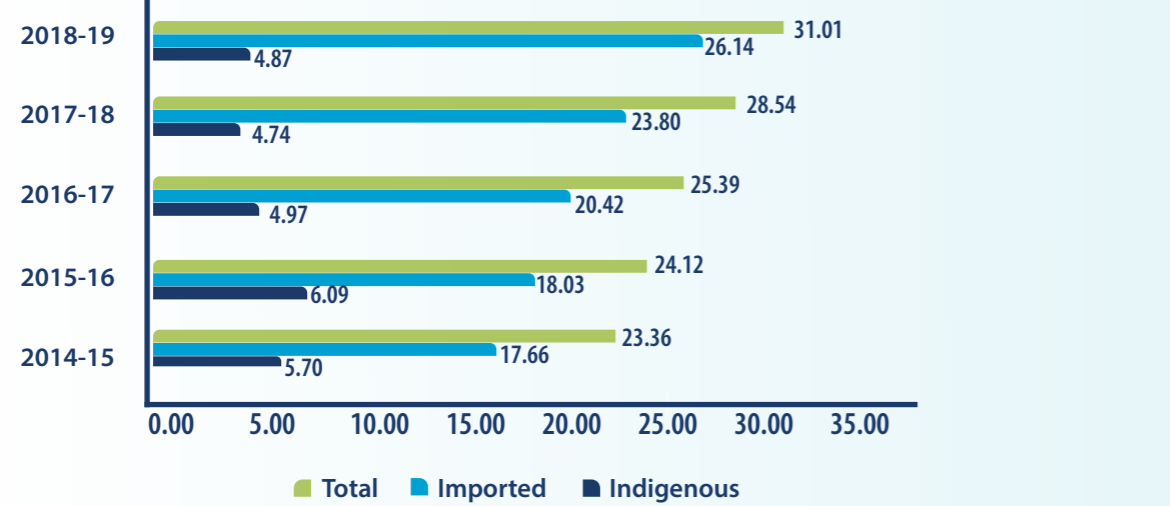
Figures for FY 2017-18 are restated including the PCCKL (Petronet CCK Limited) Operations



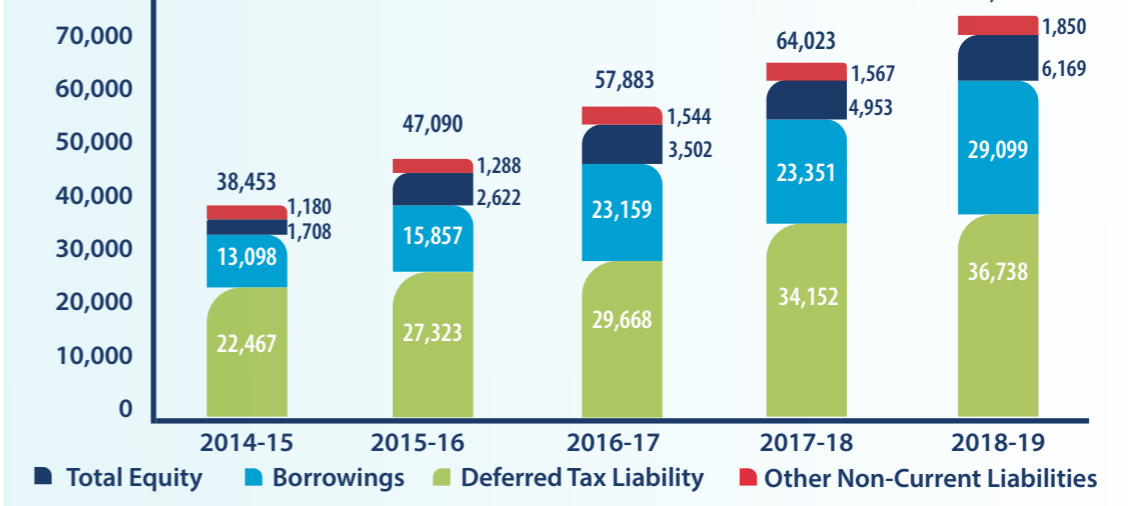
Market Sales Volume (Million Metric Tonnes)



Refinery Throughput (Million Metric Tonnes)

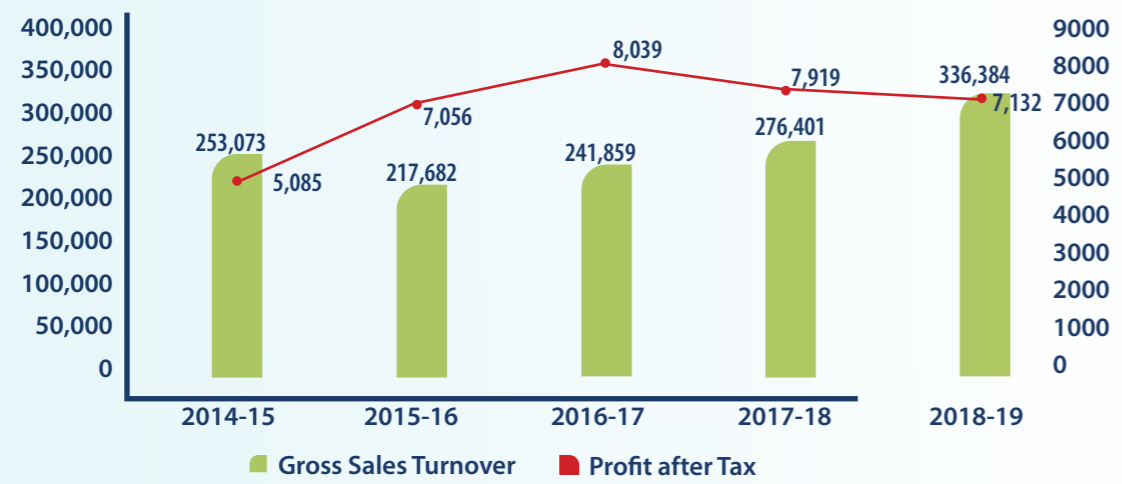


Total funds employed (Rs. Crore)



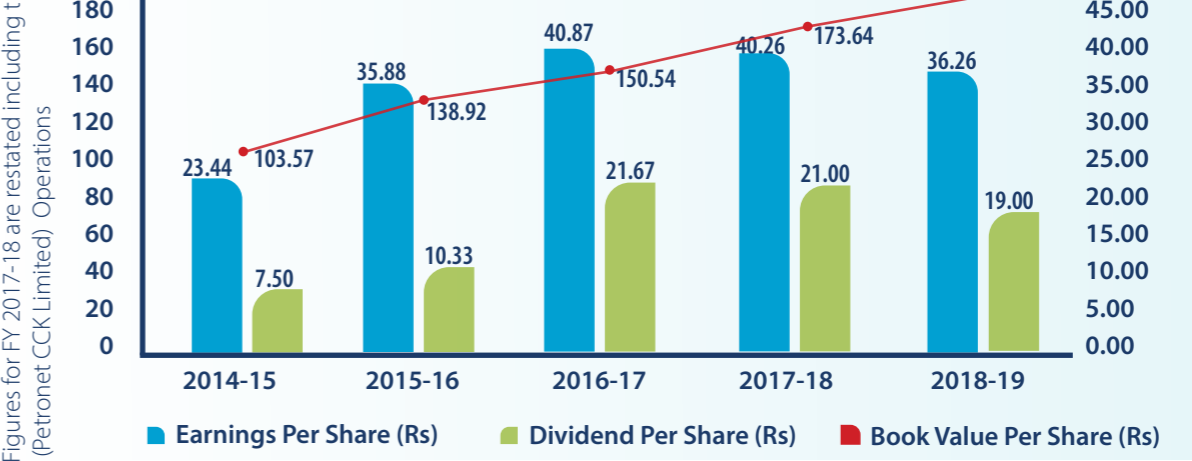
Figures for FY 2017-18 are restated including the PCCKL (Petronet CCK Limited) Operations

Gross Sales Turnover/ Profit After Tax (Rs. Crore)



Figures for FY 2017-18 are restated including the PCCKL (Petronet CCK Limited) Operations

Earnings Per Share (EPS)/ Divident Per Share (DPS)/ Book Value Per Share (Rs.)



Figures for FY 2017-18 are restated including the PCCKL (Petronet CCK Limited) Operations

Direct Economic Value Generated and Distributed

Rs in Crores	Rs in Crores (Standalone)	Rs in Crores (Standalone)	Rs in Crores (Standalone)	Rs in Crores (Standalone)	Rs in Crores (Standalone)
Direct Economic Value Generated	2,49,857.45	2,18,363.60	2,50,095.75	2,80,173.11	3,40,606.13
Revenues	2,49,857.45	2,18,363.60	2,50,095.75	2,80,173.11	3,40,606.13
Economic Value Distributed	2,43,830.77	2,11,189.33	2,44,314.03	2,70,624.56	3,34,787.33
Operating costs	2,21,122.92	1,72,889.40	1,92,375.81	2,19,949.18	2,81,352.62
Employee wages and benefits	2,139.26	2,934.33	3,486.07	3,500.19	3,739.44
Payments to providers of capital	2,210.04	2,821.50	4,758	2,884	5,223.62
Payments to government	18,282.54	32,448.51	43,601.16	44,125.17	44,262.58
Community Investments (including CSR Expenditure)	76.01	95.59	90.98	166.02	209.07
Economic value retained	6,026.68	7,174.27	5,277.63	9,548.55	5818.8

Financial assistance received from Government	Rs. Crore
Subsidies	912.96
Royalty holidays	0.00
Financial assistance from Export Credit Agencies (ECAs)	0.00

Achievements of the Year 2018-19



Mumbai Refinery was recognised with Gold award in India Manufacturing Excellence Awards 2018 instituted by Frost & Sullivan under the Process Sector, Mega large category.



BPCL won the 'Golden Peacock Award 2018' for 'Excellent Corporate Governance' on 25th October 2018 in London.



BPCL Brand Quiz Baadshah 2018 named as Largest Corporate Brand Engagement Program in Asia



Kochi Refinery bagged the Technology Excellence Award 2018 for its commissioning of Integrated Refinery Expansion Project (IREP) at the 6th Indian Technology Congress 2018 held at Bengaluru on 5 September 2018



BPCL received the prestigious 'Star PSU' Award from Business Standard at the Annual Awards for Corporate Excellence on 31.3.2018



BPCL was recognized by India Inc. with the 'SKOCH Award for Corporate Excellence 2018' under the category 'Market Leadership', for maintaining its market share and high brand equity



BPCL MR received 2nd prize for The Swacchata Award 2017-2018.



BPCL's Internal Audit team has been conferred with the "Award of Excellence" under the category of "Agile Technology in the Internal Audit"



Kochi Refinery (KR) bagged the prestigious Apex India Foundation Occupational Safety and Health Platinum Award for the Best Safety Practices (HSE) in the Propylene Derivative Petrochemical Project (PDPP) for the year 2018.



BPCL LPG Marketing receives OISD Safety Award for Best Performance, for the 9th consecutive year in a row



Corporate HSSE has received the Corporate Governance Award from Indian Chamber of Commerce in recognition of the excellent performance demonstrated in Governance mechanism.



Bhubaneswar AFS won the Kalinga Safety Award - 2017 (Gold) in the category of Oil Depots in Odisha from Institute of Quality & Environment Management Services, Bhubaneswar.



BPCL Rajasthan (Jaipur LPG Plant, Ajmer LPG Plant, Bikaner LPG Plant and Jobner Installation) bagged four Factory Safety Awards 2019 for the best Plants in the industry for implementation and compliance of factory rules at their establishments.



Mumbai Refinery (MR) received the Innovation Award 2017-18 by MOP&NG for the Best Innovation in Refinery Team for production of de-aromatized solvent [D-80] in LOBS unit.



MR was bestowed with an OGCF Award for achieving the Best Improvement in Furnace Efficiency among the PSU Refineries.



BPCL bagged the Winner Award in the category "Strategy Excellence in Raw Material Procurement" at the Manufacturing Supply Chain Summit 2019, organised by Future Supply Chain, Mumbai.



MR has been conferred with the "Leaders Award" under the prestigious "Sustainability 4.0 Awards – 2018", conducted jointly by Frost & Sullivan and TERI (The Energy & Resources Institute).



BPCL won SKOCH Silver Award for Leadership in the Oil and Gas Sector in the CSR Category for Project Boond.



MR was awarded the prestigious FIPI (Federation of Indian Petroleum Industry) 2017 trophy for completing the DHT Project ahead of the time schedule.



SLC Maharashtra was awarded the All India First prize for 'Best Performance Award in National Level Competitions for SAKSHAM 2018' for setting a record of enrolling 15.35 lakh students



Chennai LPG Bottling plant was conferred with the 'Star Award' for demonstrating the Best Health & Safe Practices with Nil LTA for the year 2016 by the National Safety Council, TN Chapter, Chennai.



MR has been adjudged as the winner of the 'MQH – Best Practices Competition' under the Manufacturing category, conducted by IMC Ramakrishna Bajaj National Quality Award (RBNQA) Trust, Mumbai.



MR has been conferred with awards for Excellence in Energy Conservation and Human Resources Management by Indian Chemical Council (ICC), Mumbai.



International Research Institute for Manufacturing (IRIM) has conferred MR with the Gold Award - (Special category) under the prestigious 'National Awards for Manufacturing Competitiveness (NAMC) 2017-18', along with a special award for 'Strategic Leadership'.



BPCL got the Gold Award for Corporate Website and the Silver Award for Wallpaper at the Annual ABCI (Association of Business Communicators of India) Awards



BPCL was conferred with the prestigious Golden Peacock Award 2018 for CSR for its initiative, "Solid Waste Management project in Chennai"

KR was awarded the Apex Gold Award for Environmental Excellence in Operations for the year 2018



BPCL won six Public Relations Society of India (PRSI) National Awards for Excellence in the field of Communications and Public Relations and overall performance in the categories of Best Public Sector Organization.



KR was adjudged the Winner in the category of HSE Excellence in the Oil & Gas sector at the India HSE Summit Awards 2018 by M/s. Synnex, Mumbai.



KR has been conferred with the highest award in the State for Energy Conservation - the Kerala State Energy Conservation Award 2018 in the category of Large-Scale Energy Consumers in Kerala.



Our C&MD, Mr. D. Rajkumar, has been conferred with the Distinguished Alumnus Award by Indian Institute of Management (IIM) Bangalore for the year 2019.



KR bagged the Kerala Management Association (KMA) CSR Award 2018 for "Child & Elderly Care" and Runners up for "Environment & Greenery" in the Public Sector.

PETROTECH 2019 - Special Technical Award for 'Innovation in Hydrocarbon Sector' was bestowed upon Mr. Rajeev Kumar, our Senior Manager (R&D), for his exemplary innovation 'K Model' for quick and accurate prediction of crude oil blend compatibility and blend optimization.



10

Community Impact

CSR VISION

“Be a model corporate entity with social responsibility committed to energizing lives through sustainable development”.

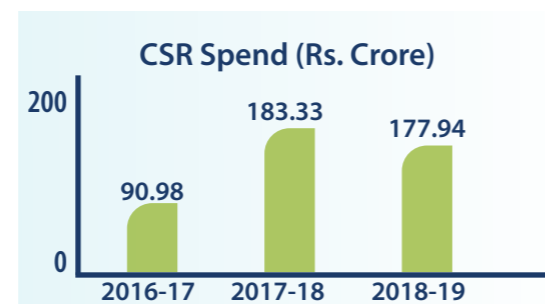
CSR MISSION

- Create a ‘positive impact’ in all the communities where we operate.
- To transform 150 villages from ‘water scarce to water positive’. To enable education of more than 10 lakh children.
- To create a resource of ‘Expert Panels’ on issues pertaining to our thrust areas.
- To encourage employee volunteering through our corporate culture and have a minimum of 10% of employees volunteering in the next five year.

Social Responsibility is an integral part of BPCL’s business philosophy. As a responsible corporate citizen, it has taken multiple social initiatives for community development and upliftment of the marginalized section of the society. The strategic alignment combined with continuous engagement with communities has led towards creating social value. BPCL has significantly contributed towards the development of communities worldwide, even before the CSR mandate came into effect.

BPCL’s CSR journey started in 1986 with the execution of projects in Mahul, a village located around Mumbai Refinery. The program was undertaken for uplifting the fishing community and improve the education and health status of that community. After the success of this initiative BPCL adopted another village – Karjat. This helped BPCL to introspect about its responsibility and thereby BPCL adopted various villages across India and provided them with fresh drinking water, water, sanitation facilities, medical facilities, improving the income standards by providing vocational training.

BPCL selflessly contributes to development of the society, these investments for development of infrastructure and services are pro-bono and in-kind in nature. BPCL undertakes community initiatives across 100% of their significant locations of Operations. Besides it also covers other geographies across India.



CSR OBJECTIVES

- Building Sustainable Communities**
To have a positive impact on the communities in which we operate.
- Health and Safety**
To ensure the health and safety of our work force and communities as part of CSR strategy.
- Environment**
To minimize adverse impacts while taking steps to protect and enhance the natural environment.
- Employees**
Train tomorrow’s leaders in teamwork skills and running socially responsible business.

Constitution of the CSR Committee of the Board

And its Core Responsibility

- External Director (As the Chairman of the Committee)
- Director (HR)
- Director (Finance)

The projects are regularly monitored by CSR department as well as officers from various SBUs/ Entities. The progress is reviewed by the CSR Committee of the Board periodically. The impact assessment of the projects is crucial and is conducted for most of the projects through third party.

BPCL acknowledges the positive and negative impact caused by its business Operations on the local communities surrounding the locations. Therefore, BPCL has a committed CSR department solely dedicated towards assessment of impacts on the communities surrounding all their business locations. The impact assessments aid in identifying the grievances of the community. It is ascertained that the company’s Operations do not have any negative impact on local community.

BPCL CSR Methodology



■ Initiatives to be integrated with Business Strategy and Context

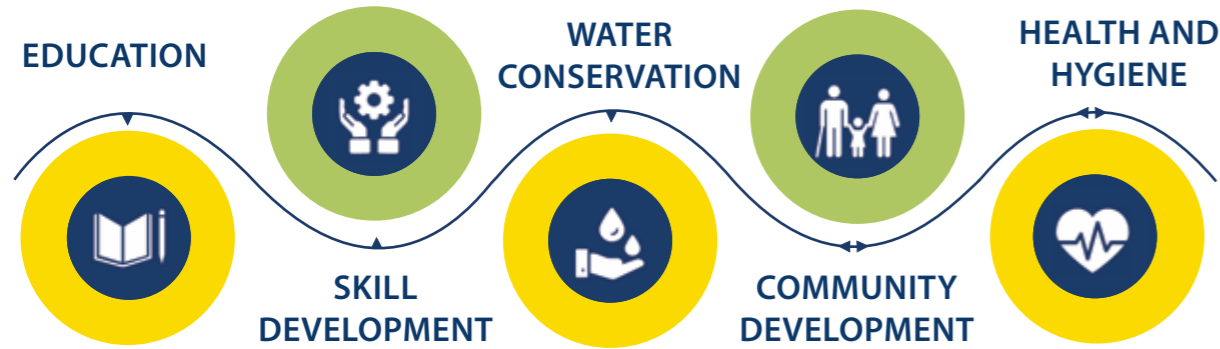
■ Leverage our Core Competency - People and Technology

■ Three-way Execution model for Community Projects

■ Develop deserving communities through ‘focussed’ and ‘need-based interventions – no Giveaways

■ Create ‘Sustainable Models’ which are replicable and scalable

BPCL FOCUS AREAS



EDUCATION

BPCL believes in empowering the children by educating them. It understands that education is the key to improve the future of the country and therefore education has emerged as a one of the major thrust area for BPCL. The education projects of BPCL have been replicated and scaled up throughout India. BPCL has been able to reach to more than 8 lakh students across country through various education initiatives.

BPCL's flagship project 'Computer Assisted Learning (CAL)' promotes education through digital literacy for students till the 10th Standard in low income schools. Since its inception the project has benefitted more than 1 lakh children. The program has promoted digital education in the schools of Uran, Lucknow, Mumbai and Jaipur. CAL has been replicated in 47 centres located

in Municipal Corporation of Greater Mumbai (MCGM) schools and 20 schools in Washala, a tribal village in Thane district. In order to reduce the dropout rates in rural parts of Rajasthan BPCL supported 50 Shiksha Kendras.

'Saksham' is another flagship project of BPCL for teacher and school leader training (2012-19) which was started to empower and motivate teachers and principals from schools across Mumbai in partnership with Pratham Infotech Foundation. Through the project it was aimed to impact not only individual classrooms but entire school environment. In last 7 years, 700+ primary, upper primary teachers and headmasters graduated from this program from 305 schools which comprise of low-income Govt. recognized private schools or BMC Schools.

Shrujan, Capacity Building Workshop by BPCL CSR

BPCL's Corporate Social Responsibility (CSR) projects are present across India. These projects have been executed through various Non-Governmental Organisations (NGOs).

BPCL as a responsible partner looks after the capacity building of the NGO partners. 'Shrujan Capacity Building Workshop' was held with the same objective of strengthening the skills and building new capacities with NGO professionals. NGO partners from the length and breadth of the country were invited to the workshop.



In the year 2018-19 around 162 teachers and headmasters were trained from 74 schools across Mumbai. Teachers from primary (1st to 4th Std) & secondary (5th to 7th Std) are trained by expert faculties on innovative ways to teach different academic concepts of Mathematics, Science, Classroom Management, Leadership Skills, Financial Management and importance of Sports in everyday life.

Baseline and Endline tests were conducted every year for the primary and upper primary students of each school. The pre and post assessment analysis have indicated substantial improvement in the learning levels of students. BPCL has also introduced 'employee volunteering programme - Once Upon a Time' which gives an opportunity to BPCL employees to recite moral based stories to children from low income schools of Mumbai.



Various activities in Saksham Program

Education Initiatives at Madhya Pradesh

Skill development

For underprivileged students of Industrial Training Institute, Mankhurd-Mumbai

As a part of the Skill India mission, BPCL Pipelines conducted a program at industrial Training Institute, Mankhurd-Mumbai. This was a training programme to inspire and ignite young minds and was conducted with the main objective of imparting knowledge on industrial needs of "Electrical systems and safety". Opportunities were provided for hands on training and demonstration of the latest technology and equipment in the area of digital measurement and electrical systems with special focus on electrical hazards and Safety.



Participants attending the training

Skill Development Programme for girls



SKILL DEVELOPMENT

BPCL has been on the journey to empower and train the individuals through supporting Skill Development Institutes (SDI) in the spirit of achieving the vision of 'Skilled India'. BPCL continues to support SDIs at Visakhapatnam, Bhubaneswar, Ahmedabad, Guwahati and Rae Bareli. In Kochi, BPCL has taken a lead in setting up SDI and is presently extending courses aligned to the National Skills Qualification Framework (NSQF) of the Central Government with affiliation to respective Sector Skill Councils and National Skill Development Corporation (NSDC). In FY 2018-19, SDI at Kochi successfully completed its five years and trained 312 individuals from lower economic background. It has an excellent placement record.

BPCL's Skill Development Initiatives under CSR found a great resonance across the State of Kerala when Kochi Refinery was visited by Shri Narendra Modi, Hon'ble Prime Minister of India on 27th January 2019. A proposal to set up a second campus of the SDI on 8 acres of Government of Kerala leased land by BPCL along with other oil companies. It is planned to train 1000 students every year in 20 different trades.

BPCL has taken up several employment-based skill development programs for the underprivileged in many aspirational districts. Skill development initiatives of CSR focus on placement/ employment-linked skilling of women, unemployed youth and the disabled. Another high impact project is training of 792 leprosy affected youth in various trades like Motor Vehicle Mechanic, Welder, Computer Operator, and Programming Assistant in 6 centres viz. Nashik, Champa, Faizabad, Bankura, Vadathorasalur and Vizianagaram. BPCL has projects for training 75 visually impaired youth in Acupressure and Massage Therapy in Latur.



Above: Construction of Check dam for irrigation in Mokhada, Palghar District
L: Rejuvenation of water bodies at Kolkata, West Bengal



WATER CONSERVATION

Increasing water scarcity is a rising threat in the current times since water is at the core of a sustainable economy. The lack of water availability has led to poor sanitation facilities, which is one of the biggest environmental and social challenges that India faces today. Water is of paramount importance since socio-economic development, energy and food production, and human survival itself is based on water availability. BPCL has over the years committed itself to this cause, and supported projects to arrest this problem.

Keeping in mind the micro to macro issues of water, BPCL's Project "BOOND", a water conservation project was initiated. The aim was to transform villages from water scarce to water positive through rainwater harvesting. Since 2010, BPCL has transformed around 280 villages from water scarce to water positive dwellings through Project BOOND. BPCL has directly and indirectly engaged with communities through village level associations, children's clubs, micro-finance groups or farmer federations etc.

In Southern India (Tamil Nadu, Andhra Pradesh and Karnataka), it has been observed that bore wells and local ponds which are important source of irrigation for the rural economy have become redundant due to negligence and low rainfall. BPCL collaborated with DHAN for institutionalizing the restoration, management and maintenance of such vital traditional structures and creating smaller water harvesting structures for a better future.

BPCL was able to create a significant difference in the lives of beneficiaries with positive impacts on livelihood generation, groundwater recharge, soil erosion control and food security. Another village named Mokhada in Thane district of Maharashtra suffers from acute water shortage during summer.

From 2014 to 2019, through the 5-year projects Agricultural Livelihood Development through Conservation and Development of Small-Scale Water Bodies in Kolar and Ramanagara districts of Karnataka, and Livelihood Enhancement through Natural Resources Conservation and Development in Tuticorin District, and by the efforts of the farmers, BPCL was able to achieve the following:

- In Kolar and Ramanagara, activities related to agricultural demonstration, fish rearing, tank silt application and vermicompost pits were undertaken. In Tuticorin, there were activities related to land levelling, agricultural interventions, crop insurance, life insurance, etc. 33 roof water harvesting structures were constructed.
- 119 farm ponds were established which enabled farmers to now produce higher income generating crops such as vegetables and fodder crops for their livestock.
- 41 water tanks were renovated, and some new ones constructed to enhance water storage capacity.
- 77 Mini Percolation Tanks (MPT) were constructed according to the need of the farmers and suitability of site.



Above: Construction of bund in the Mokhada Block Jahwar, Palghar
Below (l & R): A group of women carrying water from the well restored with the help of BPCL in Udaipur, Rajasthan

Although, this area records a very high rainfall, the extreme slopes and geological conditions results in high runoff, leading to water scarcity. The area is also notorious for deaths due to malnourishment and high unemployment rates. Moreover, as agriculture in this area is largely rain-fed, landholders can only practice subsistence farming in the kharif season, leading to large-scale migration in the non-monsoon period.

Understanding the difficult situation of the locals, BPCL intervened and undertook project BOOND AkshayJal II from 2013 to 2016 to build rainwater harvesting structures, promote irrigation projects and other sustainable livelihood activities. In addition to that, the Drip irrigation Project was adopted by farmers in the Mokhada region and this led to increased water conservation and increased crop yield. BPCL also educated the farmers about different farming practices and assisted them in adopting it.

Under Project BOOND – Neer, BPCL supported several rainwater harvesting projects in Bharatpur, in the state of Rajasthan, which has a history of droughts and floods. BPCL's projects were able to increase water retention period in wells and hand pumps, and soil moisture retention around UG Bunds. It has also made irrigation of wheat and mustard more convenient, as less water is required from bore wells.

Since 2013, activities such as watershed development, training programs for farmer groups, self-help groups, farmer training organic agriculture, etc. have also been undertaken in the Bharatpur region of Rajasthan.

Community participation at all levels is an integral part of the projects. The community was encouraged to participate in the planning, implementation and maintenance of proposed drinking water and irrigation structures. For their further involvement in the projects, BPCL also motivated them to contribute 15-25% of the expenses so that they become more responsible and assume its ownership.

Several committees such as Village Water Committees, Women's Self-Help Group, Farmers' group and Children Water Clubs were also formed to educate and empower participants. This made it an organized effort, where all members of the community are focused and work towards a goal.

The process of involving the community, encouraging them to make a financial contribution, organizing the community into work groups for focused effort and building their capacities to achieve the desired goal has led to formulate an effective foundation for us to step out of the areas once BPCL has made the community self-reliant.



1&2: Community Welfare initiatives carried out in Faridabad, Haryana
3: Beach Cleanup Drive In Mumbai
4. Distribution of Cloth Bags to promote Plastic Ban

COMMUNITY DEVELOPMENT

BPCL has taken community development initiatives to empower individuals, group of people and families with the required amenities. The projects undertaken are based on extensive need assessment and provide sustainable solutions to enhance the quality of life of the community members. BPCL has supported a mega project of integrated development of communities in district Gadchiroli situated in the south-eastern corner of Maharashtra, which includes interventions on water harvesting, safe drinking water sustainable livelihood program, establishment of libraries and central kitchen etc.

HEALTH AND HYGIENE

BPCL has always been on forefront to address the issues of health and Hygiene. The Company has carried out health related projects on a large scale to positively impact the lives of marginalized sections of the society. It has adopted innovative, value driven and well-designed projects that brought out consciousness towards health being the most important factor in overall development of the communities. BPCL aims to improve the existing healthcare infrastructure, provide free surgeries and reach out to the cancer affected patients.

BPCL has undertaken development of affordable cancer care for the population in Darrang, Assam. The project will ensure health promotion, cancer awareness, cancer prevention, early detection, screening and high-quality treatment with palliative care.

As a responsible corporate citizen, BPCL has enthusiastically participated in 'Swacch Bharat Abhiyan'. Till date BPCL has constructed and renovated more than 3,500 toilets in schools and communities. It aims and contributes in creating an 'Open Defecation Free' country and has also been supporting a Solid Waste Management project involving collecting, segregating/processing and recycling waste in 33 micro-composting centres.

Mobile Medical Units

Flag off of two Mobile Medical Units at Jammu and Pipavav, Amreli (Gujarat)- a CSR initiative

BPCL partnered with Wockhardt Foundation to provide healthcare by operating mobile medical vans to serve the vulnerable and disadvantaged communities in rural areas. MMUs were flagged off in Pipavav, Amreli and Jammu in November 2018. Each MMU will deliver primary healthcare according to the ADCR formula (Awareness, Diagnosis, Cure and Referral). Each Mobile Medical Van will aim to screen 25,000 patients per year and provide them with free medicines for primary healthcare.



MMU Flagged in Jammu and Pipavav

Marine Ambulance Project

Bharat Petroleum is extending financial support for the Marine Ambulance Project of Govt of Kerala (GoK). BPCL is participating in this GoK mission to support emergency Operations at sea and enhance the safety of fishermen

Taking Swacchta Forward

I&C Takes Swacchta Forward: Provides Facility for Clean Drinking Water

On Swachh Bharat Pakhwada celebration, I & C Bangalore team in association with KSRTC, have installed a RO purified Drinking water vending plant at KSRTC Srirangapattana Bus Depot and the same was inaugurated and formally opened for public usage on Friday the 13th of July 2018. This was a part of BPCL CSR initiative towards providing Swacch Drinking water at 15 KSRTC Bus Stands for general citizens.



Support for MRI Machine

BPCL extends support for modern MRI machine at RKM Seva Pratishthan Hospital at Kolkata

The partnership between BPCL and Ramakrishna Mission has extended over 7 years and spans across several developmental areas which include providing quality education, improving access to healthcare for the poor, placement linked vocational Skilling, support towards clean energy and others. Both organisations work in similar focus areas and are therefore well aligned to be partners. In this project, through Ramakrishna Mission Seva Pratishthan medical institution, BPCL is proud to facilitate the provision of high-quality MRI scans to around 5,000 patients annually at a minimum charge.



Ultra -modern 1.5 Tesla MRI Machine

Magic on Train

“World’s First Seven-Coach Hospital Train” at Latur, Maharashtra



1: Lifeline Express
2: Beneficiaries awaiting cataract surgery

BPCL under its Corporate Social Responsibility (CSR) activities has partnered with a joint initiative of the Indian Railways and Impact India Foundation to support the Lifeline Express “a hospital on a train”. The objective was to reduce the burden of avoidable disability in rural communities. The seven-coach train has three operation theatres equipped with state-of-the-art medical

equipment. The main aim for the project to reduce the burden of avoidable disability in communities in rural India. BPCL had first supported Lifeline Express in the year 1992 at Manmad, Maharashtra and again in the year 2017 at Daltonganj, Jharkhand and most recently, at Latur, Maharashtra from 16th June to 5th July 2018.

Around 10,000 people have benefitted from the free healthcare services provided at this location. Approximately 765 surgeries were provided free of cost. These include corrective orthopaedic surgeries for people afflicted with polio or club-foot deformities, hearing impairment & cataract surgeries and plastic surgeries for cleft lips. More than 960 aids and appliances were distributed to the needy patients. The doctors on board also provided breast and cervical cancer screening, epilepsy treatment, dental treatment, Gynaecological and Cancer procedures and stroke prevention programmes through health education. Currently, the reach out is over 16,500 patients with surgical and non-surgical medical aid in addition to training healthcare providers.



First Meal Programme

Community Development Initiatives

Kochi Refinery

- 'Roshni' Learning Enhancement Project for the children of interstate labourers in 2018-19. Around 750 children benefitted from this project, which aims to bring students into the mainstream of society by acquiring proficiency in Malayalam and English, by taking extra morning classes by language experts using the Code-Switching strategy.
- Projects were undertaken for providing nutrition, improved facilities and quality education in Government schools including those for tribal children, e.g. Ekalvidyalayas.
- BPCL, through its Kochi Refinery, extended support to the Kerala flood-affected victims in Thrissur, Ernakulam, Pathanamthitta, Kottayam and Alleppey. BPCL employees volunteered towards relief work and the cleaning of houses which were affected by the flood. It also conducted multi-specialty medical camps in locations which were badly hit by the flood.

- The Refinery also contributes to the care of poor cancer patients by construction of a Rehabilitation and Palliative Care Centre of Cancer Foundation near the Shore Tank Farm at Puthuvypeen.

- Dedicated Trauma Care Units are being constructed at Ernakulum General Hospital and Koothuparambu Taluka Hospital in Kannur District.

Support for the Home-Based

- Rehabilitation Project, which is to support differently abled children who cannot make it to special schools.

BPCL also undertakes a project

- for the care & support of HIV/Aids affected persons in seven districts of Kerala.

New and Innovative CSR Initiatives

Mumbai Refinery

- Introduction of a 24x7 Emergency Mobile Ambulance, a Mobile Medical Dispensary, a dedicated allopathy clinic, free cancer screening and medical camps under Project 'Swasthya.'
- A dedicated Student Scholarship Scheme - 'BPCL Ratna' for economically backward and SC/ST students.
- A Women's Empowerment initiative through Self-help groups, project for manufacturing Sanitary Napkins.
- A Vocational Training (MCVC) program - 'Project Kaushalya' and a placement linked skill training for 100 youth.



11

Health, Safety and Security

Health, safety and security of the assets and people are of paramount importance for BPCL and they help in ensuring sustainable, responsible and successful Operations.

At BPCL, safety is embedded in the culture with the motto of 'Safety First - Safety Must'. The Health,

Safety and Environment (HSE) Policy of BPCLs provides guidance to maintain a productive workplace. Measures are taken to minimize the risk of accidents, injury and exposure to health hazards for all BPCL employees, contractors, customers and the communities in which it operates, while having a target of zero occupational incidents.

BPCL aims to achieve its Sankalp Mission of Zero Incidents, Zero Harm and Zero Excuses.

BPCL believes that employee wellness is a crucial part of a successful workplace. A safe working environment is a fundamental right of every employee and is also a business imperative. There is a strong commitment from top management towards safety and use of effective risk management tools and techniques. BPCL complies with all the statutory regulations and takes proactive steps to ensure safety and well-being. The commitment is to attain the highest standard in health, safety environment and security performances and in pursuit of good governance of the same. As part of the Integrated Management System, both the Refineries are certified for OHSAS 18001, Occupational Health & Safety Management Systems.



As on 31st March 2019, Kochi Refinery touched 4,840 days of continuous operation without any Lost Time Accident (LTA), which is equivalent to 58.90 million man-hours. Mumbai Refinery also achieved 3 million man-hours without LTA. A Behaviour Based Safety (BBS) program was taken up in Mumbai Refinery. This programme passively and positively changes the existing unsafe workplace behaviours by identifying and reinforcing the use of the right behaviours that ensures protection of people. Implementation of Process Safety Management (PSM) principles was undertaken by both the Refineries.

BPCL's Corporate Safety Management System (CSMS) is a systematic and structured approach

to manage the occupational health and safety risks associated with the Operations to 'As Low as Reasonably Practicable (ALARP)' level in accordance to BPCL's business goals, values and HSE policy. CSMS is the highest-level document in BPCL's safety management system and describes the corporation's strategic approach to safety management. It applies to all BPCL Operations, assets, facilities, employees, contractors and important stakeholders.

Due to the nature of business, BPCL is exposed to various risk factors. Comprehensive preventive measures set protocols and a well-ingrained safety culture is inculcated as mitigation to the safety risks. There is a well-structured Emergency Response Disaster Management Plan (ERDMP) which encompasses identification, mitigation, preparedness, response, recovery and restoration. Management of physical assets (Asset Integrity) plays a key role in determining the operational performance, safety and profitability of the organization. Therefore, to secure the integrity of the assets, they are continuously examined, monitored, inspected, periodically maintained and replaced (if required). All the locations of BPCL strictly follow the standard operating procedures to ensure safety of Operations. The CSMS includes Life Saving Rules and Technical Guidelines for ensuring the highest level of safety standards

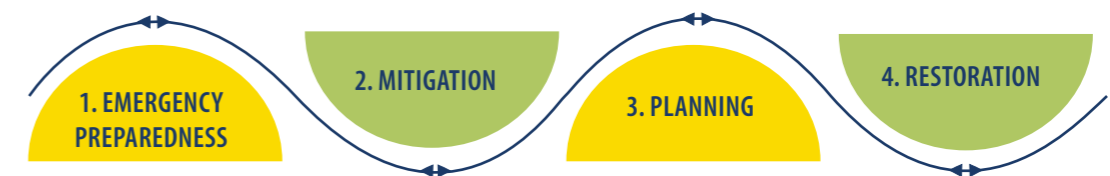


12 LIFE SAVING RULES

BPCL's 12 life saving rules are designed to protect your Life! These rules must be respected and complied with at all times.

- RULE # 1: PPE** No work without mandatory Personal Protective Equipment
- RULE # 2: Lock Out and Tag Out** Verify isolations before work begins and LOTO equipment are put in place
- RULE # 3: Working at Height** Use Full Body Harness, anchored with rigid connection and safety helmet with Chin Strip tightened while working at height > than 6 feet
- RULE # 4: Obtain and Follow Work Permit System** Obtain Work Permit before start of work and follow all conditions
- RULE # 5: Confined Space Entry** Obtain Authorization before Confined Space Entry and ensuring no hazardous atmosphere inside based on gas test certificate
- RULE # 6: Safety System Override** No overriding or disabling safety critical equipment without pre authorization from designated person
- RULE # 7: Follow JSP / SOP** Always follow Job Safety Plan / Safe Operating Procedures (SOP)
- RULE # 8: Management of Change** No modifications without MOC signed and authorized
- RULE # 9: Wear Seat Belt** All occupants of four wheelers and product transportation fleet to wear seat belt
- RULE # 10: Intervene** Intervene if somebody violates the Life Saving Rules
- RULE # 11: Authorized Personnel Only** Don't operate any equipment or enter any area for which you are not authorised
- RULE # 12: Alcohol and Drugs** No use of alcohol or drug whilst working or driving

BPCL's emergency response plan covers Preparedness, Mitigation, Planning and Restoration (PMPR).



1. Emergency Preparedness

Preparation to deal with an emergency successfully, an organisation should be prepared for 'what to do, where to go, contact details of person in-charge etc. Further, as a proactive measure various mock drills are conducted periodically at all locations of BPCL across the country and recommendations from them are recorded, shared and are used to be prepared.

To ensure safety and security various capacity building sessions and discussions were held in the form of seminars, workshops, training etc. BPCL inculcates a culture ensuring collaborative learning for safer Operations across all locations. Health, Safety, Security and Environment (HSSE) Department reviews the Emergency Response and Disaster Management Plan (ERDMP) for

certain selected locations with major Operations and Fire Drill reports, identify gaps in emergency preparedness, and align BUs for taking necessary mitigation methods. BPCL has a well-defined corporate level process in which the internal and external incidents are reported. The reported incidents are investigated, analysed and thoroughly reviewed. HSSE also monitors BUs for undertaking live fire fighting training.

Due to the nature of Oil and Gas industry, some employees need to perform Operations in areas with a higher risk of health hazards or occupational diseases. BPCL ensures that the workers performing Operations in such areas follow the Standard Operations Procedures (SOPs) strictly.



Fire Drill at Sewree

The procedures contain specific instructions on performing Operations in a safe manner, list of precautions and instructions on actions in case of an incident/accident. Nevertheless, no incidents of occupational disease have been reported or have been detected in the worker or other employees performing Operations in the areas with higher risk of health hazards. Exposure to petroleum products, including benzene, which is carcinogenic in nature, has not led to causing cancer to any of employees at workplace. Further, to keep the employees in good health BPCL also organizes regular medical camps, awareness sessions, access to premium health care and health advisors through the medical support services.



National Safety Week Flag Hoisting

2. Mitigation

Mitigation includes any act of preventing future emergencies, reducing the chance of an emergency happening, or reducing the damaging effects of emergencies.

BPCL has a well-defined mitigation plan in case of emergencies and accidents i.e. ERDMP to ensure that the situation is managed in the best possible manner.

BPCL has state of the art fire-fighting equipment's and machinery installed at the locations to fight in case of any incident. Employees are trained for providing first aid in case of any injury before person gets proper medical care. All incidents from Refineries and marketing locations are recorded on the internal portal and reported in the Sustainability Report.

3. Planning

To ensure safety and security during all Operations BPCL has put together advanced technologies and rigorous operating procedures in place.

Most of the processes are automated which reduces any exposure of workmen to harmful/toxic chemicals. Operations were strictly monitored on a daily basis. Special training on health, safety and environment were held at all locations. HSSE role holder is present at each

location to ensure adherence to the HSSE Policy. The safety performance of BPCL is monitored by Corporate HSSE council, 4 regional councils and further at Refinery and marketing locations through their respective safety committees, where the representation of workmen and management is in equal numbers as per statutory requirement. They represent 100% workforce at the location.

4. Restoration

Once the immediate danger is over, recovering from an emergency safely depends upon the ability to rearrange life and nearby environment and take actions to return to a normal or an even safer situation. Keeping this in mind, BPCL has a recovery plan to ensure that normalcy is restored after the incident. Post any fire or safety incident, BPCL ensures all processes and equipment's are checked and safety conditioning systems are installed before commencement of any further Operations. The data collected for injury, cases of occupational diseases, man-days lost and missed (absentee) days is not captured in a gender wise manner. There were 2 fatalities in contract labour which occurred at BPCL in FY 2018-19, one in Kochi Refinery and the other at Ennore Retail installation. BPCL investigated the incidents and appropriate corrective measures were taken to

avoid occurrence in future. An incident of fire and explosion took place at MR due to hydrocarbon leakage in Hydro Cracker Unit (HCU). The incident was investigated, and analysed. It was found that it took place due to metallurgical failure. Necessary corrective measures were taken by MR to avoid such incidents in future.

There have been no fatalities reported due to occupational ill health. The total number of hours worked by company employees is 1,37,36,034 and the total number of hours worked by contract employees is 3,59,22,028. Rate of fatality as a result of work-related injury for company employees is zero and for contract employees is 0.011. The rate of recordable work-related injuries for company employees is 0.11 and for contract employees is 0.072. The rate of high-consequence work-related injuries (excluding fatalities) is 0.084.

BPCL Safety Performance	Company Employees				Contractors			
	North	South	East	West	North	South	East	West
Reportable Injuries	0	0	0	8	0	2	0	11
Cases of occupational diseases (Reported)	0	0	0	0	0	0	0	0
Man-days lost	0	3310	0	556	4	6146	0	602
Missed (absentee) days	4276	5592	544	6388	1412	3895	33	2515
Fatality	0	0	0	0	0	2	0	0

Days are calculated based on "scheduled workdays".

Safety Initiatives for Contract Workers

- Contract Safety Vision 2019 was published
- Mandatory Personal Protective Equipment (PPE) like protective clothing & safety shoe
- Live fire-fighting demo introduced in HSE training for contract supervisors
- Scaffolding competency training was conducted for BPCL- KR Employees

Kochi Refinery Safety Initiatives

BPCL's Kochi Refinery conducts Internal Safety Audits (Non-Electrical, Electrical & Fire protection system), Priority Inspection Audit and External Safety Audit as Per IS 14489 by DGFASLI approved auditor. KR achieved 100% completion of the targeted safety audit recommendations for

FY 2018-2019. Fire and Safety training was imparted to 2,287 employees. In order to mitigate emergency and improve response time, a state-of-the-art Emergency Control Centre in Refinery and a Satellite Fire Station near Eco Park were inaugurated in FY 2018-19. Taking further steps

to improve the safety in Refineries, safety Theme Calendar 2019 highlighting the twelve "Life Saving Rules" was released. One day Refresher training on Work Permit System (as per OISD Std.105) was conducted for all the authorized signatories during the year. In addition to this there have been measures undertaken for Implementation of Process Safety Management (PSM) principles.

PSM specialized training were given to Refinery operating staff (both Management & Non-Management) and contract workers. Initiatives were also undertaken to audit the electrical system, incorporate safe practices, and create awareness and impart training to persons on electrical safety

Kochi Refinery Safety Initiatives

- A comprehensive electrical safety audit was carried out by M/s Cholamandalam MS Risk Services.
- Safety inspection checking program was implemented for all the portable electrical equipment and electrical panels during plant turn around.
- The potential risks associated with electric traction facility using 25KV exposed overhead Electric lines for loading and dispatching Pet Coke through railway wagons were identified and corrective measures were undertaken. Implementation of risk reduction measures started in coordination with Railways.
- Electrical safety awareness module included in the mandatory HSE training program to all BPCL and contract employees.
- Specialized one day electrical safety workshop on integrity of flame proof electrical equipment and usage of testing instruments inside hazardous area was conducted for all the electrical employees as well as contract electrical manpower. A total of 220 people were covered.

Mumbai Refinery Safety Initiatives

- Mumbai Refinery undertook a comprehensive Quantitative Risk Assessment (QRA) with the help of a consultant.
- A Behaviour Based Safety (BBS) program was formally launched and an online software was also implemented to capture and analyse observations recorded during BBS based audits.
- A total of 2,599 HSSE man days training was imparted to BPCL employees in FY 2018-19. Emergency Response & Disaster Management Plan (ERDMP) of Refinery was recertified by M/s TQ Services on 31st May 2018 as per PNGRB guidelines.
- As a part of its Integrated Management System, MR was recertified on ISO 9001:2015, 14001: 2015 and OHSAS 18001:2007 standards for Quality, Environment & Occupational Health and Safety Management Systems.
- The MR Quality Assurance laboratory is equipped with state-of-the-art facilities and strives to achieve the highest quality standards through meeting the standards of reputed external certifying agencies and accreditation bodies.



Main Control Room at Kochi Refinery

Mock Drill at BPCL Margao

A mock drill was conducted to assess the preparedness levels of all the response teams of the district administration, concerned industry and the surrounding industries at the LPG bottling plant of Bharat Petroleum Corporation at Verna Industrial Estate.

The scenario was of a gas leak at the point of Tank Lorry Unloading Gantry wherein on-site emergency team tried to arrest the fire with their own resources and then declaring off site emergency. The drill was conducted

perfectly with everyone discharging their defined roles within the estimated schedule response time. The Fire and Emergency Department with due assistance from medical teams including that of the BPCL undertook the full evacuation of the people/employees of surrounding industries too within the entire radius of 250 metres to an identified location and shifting of casualties to nearby medical centre.

Precautionary measures were undertaken by vacating the area and controlling the fire by spraying water.

Enhancement of Fire Fighting facility at BPCL Liquid Cargo Jetty at Jawaharlal Nehru Port Trust (JNPT)

BPCL liquid cargo jetty at JNPT enhanced its firefighting facilities with additional firefighting pump, with cater berthing of above 40,000-ton dead weight Very Large Gas Carrier vessels as per OISD 156.

The project was executed by E&P West with construction of new pump house building and installation of new one Number 880 kl/hr firefighting pump and engine with

129m head. The existing fire water pump house was extended as per the jetty structural design adequacy study carried out by IIT Madras.

To cater to the fire water requirement as per OISD 156, the existing FF pumps' capacity was also enhanced to 880 kl/hr discharge. Now JNPT has a total of 6 fire pumps (4 working & 2 standby) to provide enhanced firefighting capacity as required for the berthing of VLGC Vessels.

Internal and External Audits are an integral part of Operations and their compliance is given extremely high importance. Implementation of recommendations are constantly analysed for risks and learnings.

Many times, even the Operations are stopped unless the job is completed. BPCL endeavours to improve its safety and environmental performance continuously and to minimize its operational impact on its stakeholders.

Security Mock Drill at Uran LPG Terminal - "Sadyav Satark"

Uran Terminal is supplying packed LPG to three districts i.e. Thane, Palghar and Raigad. It is strategically vital installation since it is supplying LPG to other Bottling plants in Maharashtra and other parts of India.

Being situated at Coastal area, Uran Terminal is critical from safety point of view and always having greater risk of Terrorist attack and Bomb Threat. Uran terminal has taken a safety initiative to conduct security mock drills with the help of Quick Response Team (QRT) Navi-Mumbai Police. These drills are necessary to check the preparedness of Team Uran against

Terrorist attack and Bomb Threat. Total 30 Commandos (from QRT) and Local Police Officers participated in the drill.

The scenario was terrorist breached security at Main Gate and took four security guards as hostage in Administrative Building. QRT upon receipt of the information from control room arrived at Uran Terminal and neutralized Terrorists and freed hostages.

Various tricks were created by dummy terrorists such as plantation of dummy bombs on the approach way of the target place.

Security Manual



BPCL published a manual on Security during HSE meet at Chennai by our C&MD Shri D Rajkumar. This manual has updated the current security requirements and mitigation of threat to the locations. It also contains details on how to calculate the vulnerability of a location due to security threat.

Annual HSE Meet

Corporate HSE organises annual event on health, safety, security and environment where expert speakers are invited to share their experiences with the current and future leaders of BPCL. The theme for this year's meet was Risk Reduction hence focus was made towards Zero Accident.

The role holders of HSE based at the locations of different BUs are motivated by awarding them on their performance. Senior Management of BPCL also share their experiences and emphasise upon safety culture which should be imbibed with the nature of business of BPCL.



Safety Pledge.



Capturing moments of Annual HSE Meet

12

People Oriented Approach

BPCL acknowledges the fact that employees are its most important asset and hence focusses on continuous development and up skilling of its Human Resources.



Clockwise from top: 1. Award on reporting on Sustainability Development to Bijwasan Installation. 2. Award on reporting on Sustainability Development to Kochi Refinery. 3. HSSE award to Bareilly LPG Plant. 4. HSSE award to Kanpur Retail Depot. 5. Chairman Award to LPG Plant Piyala. 6. Chairman Award to Kochi Refinery

ESE at BPCL

Brings Organisational Connect

- By wishing them on their birthdays
- By promoting and thanking them on their retirement
- By circulating Positive advisory through its internal E-magazine – ESE Connect: Life Positive

ESE at BPCL

Focus Areas

- Individual wellness (physical and emotional)
- Enhancing individual proficiency (skillsets)
- By circulating Positive advisory through its internal E-magazine – ESE Connect: Life Positive

The Company ensures to create a safe and conducive working environment and provides opportunities for personal and professional development. BPCL understands that taking a genuine interest in the well-being of their employees can translate into a powerful competitive advantage and help in attracting and retaining quality talent.

The Employee Satisfaction Enhancement (ESE) cell of BPCL continues to work across employee categories with aspiration to make BPCL 'a great place to work'. The ESE team works on grievance of large workforce of 12,000 plus individuals.

The ESE team resolves the grievances received from the employees and tries to reach out to employees on their locations to understand their concerns. The team reports to the Director Marketing, if any employee has any grievance against the HR team. ESE follows a plan of enhancing employee satisfaction through employee wellness, employee connect and prompt grievance redressal. The key area of concerns under which grievances are received are on the issues pertaining to transfer, promotion, facility among others.

All the Operations of BPCL have been subject to Human rights reviews or Human rights impact assessments. Sexual harassment cases are handled with great care and sensitivity at BPCL. The sexual harassment panel deals with any cases raised on these lines. The number of sexual harassment complaints filed during FY 2018-19 are 02 and pending is NIL.

The ESE team at Mumbai Refinery started a program called Peer Counselling Network (Sarkari Mitra) under which people were identified and trained who could act as a counsellor to the peers. This programme was quite successful in Mumbai Refinery.

Apart from this there are various other initiatives taken up such as online quizzes, Go Green initiatives, biggest loser wins (weight loss programme), stress audit, stress Bingo, international yoga day etc. to motivate the employees.

The Company has also taken up a unique programme in collaboration under which the retired employees are given a memento which is procured from people with disability (painted with the mouth and foot artists).

Further, all management staff of BPCL received a regular performance and career development review during the reporting period. Workmen across all domains such as Marketing, Refineries receive regular performance appraisals. The performance ratings are mapped to the Line Managers and communicated to the workmen.

Employee Categorization

Employees at BPCL are classified into management and non-management staff. Senior Management is defined as per the organizational chart and all of them are hired from the local community. The employment type provided by BPCL is of full-time in nature for the permanent employees.

BPCL being an oil and gas sector company, does not show any significant variation in the numbers reported for permanent employees due to seasonal variation etc.

BPCL does not engage in or support direct or indirect discrimination for employees in their appointment, compensation, termination or retirement based on caste, religion, disability, gender, age, race, colour, ancestry, marital status or affiliation with a religious or union organisation or minority group. For details of Senior Management refer Management Team of Annual Report FY 2018-19. The contribution of workers who are not employees is not significant for BPCL Operations

Details about employees across locations as on 31st March 2019

	FY 2018-19	FY 2017-18	
Total Number of Permanent Employees	11,971	12,061	as on 31st March 2019
Total Number of Contractual Employees	22,267	19,290	BPCL does not capture the age, gender and region wise data of contractual labour.

Total Number of Permanent Employees (Breakup)	FY 2018-19		Total
	Male	Female	
Management	5556	626	6182
Non-management (Clerical + Labour)	5288	501	5789
Total	10844	1127	11971

Number of Newly recruited Permanent Employees	FY 2018-19		Total
	Male	Female	
Management	396	74	470
Non-management	175	0	175

Number of permanent employees who left the organisation	FY 2018-19		Total
	Male	Female	
Management	268	37	305
Non-management	434	23	457

Age-wise distribution of recruited Permanent Employees			
Age range	Management	Non-management	Total
<30 years	1971	605	2576
30-50	2581	1959	4540
>50	1630	3225	4855

Regional distribution of Permanent Employees (MR and KR data is not added any regions as they are significant location of operation)

Region	Management		Non-management	
	Male	Female	Male	Female
North	939	85	716	57
South	791	108	434	62
East	531	31	349	21
West	1553	274	1000	235
Mumbai Refinery	988	79	1315	83
Kochi Refinery	754	49	1474	43
Total	5556	626	5288	501

Regional distribution of newly recruited Permanent Employees (MR and KR data is not added to any regions as they are significant location of operation)

Region	Management		Non-management	
	Male	Female	Male	Female
North	50	8	5	0
South	42	12	0	0
East	30	6	0	0
West	123	21	1	0
Mumbai Refinery	64	16	16	0
Kochi Refinery	87	11	153	0
Total	396	74	175	0

All the employees working at BPCL are entitled to avail parental leave either male or female.

Return to work and retention rates after parental leave	Management	Non- Management
Employees availed maternity leave	14	0
Employees that returned to work after maternity leave and are employed in BPCL on 31st March 2019	14	0
Employees that availed paternity leave	146	110
Employees that returned to work after paternity leave and are employed in BPCL on 31st March 2019	144	110
Employees that returned to work after paternity leave and are employed in BPCL on 31st March 2019	**	**

** This is not reported as per Company Policy. However, details are available with HR Department. We do not track data for Non - Management

Training

BPCL initiated a partnership with OMC members for training of their employees by organizing customized leadership communication workshops on 'business storytelling' for young officers, with an objective of sharing knowledge and experience with the industry counterparts. BPCL continues to improve the learning of their employees through generic and customized training programs at premier institutes such as SP Jain Institute of Management, Mumbai

for Executive Education; through MoUs with IIT, Mumbai and ICT, Mumbai which facilitates employees to take up higher job roles. During FY 2018-19, 870 officers have benefitted from such external learning opportunities. 19.56 training hours per employee and 15.88 training hours (internal and external) per women employee were provided. The overall training man-days for the year 2018-19 including all training initiatives internal and external was 27,167 man-days.

Training Programme Breakup				
Hours spent on Training		Internal	External	Total (Hours)
Management	Male	165616	29852	195468
	Female	19292	2576	21868
Non-management	Male	70272	8816	79088
	Female	4588	24	4612

BPCL cares for its retired employees. The existing portal for ex-staff was comprehensively revamped and made more user friendly with a host of new features like self-update of contact details etc. It was also made available on the mobile application for the external world.

BPCL believes in the Development of People and thereby it has launched various technology enabled initiatives such as e-learning courses, e-books and e-journals for the employees. The people development initiatives include:

Mercurix
Inspiring leadership through the art of storytelling

Socratix
The Case Study Challenge to build strategic thinking and problem-solving capabilities

VIZDOME
A video learning platform created to capture tacit knowledge of the employees by enabling them to create their own videos

iPASSION
A new initiative, captures the passions/interests of employees in various spheres and provides them opportunities to share their experiences and learn through community networks.

Preparing for Second Innings: Workshop for retiring workmen

'Preparing for Second Innings' – a two-day workshop for retiring workmen in Eastern Region was organized by HRS Eastern Regional Office, Kolkata. It was organized for the employees who would be retiring from the services of the Corporation. The main objective of the workshop was to prepare them how to stay emotionally, physically, mentally and financially fit post retirement, and how they should look forward to the new journey they will soon be embarking. A total of 29 workmen from across different locations in Eastern Region attended the workshop.



Session on Health and Wellness by Woodlands Multispecialty Hospital

Remuneration and Allowance

BPCL gives equal opportunities to their employees and does not discriminate in wages based on gender. Ratio of the basic salary and remuneration of women to men in category for management is 1. It encourages women to take up senior positions. This calculation is made considering minimum wages for construction of roads/buildings schedule for the unskilled labour in line with the applicable central or state rates (whichever is higher). Further, the marketing locations w.e.f. 01.01.2016, contract labour (excluding labour engaged by service provider with whom BPCL have contract on principal to principal basis) are also being paid an additional amount per month over and above the Central Minimum Wage rate, depending

upon the skill/ type of Area classification/ nature of contract. The ratio of the entry level wage for males and females to the minimum wage is 1.48. The ratio of the annual total compensation of the highest-paid individual to the median annual total compensation for all employees is 3:1 The percentage increase in the total annual compensation of the organisation's highest paid individual is 10.94 % and the median percentage in the total annual compensation for all the employees except for the highest paid individual is 3.85 %. The ratio of the annual total compensation percentage increase of the highest-paid individual to the median annual total compensation percentage increase for all employees is 2.84.



Confederation of Indian Industry (CII) conferred the 'Prize for Leadership in HR Excellence' Award on BPCL for the year 2018-19.

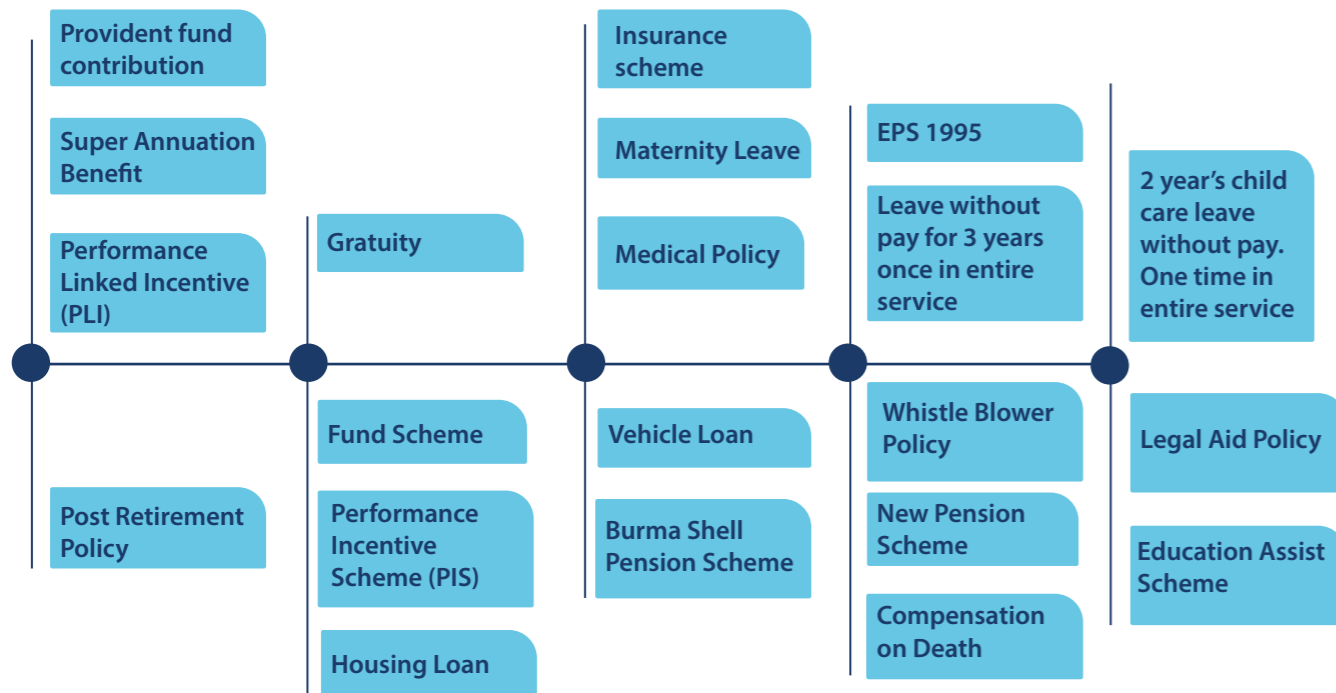
Particulars	FY 2016-17	FY 2017-18	FY 2018-19
The annual total compensation for the organization's highest-paid individual	Rs. 30,39,179	Rs. 40,80,305	Rs. 45,27,018
The median annual total compensation for all employees (excluding the highest-paid individual)	Rs. 12,42,726	Rs. 14,53,351.51	Rs. 15,09,321.9

The compensation is computed considering the regular heads of compensation (one-time payments & perquisites are excluded). The major components are – Basic Pay, Stagnation Increments, Dearness Allowance, HRA, Cafeteria Allowances.

Employee Benefits

BPCL values its employees and in order to ensure their wellbeing it has put in place several policies and schemes. BPCL contributes 12.5% of wages as pension contribution to the BPCL Employees Contributory Superannuation Fund. There is no contribution from the employees and these pension benefits are available to all management, non-management staff who superannuate from service and the annuity is brought out from the

amount standing to the credit of the individual member. The estimated value of pension liabilities for BPCL is 71.35 Crores as per actuarial variation as on 30.06.2019. The estimates are made on a quarterly basis and the valuation has been done as per actuarial valuation process by an external agency. BPCL does not have any separate fund to play the plans pension liabilities and it funds the monthly payments.



Above: BPCL employees getting awarded for their performance Walkathon at East Regional Office



Health is Wealth: Fibroscan Camp at Manmad Installation

As part of health initiative and consistent efforts to promote health awareness, organized Fibroscan camp at Manmad Installation for the benefit of all our employees and contract workmen. Liver disease is a common affliction in India which can culminate in liver fibrosis and Cirrhosis. Fibroscan is a new and simple method for early diagnosis of liver disease. This method is not only cheaper and non-invasive, but quicker and equally accurate as liver biopsy in diagnosis. A health talk was conducted regarding Liver diseases for all employees and contract workmen a total 77 employees and contract workmen participated in Fibroscan checkup.



BPCL staff and contract workers enrolling for a health check up

Experience Based Learning Modules At BPCL:

Educational Assistance

Scheme

There are liberal financial assistance programs which support employees who choose to enhance their skillsets by upgrading their skills and knowledge

E-Learning Programs

In collaboration with global e-learning providers, there are cost and time optimised training programs developed. They cover behavioural, managerial and functional effectiveness of employers.

Lecture Series

In order to keep the employees motivated and widen their horizons, BPCL invite inspirational personalities to conduct sessions for them.

E-Library

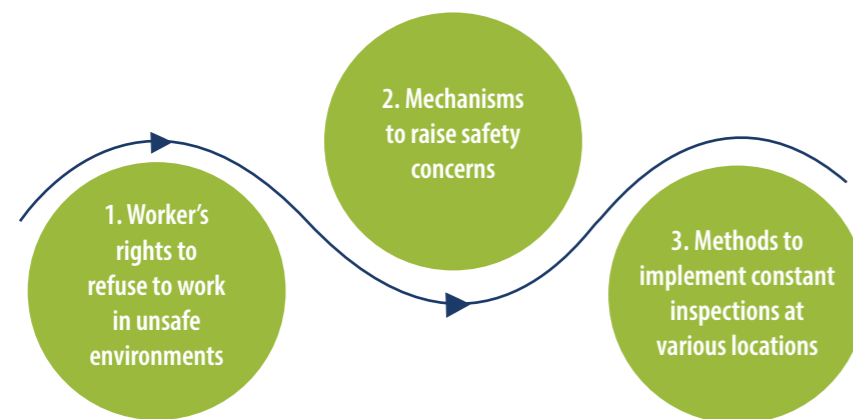
All executives at BPCL have access to the e-library. It provides them access to the latest material.

Trade Unions

BPCL upholds Freedom of Association and Collective Bargaining. The health, safety and welfare provisions of Factories Act, 1948 are applicable to the factories of BPCL. Apart from that, the long-term settlement signed with Unions

consists of explicit clauses pertaining to safety and security. There are 20 registered Trade Unions (including Refineries) operating in BPCL. Approx. 93% of (Non-Management) employees at BPCL are represented through these Trade Unions.

Formal Contract with Trade Union Cover



BPCL has a long-term settlement (LTS) agreement with its unionised staff through trade unions, which covers the details of notice period for consultation and negotiation of the Operations of organisation. Minimum notice period of 21 days is typically provided to employees and their

representatives prior to the implementation of significant operational changes that could substantially affect them. The measures taken by BPCL intended to support rights to exercise freedom of association and bargaining are as follows:

Samagam

One-day workshops were conducted for the union leaders across various regions and refineries. The intent of this workshop was to provide information on new strategies and initiatives adopted by various business units to meet the changing scenario.

Regular Union Meetings

Regular union meetings are conducted in which employee representatives discuss and resolve various issues with the human resource team which ensures speedy and effective solution for employees.

Labour Management

BPCL does not discriminate between its permanent and contract employees and they are treated alike by the Company in terms of various aspects especially for protecting their rights and skilling. This helps BPCL to develop a strong and mutually beneficial association with its workforce. BPCL employees must mandatorily abide to the legal commitments towards governance and ethical conduct, which encompass aspects like Human

Rights, Child Labour, Forced Labour, Fair Wages and Gender Equality. BPCL being a responsible organisation complies by all the national and international Human Rights standards. There were no labour grievances filed in FY 2018-19. In addition, there were no significant fines and non-monetary sanctions for non-compliance with laws and/or regulations in the social and economic area.

Aarogya Utsav 2018 – Southern Region

Aarogya Utsav a wellness initiative by HRS South is a month-long festival of wellness was organized and celebrated throughout Southern Region in Sep 2018.

Some of the highlights of the program were two weeks Yoga Practice Session, First Aid & Medical Emergency Training Program, Health Camp followed by medical examinations, covering 120 employees & contract workmen, Dental screening with advice by Dentist, Health Talk on 'Proteins', Health Talk on Heart Care, Diabetic Screening Camp, Session on Home Gardening.



Activities Initiated towards Employee Engagement



BPCL showcased opportunities for business associations and offerings of its Businesses and Refineries at its pavilion at the Vibrant Gujarat Global Trade Show 2019 from 18th to 22nd January 2019 at Gandhinagar. The Trade Show, which had participation from over 1000 companies and attracted over 20 lakh visitors, was inaugurated by Hon'ble Prime Minister, Shri Narendra Modi. The BPCL pavilion was visited by many senior delegates from India and abroad.



BPC's Got Talent Corporate Brand and PR had initiated the 'BPC's Got Talent' competition on the In-house radio – BPC Tarang. The objective of this initiative was in line with BPC Tarang's motto of Energise, Engage and Entertain. This employee engagement initiative connected staff across regions, cadres, languages and cultures. This also created a feeling of oneness and brought employees together.

Brand Quiz Baadshah' a knowledge enhancement proprietorship initiative, aims at increasing knowledge on brands through the quizzing route. This year saw 12,646 participants, of which 6320 employees and 6326 channel partners took part in the initiative. The objective of this mammoth event was to bring in inclusive knowledge growth within the BPCL fraternity. BPCL Brand Quiz Baadshah – 2018 was adjudged as the largest Corporate Brand Engagement Program in Asia for employees and channel partners (Retail Outlet dealers, LPG Distributors, Lube Distributors) and justifiably entered the Asia Book of Records and India Book of Records in 2018.



13

Operations of BPCL

The economy showed slow growth in the second half of 2018 due to interconnected global factors, post witnessing considerable growth in 2017 and early 2018. The global energy demand saw a growth of 2.3% in 2018. In the current scenario, with new policies fuelling the energy sector, the global energy demand is expected to grow by more than 25% from 2017 to 2040. Domestic energy demand is going to be more than double by 2040 which would make India the single largest

source of global growth. While the demand for oil grew by 1.3%, it was natural gas which emerged as the fuel of the year, registering a growth of around 4.6% and accounting for nearly 45% of the increase in total energy demand.

Owing to recent trends and availability of a series of alternatives influencing policies governing the energy mix of countries, the share of oil demand in the growing energy mix is going to reduce.



because it has been globally supported and adopted by Oil & Gas companies, and it helps BPCL in meeting stakeholder's sustainability reporting requirements. It provides guidance to all BUs and operating locations on collection,

reporting and measurement of process safety events (commonly referred as PSEs) to detect early leads in detecting key process safety failures, which may otherwise lead to major process safety incidents due to unplanned releases.

Investor

Investors play a crucial role in the Operations of an organisation. They invest their resources in the organization. These investments make them important stakeholders and are therefore considered before any major step is taken or any crucial issue is addressed.

operational success. BPCL is extremely mindful while maintaining relations with their investors. Investors are kept updated and informed via constant efforts through various meets, committees, conferences and other indirect means such as the official company website. During FY 2018-19, 17 complaints were received from investors through SEBI and NSE which were resolved on priority basis.

Their goodwill gives immense support to the organization, thus directly contributing to the



Stakeholder Interaction - Shareholders

Suppliers

Suppliers are one of the major contributors which affects the operational capabilities of a company. They are the key drivers enabling sustainable Operations and responsible growth. Due to their enormous role they are considered as one of the largest stakeholder groups.

encourages greater efficiency and lower turnaround time. BPCL fosters long term mutually beneficial relationships with suppliers through a series of different engagements throughout the year.

BPCL endeavours to foster a mutually beneficial relationship with their suppliers through a series of strategically planned engagements round the year. Suppliers are the key component to ensure constant availability of product and services. BPCL maintains details of the number of suppliers and their geographical locations at the time of registration through ERP system. To ensure sustainable Operations and responsible growth, BPCL collaborates with its suppliers. Maintaining a strong and healthy relationship with suppliers

BPCL follows the mandates from the Public Procurement Policy Order, 2012 to have 25% of the total annual purchases of products produced and services rendered by MSEs. Out of 25 % target of annual procurement from MSEs, a sub-target of 20 % (i.e. 5 % of total procurement) shall be earmarked for procurement from MSEs owned by SC/ST entrepreneurs.

Apart from crude, significant procurement for BPCL is done locally from India. The proportion of indigenous and imported crude is presented in the Annual Report page # 70.

Indian Petroleum Sector

Towards the end of FY 2018-19, the Indian economy had slowed down considerably registering a growth 5.8% in the last quarter of 2018-19 as against 6.6% in the previous quarter. Economists have tried rationalizing this slump using a multitude of factors like decreasing consumer demand, decrease in investments, policy instability and inability to create new jobs. During 2018, India's energy demand grew by approximately 4%, surpassing the average global demand growth. However, consumption of petroleum products registered a far lower growth of 2.6% (as compared to 5.9% in 2017-18) whereas consumption of natural gas registered a growth of only 2.7% (as compared to 6.2% in 2017-18). This accounts for 211.6 MMT of petroleum products being used in India in 2018.

While India struggles with crude oil production, it has proved its competence in Refining Capacity. As on 1st April 2019, India possessed a total installed refining capacity of 249.4 MMTPA making it the world's fourth largest and Asia's second largest refiner and a net exporter of petroleum products. Being the third largest consumer of crude oil at present, India imports approximately 84% of its total crude oil requirements. The import bills have been pushed towards the higher side in FY 2018-

19 due to the sharp depreciation in the value of the Indian Rupee against the US Dollar. Resulting in widening of current account deficit with crude oil import bill rising by 28%. During the FY 2018-19, India produced 34.2 MMT of crude oil as compared to 35.7 MMT in the previous year which translates to 4% decline in the production capacity due to a decline in the production capacity of matured fields, underperformance and operational inefficiency. Since the last nine years, crude oil production from both offshore and onshore fields have been on the decline, mainly due to the ageing of the fields.

BPCL is committed to managing health and safety risks and demonstrates continual improvement in its safety performance. Corporate Safety Management System (CSMS) defines requirements for managing OHS risks across its Operations to As Low as Reasonably Practicable (ALARP) level. Monitoring and Safety Performance Measurement of Corporate Safety Management System requires BUs to develop strategic safety objective along with establishment of Process Safety Events identification and Measurement System in accordance to American Petroleum Institute (API) Recommended Practice (RP) 754 Standard. RP 754 is an important standard

BPCL Sustainable Supply Chain Roadmap 2019



BPCL was awarded the second runner up prize in the Maharatna Category by Ministry of MSME

Sr.	Particulars	2015-16	2016-17	2017-18	2018-19
1	Total Annual Procurement Value (only Non-Hydrocarbon)	5434.09	4919.61	7071.94	12019.24
2	Total value of Procurement from MSEs (including MSE owned by SC/ST entrepreneurs)	1253.30	1613.88	1916.87	3053.01
3	% of Procurement from MSEs (including MSE owned by SC/ST entrepreneurs)	23.06%	32.80%	27.11%	25.4%
4	% of Procurement from SC/ST SC/ST entrepreneurs	0.0045%	1.85%	1.24%	1.10%

Figures in Crores

Phase Creating Meaningful Expectations

ACTIONS

- Understanding BPCL's sustainability agenda
- Drafting process for bringing suppliers on-board with the sustainability agenda
- Mapping key areas relevant to BPCL's suppliers and supply chain
- Initial communication with the suppliers on board areas of sustainability

Phase To Select Suppliers And Making Them Agree To Targets

ACTIONS

- Categorizing suppliers as per their association with BPCL
- Drawing a representative sample from the suppliers for initial expectation mapping
- Seeking feedback from a sample set of suppliers on identified sustainability parameters
- Setting framework to assess supplier feedback and incorporate in Policy/Tender development
- Developing the supplier sustainability policy based on BPCL's prioritization and supplier feedback

Drafting the amendments to tender to incorporate sustainability parameters in progressive manner

Phase Measure Supply Chain Performance

ACTIONS

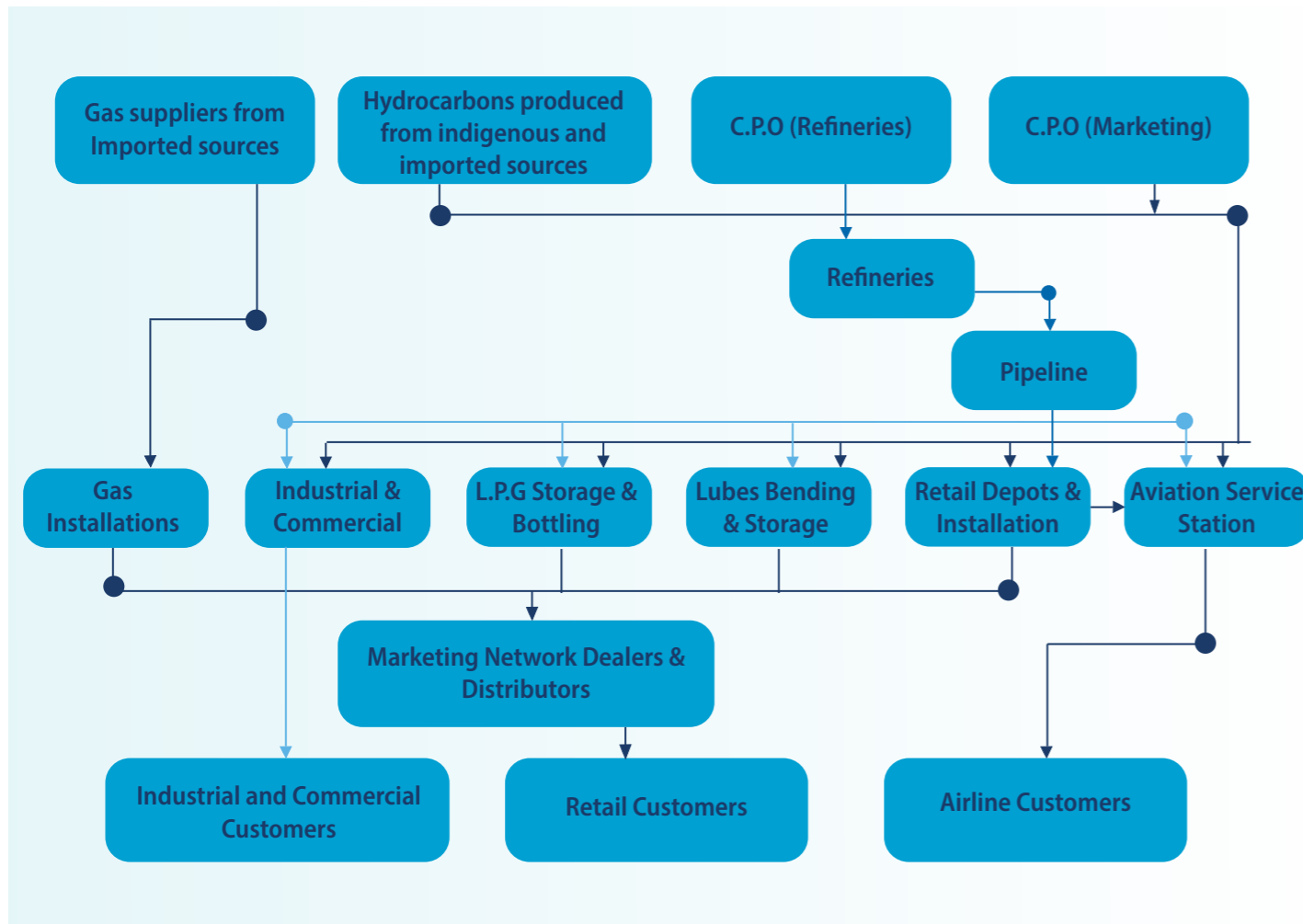
- Setting up comprehensive mechanism to track supplier performance on sustainability parameters
- Initial baseline of all suppliers to assess sustainability performance and highlight best practices
- Segmenting suppliers based on sustainability performance
- Defining roadmap for improving supplier performance on sustainability parameters

Phase Learn, Evaluate and Improve

ACTIONS

- Establish continuous improvement framework for suppliers
- Evaluate supplier performance regularly to identify leaders
- Develop hand-holding and performance improvement assistance mechanism for suppliers
- Institute award and recognition for suppliers performing better on sustainability parameters

Operational Overview



The suppliers for BPCL are local as well as international. Crude is the major product and is procured through import and the amount spent for the import of crude oil in FY 2018-19 INR 94,275 Crore.

Supplier Assessment



Dealers and Distributors



BPCL Pavilion Shines at Petrotech 2019

Dealers and distributors are considered as eminent resources to the company. They are the ones who directly interact with customers and provide services before and after the sale of products making them an integral part of BPCL's

value chain. Distributors and Dealers are thus carefully selected ensuring their fit in the BPCL ecosystem. Their contributions are assessed to enhance their capabilities for a more lucrative product delivery system.

Supplier Assessment

BPCL strives continuously to ensure that all suppliers they engage to abide by National and International Standards. BPCL engages with a large network of suppliers which encompass contract staff, supplying agencies as well as material, equipment and product suppliers. An e-tendering system has been put into operation to efficiently manage BPCL's large network of vendors and suppliers.

BPCL believes in ethical Operations in all spheres. In lieu of the same, all suppliers who engage with

BPCL are required to sign an Integrity Pact before association with the organization. The Integrity Pact enumerates the terms and conditions of association with BPCL and details out the monitoring mechanisms in place.

The Pact also includes clauses on environment protection, child labor, timely payment of dues and good working conditions. All BUs and respective authorities at all BPCL locations are cognizant about the terms of association articulated to vendors and suppliers via the pact.

BPCL's First Electric Charging Station for Electric Vehicles, Nagpur

It was a "Green Letter Day" for Nagpur on 28th July 2018 the first Electric Vehicle Charging Station installed at the Retail Outlet M/s Bhawanimata Kalamna Petroleum, Nagpur was inaugurated. This Electric vehicle charging station, the first one by BPCL in India, will cater to the taxi operators plying electric vehicles in Nagpur city and the general public owning electric vehicles. This is one of the many steps taken by BPCL towards a clean environment.



Customers

The success of an organization can be fathomed by the level of satisfaction their customers experience. Customer satisfaction is of utmost importance to BPCL. It aims at providing uninterrupted service with world class products. Constant efforts are undertaken to ensure customer retention, convenience and increase satisfaction and loyalty. Customer delivery is made smooth at every vital touch point.

A Citizen's Charter has been published on the official website to provide customers an overview of the product and services offered, mandates of BPCL, customer rights, timeframe for delivery of services and details about the grievance redressal mechanism. The Public Grievance Redressal Portal provides customers a web-based platform which centrally scrutinizes grievances at the corporate level and directs them to respective business units for speedy redressal. An escalation matrix is also in-built in the redressal system to ensure timely and effective resolution.

BPCL had resolved 6539 grievances out of 6730 grievances received in FY 2018-19 with an average

redressal time of 13 days. BPCL also provides its customers with a Centralized Customer Care System called 'Smart Line' to enable customers to log in their complaints and feedback.

The Smart Line operates via a toll-free number as well as through web-based access. This enables BPCL to continuously evolve and make its product delivery a seamless experience via continuous integration of suggestions, feedback, grievances and inputs received from customers at various touch points. The 'Smart Line' is an integrated platform enabling customer interaction via multiple channels like emails, social media, the official website, national Consumer Helpline as well as walk-ins.

The Customer Care System (CCS) has evolved over time incorporating stakeholder perspectives to become a robust mechanism aiding improvement in the Customer Satisfaction Index. During FY 2018-19, BPCL's CCS Smart Line has handled over 14.3 Lakh calls, registering an increase of 64% over last year. At present, the platform deals with approximately 6000 calls per day.

BPCL's Centralized Customer Care System (CCS)



'Smart Line': All India Toll Free Number – 24*7

This platform is being used for :

- Suggestion capture
- Lodging queries
- Provides a grievance redressal mechanism

Emergency hotline number – 1800 22 4344

Customer Provisions

BPCL charts its course keeping customer experience at the forefront. Its initiatives are driven with an in-built desire to be committed to customer satisfaction and convenience.

As the market grows to become more dynamic it is necessary to keep up with changing customer expectations. BPCL has been involved in initiatives such as SmartFleet, PetroCard, In&Out stores, Ghar

etc. to ensure that they are abreast with customer expectations and make their service delivery a rewarding experience.

BPCL has not undertaken any structured survey during the year 2018-19, but it constantly analyses customer feedback via various channels to ensure efficient product and service delivery.

SmartFleet

SmartFleet is a fleet management services solution that brings unique cost and time efficiency solutions to fleet owners, enabling their businesses. The program is a comprehensive solution for fleet owners, offering a combination of security and convenience, making fleet management effortless and efficient.

One stop truck shop (OSTS)

BPCL has initiated a OSTS facility which includes a gas station, dormitory and eatery. The OSTS will take care of the personal, travelling and business requirements of truckers and long-distance travellers. Basic telephony services at the site are also available.

In & Out Stores

Our In & Out stores offer a convenient and comfortable environment to shop while BPCL's partnerships with leading food-chains allow you to grab its customers with a quick tasty bite on the go.

PetroCard

Bharat Petroleum offers PetroBonus, an unmatched customer loyalty programme to reward customers with Petromiles each time they refuel or shop at our fuel stations. These petromiles can be redeemed against attractive gifts.

Customer Safety

With a motto of 'Safety First Safety Must', BPCL puts customer safety before anything else. To maintain customer trust and loyalty, quality becomes a non-negotiable aspect to be adhered. In FY 2018-19, there were no incidents of non-compliance registered for violating regulations, voluntary codes concerning product and service information and labelling or concerning the health and safety impacts of products and services during their life cycle. All external marketing communications of BPCL are put forth keeping ASCI (Advertising Standards Council of India) voluntary standards in mind.

BPCL realizes the quantum of impact it can have on the environment with its day to day

Operations. It thus becomes imperative to ensure that their operational performance does not cause unintended harm to the environment as well as to any other stakeholder in due course of Operations. The end-products are compliant to necessary international and national standards with utmost transparency regarding its production and safe handling and usage.

Keeping in mind the above said, the Research and Development wing of BPCL deliberately puts focus on process innovation for resource optimization and process safety. Below are few examples of BPCL products which were a result of this constant effort for achieving operational excellence while promoting a safety culture.

Product Research and Development

The business scenario is dynamic with the frequently changing requisites of the customers. Sustainability has been recognised as essential and along with it comes the requirement to channelize the efforts to maintain pace with sustainability disruptions - both good and bad without which the resilience of an organisation remains under threat. Continuous innovation and improvement using technology is imperative.

Owing to policy changes, innovation in contemporary sectors and emergence of alternatives are challenging the normal course of business. Emergence of hybrid vehicles, electronic vehicles, shift towards renewables and low emission fuel can be seen both as potential risks and opportunities. However, there is a burgeoning demand for petroleum products, providing immense scope to acquire greater market shares. The Research and Development Centres of BPCL actively engages in developing cutting edge technology, innovative products/processes and sustainable variations to the product offerings. This helps BPCL to maximise their profitability while reducing their environmental footprint and be responsive and adaptive to dynamic market changes.

R&D has played a crucial role in enhancing BPCL's market value and has contributed significantly to its business volume and profitability. These measures have perpetrated into increasing product portfolios, decreasing input costs and lowered safety risks. All BPCL products undergo safety tests and have been assessed for health and

safety impacts. BPCL maintains material safety data sheets of all the products marketed by them.

R&D at BPCL is taken up by two independent units namely Corporate R&D and Lubes R&D. Corporate R&D engages in fundamental research and works towards developing innovative procedures and products for Refineries; striving for value creation through research activities. They also file for patents and have recently been engaged in research around plastics. On the other hand, Lubes R&D is associated with product application and development. It engages with the Business Unit of Lubricants providing alternative solutions to reduce footprint.

The progress made by Corporate R&D has proven to be lucrative and has helped BPCL's Refineries function at optimum levels. Specific pain points and bottlenecks in the current process were identified to make the whole production process seamless, optimal and cost-effective. The focus of R&D activities in 2018-19 was on producing cleaner fuel with increased profitability and decreased environmental footprint. In FY 2018-19, 5,00,510 KL ethanol was blended in 50,08,316 KL of EBMS making the blending ratio as 4.8%. Also, 16006 KL of biodiesel (B 100) was blended in 323519 KL of diesel, thus making the ratio of blending as 0.09%. This year there has been no production of biofuels. Three biofuel Refineries are being setup to produce Second Generation Ethanol, which will help meeting the current requirement of EBMS and contribute towards a cleaner environment and sustainable future.



R&D developments at Mumbai Refinery

- Manufacturing and supply of new grade of Hexane (polymer grade) commenced during the year. An agreement was signed with M/s. GTC Technology, USA, to jointly patent the production of Hexane and Special Boiling Point product from Isomerization Unit.
- Manufacturing of a new product D80 (De-aromatized solvent) was started.
- Successful trial carried out in LOBS Dewaxing unit to ascertain the possibility of making MAK BASE Light. The product requirement meets MAK BASE Light, ULPO and MAK Drilling Oil specifications.
- CCU yield optimized through selection of better catalyst.
- Completed implementation of Advanced Process Control optimisation in all major process units of the Refinery and achieved 95% coverage against 85% in the year 2017-18.



Foundation Stone laying Ceremony of 2 G Bio - Ethanol Refinery at Bargarh Odisha



R&D developments at Kochi Refinery

- An innovate tool BPMARRK was used for widening Kochi Refinery's crude oil basket, 50 new crude oils variants were assessed and commissioned for procurement. Subsequently, trial parcels of new crude oil, viz. Kuwait Super Light, Light Louisiana Sweet, Umm Lulu, Okoro were processed successfully.
- Aspen utility optimizer package has been implemented for optimization of utility consumption in the Refinery.
- Chloride Guard bed was installed in the light reformat stream of Continuous Catalytic Reformer (CCR) to improve feed quality to Aromatic Recovery Unit.
- A DSO wash water vessel was provided to remove traces of caustic in Di-sulfide oil (DSO) from LPG merox unit of Delayed Coker Unit & CDU3 thereby enabling direct processing in Diesel Hydro-Treating unit without routing it back to the crude oil tanks as slop.
- ISOMER unit DIH column operating conditions were adjusted to produce "Food Grade Quality Hexane", a new product in KR portfolio.
- The Divided Wall Column (DWC) technology was successfully implemented in Kochi Refinery (KR). The implementation resulted in sharp separation, upgradation of Naphtha to ISOM feed and reduction in overall Naphtha production.
- Field trial was started for "Prototype desalter" installed in CDU3 designed by in-house R&D in collaboration with Engineers India Limited.

The Lubes R&D division of BPCL has made stellar progress in product and application development. Considering the huge scale at which BPCL operates and the widespread presence of its basic products in all major sectors of the country, it is necessary to be aware of the potential negative impact that could arise out of inefficiency.

A lot of thought was put behind innovating new products that are eco-friendly, biodegradable, least toxic with negligible bio-accumulation potential in case of any untoward incident.

The progress made by the Lubes R&D division has been enumerated below:

Lubes R&D division of BPCL

- MAK BIOCUT, a biodegradable lubricant was developed and commercialised for Hydraulic, Cutting, Drilling mud etc.
- A new product was developed which is less Aqua-toxic and meets international specifications of oil-based drilling mud formulation.
- MAK Lubricants were produced with zero sodium nitrite, chlorinated paraffins, Mono Ethylene Glycol.
- New product grades were developed to increase efficiency in centralized coolant sumps. These grades are expected to provide the coolant sump with an average life expectancy of up to 10 years.
- BPCL R&D has developed Food grade lubricants for Compressors, Gears, Hydraulic systems and Heat transfer applications. NSF International (National Sanitation Foundation), USA has granted certification for all BPCL's Food grade lubricants under the category of H-1 lubricants.
- Agri spray Oils have been developed which are eco-friendly and contribute significantly towards conserving the environment.
- Hydraulic / Compressor / Turbine oil formulations were developed with extended drain interval thereby reducing the oil consumption.

The efforts put in by the R&D wing has borne fruitful results

- BPCL was able to develop a new LPG burner which has an efficiency of 75% as compared to 68% efficiency in other LPG burners in the market.
- A Quick Test Method kit was developed to enable rapid estimation of ethanol in ethanol blended fluids.
- A Water Detecting Paste was provided as a solution to determine the water content in EBMS.
- K-Model another innovative solution was provided to assess the process ability of crude oil blends in Refineries. These innovations have gone a long way in helping BPCL keep its promise of 'Pure for Sure'.

Expenditure on R & D during 2018-19

Particulars	Expenditure (in Crores)
Capital Expenditure	47.31
Revenue/ Recurring Expenditure	53.41
Total	100.72

PROJECT

- **Aim:** Project Nishchay is a non-fuel BPCL endorsed initiative that was launched in the FY 2015-16 with a goal to tap into unchartered resources via development of multiple non-fuel businesses and achieve growth through game changing business ideas. The Project is operational via two strategically developed non-fuel offerings for different customer segments.

- **“Umang”** – a rural marketplace for rural customers. Umang is a one-stop solution formulated for the rural populace. It is a technology driven initiative providing a wide range of 24x7 services which includes e-commerce services, financial and allied services, vocational education, agri office and two-wheeler service.

This initiative has made life easier for its beneficiaries and has also managed to meet the corporate vision of financial inclusion. During 2018-19, Umang has managed to reach out to 586 Touch Points spread across the states of Uttar Pradesh, Telangana, Rajasthan, Tamil Nadu, Maharashtra, Andhra Pradesh and Madhya Pradesh. These Touch Points brought in a Gross Transaction Value (GTV) of INR 570 crores with a footfall of 13.80 lakhs. Umang has ingrained itself in the BPCL network with a target to enrol 6,000 Touch Points in FY 2019-20.

- **“Fleetgenie”**- Fleetgenie is an Integrated Fleet Management solution formulates especially for the unorganised fleet segment. This initiative aims to touch the pain points of unorganised fleet owners and provide them a comprehensible solution using technology. Fleetgenie offers a freight management marketplace for fleet owners, shippers and drivers with offerings like return load, roadside assistance, vehicle maintenance, cash management, advanced telematics, insurance, telemedicine etc. By end of 2018-19, 22,000 full truckloads have been booked by over 6000 registered users on the platform.



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Ecological Sustainability

Carbon emissions and global warming are the major challenges faced globally. There has been an increase in carbon emissions in the past two years, after the observed stagnation for almost three years from year 2014 to 2016 due to the increase in global economic activities. The global energy related carbon emissions grew at the rate of 1.7% in 2018, registering the highest growth since 2013. Coal fired power plants are the major contributors. Despite the efforts made globally to

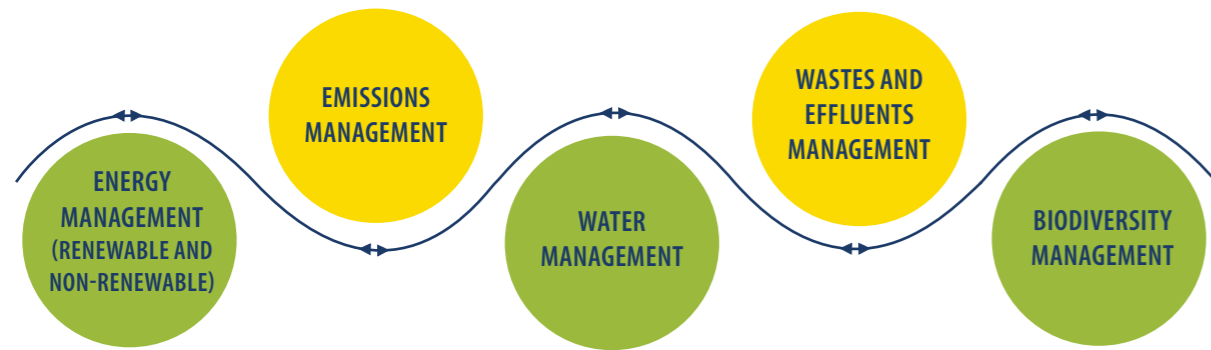
address energy related environmental pollution and increase the reliance on renewable energy sources. The current technologies offer mitigation but the situation in hand requires more efforts.

BPCL acknowledges the impact of its Operations on the environment and the communities. BPCL strives to mitigate the risks and improve its environmental performance with a holistic approach.

The organisation proactively seeks opportunities towards minimising its environmental footprint which are in alignment with its vision of being “Most admired global energy Company”. It conducts business in a responsible manner and manages risks at every stage.

BPCL has a commitment towards implementation of Renewable Energy which lays emphasis on increasing the capacity of the renewable energy in installations and making efficient usage of the existing. Facilities. There is also a Health, Safety and Environment Policy which provides guidance

using appropriate technologies to minimise the impact of the activities on the environment. BPCL Refineries as part of the Integrated Management System, are certified to ISO 9001:2015 for Quality, ISO14001:2015 for Environment and OHSAS 18001: 2007 for Occupational Health & Safety Management Systems Business excellence tools such as Six Sigma and 5S are also implemented at various levels in Business Units. The Sustainable Development Committee is a Board level committee which meets once in every six months to discuss and review the sustainable development projects.



Climate Change

The oil and gas sector is vulnerable to climate change with its key infrastructure located in the coastal areas. BPCL participated in a study on climate change for Oil and Gas sector through TERI in partnership with MoPNG, MoEF&CC, and other industry members. The study has given suggestions on short-and long-term action to be undertaken by the industry members and provided a way forward to tackle the challenges. The study was carried out to understand and

access climate change risks to the infrastructure of Oil and Gas Sector in India, challenges due to emerging National and International climate policies and to develop a decision-making framework due to climate change risks. Actions have already been initiated by BPCL on the recommendations given in the report and further studies which are to be undertaken are at various stages. The key observations of the study with respect to physical assets are:

A Study on Climate Change shared with the HSSE Role Holders



- India will have avg. 27 more hot days (>45o) each year for next 30 years
- India will observe higher annual rainfall with more heavy rainfall days approx. 4 – 18 more days of very high rainfall in near future
- India will have more dry days and the rainfall is projected to concentrate over lesser number of days
- Increased lightning will be observed with increase in frequency and intensity during extreme rain days
- Regional sea level change has been estimated from 2 to 4 mm increase /year in coastal area
- Rapid warming of Arabian Sea and intensity of cyclones will increase with projected cyclonic activity in future

Energy Management

The nation’s economic growth is largely dependent on the availability of energy. BPCL is one of the organisations which caters to many varied consumer requirements. The Operations of BPCL requires lot of energy, hence it turns out to be one of the leading contributors to the climate change. Therefore, energy management is an important parameter.

BPCL acknowledges the current situation and strives to sought alternative methods to cater to its energy requirements. There has been an increase in the capacity of solar installations by 20.2 % and an increase in the capacity of energy efficient lighting from 7.5 MW to 12.7 MW. These initiatives have brought about reduction of GHG emission by approximately 50,000 MTCO2e .

Alternative Sources of Energy – Renewable Energy

Globally, nations have started addressing the issues of increased emissions and global warming. The ‘Paris Agreement’ settled on a long-term target to limit the rise in the global temperature “to well below 2 degree C (3.6-degree F) above pre-industrial levels”. In line with this Government of India has set an ambitious target of installing 175 GW of renewable energy capacity by 2022, which includes 100 GW from solar, 60 GW from wind, 10 GW from bio-power and 5 GW from hydro power. BPCL promotes the use of alternative source of energy to cater to its energy requirements to mitigate the climate change threats arising out of use of conventional energy sources. The renewable energy capacity has increased from 26.36 MW to 31.70 MW in FY 2018-19. The total amount invested on renewable energy is INR 46 Crore which is equivalent to 0.42 per cent of the total capital expenditure.

Mumbai Refinery has added 348 KWp of solar power generating capacity taking the total capacity of solar power to 1 MWp and Kochi Refinery installed a 120 KW solar plant in FY 2018-19. BPCL has now completed construction of 9 rooftop and ground mounted captive solar plants in 5 installations / depots and 5 LPG plants with total capacity of 3.87 MW. The noteworthy solar power plants are 1.45 MW capacity at Manmad installation and 562 KW plant at Piyala Installation.

BPCL is also in the process of developing hybrid solar plants in 18 Company owned retail outlets across India. Rooftop solar units were also installed in 96 retail outlets in FY 2018-19, taking the number of total solarized retail outlets to 1313. The total Solar energy (renewable) generated is 19542.92 GJ which is used for self- consumption at respective locations.

Installation of Solar Power Panels: A push for Renewable Energy



Alternate Energy Installations

BPCL

Total Solar Energy installation	19.90 MW
Total Wind Energy installation	11.80 MW

Solar energy status of BPCL

Solar Energy (Off grid) consumed MWH

Mumbai Refinery	1047.34
Kochi Refinery	147.49
Other BU's	4233.75
Total	5428.59

Commissioning of 410 KW Solar Power Plant at Uran

Solar Energy is the need of the hour. Government of India aims at achieving 100 GW of solar power generation by the year 2022. As part of BPCL's commitment towards contributing to solar power plan, it has installed 410 KW solar power plant at Uran and 1450 KW solar power plant at Manmad. Uran LPG plant has roof top solar panels with installed capacity of 140 kW connected to plant Low Tension line and ground mounted solar panels with installed capacity of 270 kW connected to plant High Tension line with net metering facility. The unique feature of this plant that it is the only solar plant in BPCL connected to High Tension line.



Commissioning of Grid System Solar Power Plant at Manmad



Manmad installation has been installed with 1450KW grid system solar plant with net metering facility where 1300KW is generated from ground panels and 150KW from roof top panels. Out of this 678 KW is for Manmad installation and 772

KW for Mumbai Manmad Bijwasan pipelines. Manmad solar plant is the second largest solar plant of BPCL after Bina Dispatch Terminal. In addition to reduction of carbon footprint, these facilities result in huge recurring savings to the corporation.

Manmad Solar Power plant will save around 220 Lakhs in electricity charges per annum and it is expected to give a total saving of Rs. 45.00 Crores in its 25 years lifetime. Uran Solar Power Plant will save around Rs.65 Lakhs per annum in electricity charges and it is expected to give a total saving of Rs. 13.00 Crores in its 25 years lifetime.

Inauguration of Solar Power Project at Loni LPG Plant

260 kW Solar Photovoltaic plant was inaugurated on 26th December 2018 at Loni LPG Plant. The Loni Solar plant is having a capacity of 260 kW and is a grid connected plant under Net Metering. The plant has a total of 790 solar modules with 9 inverters of various capacities. Out of 260 kW capacity 170 kW is ground mounted while 90 kW is on the rooftop. Commissioning of Loni solar plant was a result of great teamwork and coordination among Loni LPG Team, E&P Team and Corporate Affairs Team.



Shri D. Rajkumar, C&MD inaugurating the solar plant



On 27th January 2019, Hon'ble Prime Minister Shri Narendra Modi dedicated BPCL's Integrated Refinery Expansion Complex to the nation and also laid the foundation stone of the Petrochemical Complex at Kochi Refinery

Energy Conservation Initiatives



Mumbai and Kochi Refinery both are certified for Energy Management System, ISO 50001: 2011. Continuous monitoring of energy performance and keeping abreast of latest technologies for energy conservation has helped both the Refineries to achieve robust energy performance during FY 2018-19. KR also focused on optimizing energy consumption in the newly commissioned units post stabilisation of IREP units.

Bureau of Energy Efficiency under the National Mission for Enhanced Energy Efficiency (NMEEE) has a flagship programme called PAT (Perform Achieve and Trade). Both the Refineries have achieved the PAT target for FY 2018-19. This program enables consumers that exceed their energy saving targets to trade their issued Energy Saving Certificates (ESCerts) at the Power Exchanges.



Water conservation at BPCL plant location (Top)
Aerial Shot of LED lights at BPCL plant location (Below)



Process Improvement Initiatives: Mumbai Refinery

- Non-Intrusive wireless corrosion monitoring system of M/s. Emerson has been installed and commissioned for the first time at Mumbai Refinery for critical 7 selected piping loops in FCCU, DHDS, DHT, HCU, NHT-ISOM & CCR plants
- Wireless corrosion monitoring probes were installed and commissioned for the first time in Mumbai Refinery in CCU & DHDS. The corrosion data is available on DCS for monitoring purpose
- Risk Based Inspection (RBI) study of CDU-4, ARU/RFU & SWS-4 has been completed and output of the study has been used in preparation of work list for the forthcoming M&I
- During revival of HCU, advanced NDT methods such as Time of Flight Diffraction (TOFD), Phase Array Ultrasonic Testing (PAUT), Automated Backscatter Ultrasonic Testing (ABUT), Long Range Ultrasonic Testing (LRUT) was carried out to assess high temperature hydrogen attack damage, localized corrosion and sulphidation corrosion. The inspection procedures, extent of inspection and inspection records were audited and were found in order
- Comprehensive health assessment of civil & steel structures of FCCU, CCU, Aromatics complex were done and recommendations for repairs have been issued. Repair work is in progress
- Comprehensive inspection of fire proofing as per OISD 164 of steel structures in the refinery have been done. Recommendations were issued and jobs are in progress.
- AIMS (Meridium) Software Upgrade to latest version & implementation of new modules has been initiated. Implementation and software configuration is in progress
- Provision of Electrical Heat Tracing (EHT) to Bitumen delivery headers viz. VG10 & VG40 for steam saving
- Reconfiguration of Naphtha splitter in ISOM unit for fuel saving
- Processing of return kerosene in Diesel Hydrodesulphurization (DHDS) unit and stoppage of return kerosene to Diesel Hydro Treater (DHDT) to increase DHDT feed preheat for fuel saving
- Reduction of steam consumption in DHT complex by bypassing DHT lean amine cooler
- APC Implementation in Amine Treatment Units & Sour Water Stripper units (viz. SWS-4, DHDS ATU & Old SWS) for steam saving
- Diversion of Splitter overhead gasses in Continuous Catalytic Reformer (CCR) to furnace burners reducing flaring from the unit.

Process Improvement Initiatives: Kochi Refinery

- Maximization of extraction in steam turbines of Delayed Coker Unit
- Conversion of Main Air Blower in Fluidized cracking unit from medium pressure steam driven turbine to high pressure driven turbine
- Reduction in High pressure steam used for re-boiling in De-butanizer of Petro Fluidized Catalytic Cracking Unit (PFCCU) by utilizing Heavy Cycle Oil stream
- Operation of Isomerization unit in once through mode bypassing de-isohexanizer column
- Surge test and surge margin shifting in Main Air Blower in PFCCU and FCCU
- Reduction in Very High-Pressure steam in wet gas compressors by surge margin shifting
- Advanced Process Control (APC) system commissioned for Vacuum heater in crude distillation unit 2

CMD inaugurates BPCL's First Ever 72 station FLEX SPEED Carousel at Loni LPG Plant

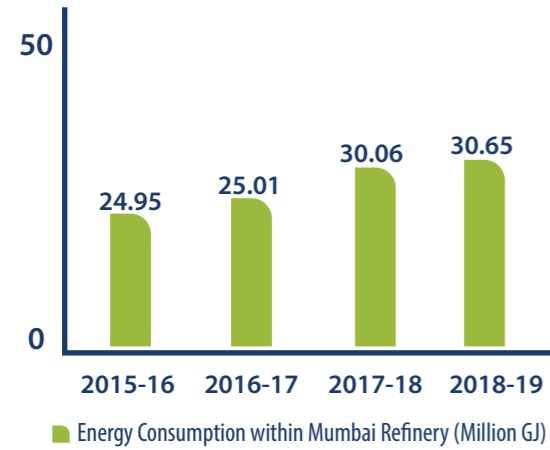
On 26th December the first ever 72 station Flex Speed carousel in BPCL at Loni LPG Bottling Plant was inaugurated by Chairman & Managing Director Shri D. Rajkumar in presence of Director Marketing Shri Arun Kumar Singh, Director Refineries Shri R Ramachandran, ED LPG Shri I.S. Rao and ED Corp affairs Shri S K Agrawal.

The daily bottling capacity of Loni LPG plant will nearly double from existing 600 MT to 1200 MT per day. The dynamic cylinder flow gives a more flexible production cycle and ensures lower maintenance cost and lower production cost as more benefit is accrued from less system and equipment maintenance, better uptime, more processing time and operating with a fully automatic tare weight reading system.

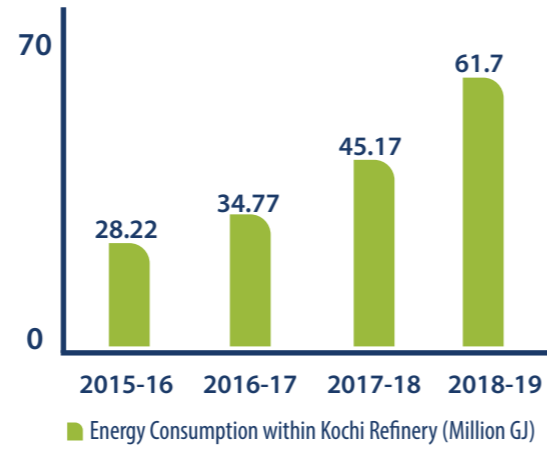
It eliminates human intervention for feeding the cylinder tare weight data and for segregation of the DPT cylinders and performs the statistical quality control check automatically.



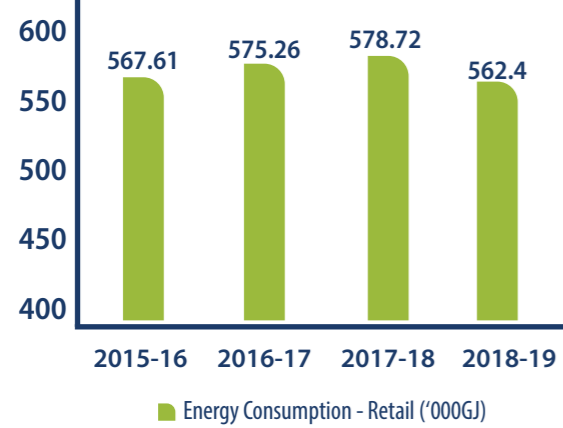
Energy Consumption: Mumbai Refinery (Million GJ)



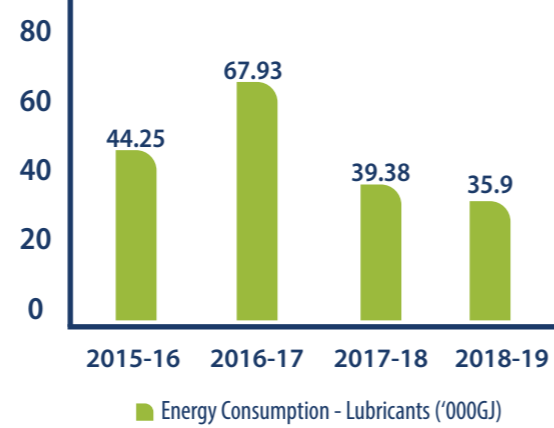
Energy Consumption: Kochi Refinery (Million GJ)



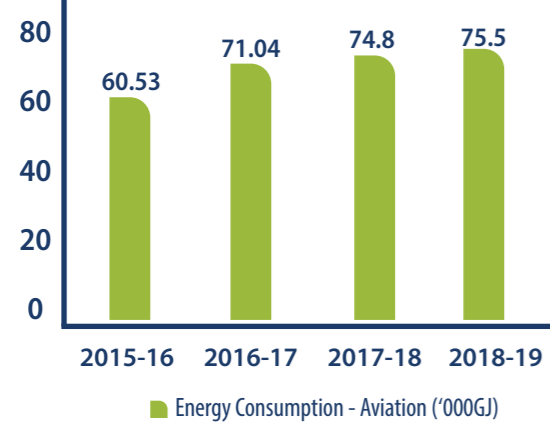
Energy consumption: Retail ('000GJ)



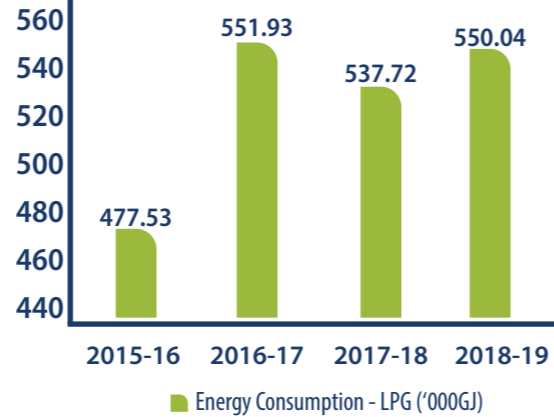
Energy consumption: Lubricants ('000GJ)



Energy consumption: Aviation ('000GJ)



Energy consumption: LPG ('000GJ)

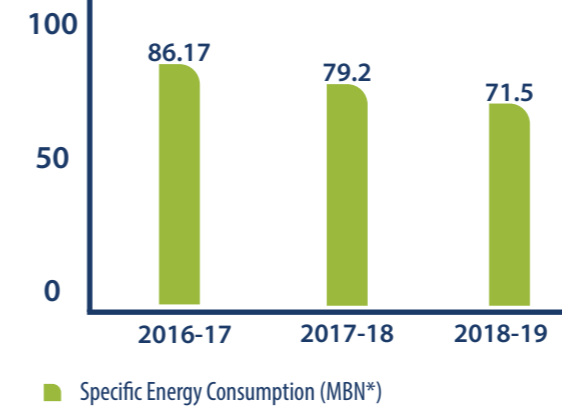


The energy consumption within the organization for Pipeline is 468.4 '000GJ in FY 2018-19.

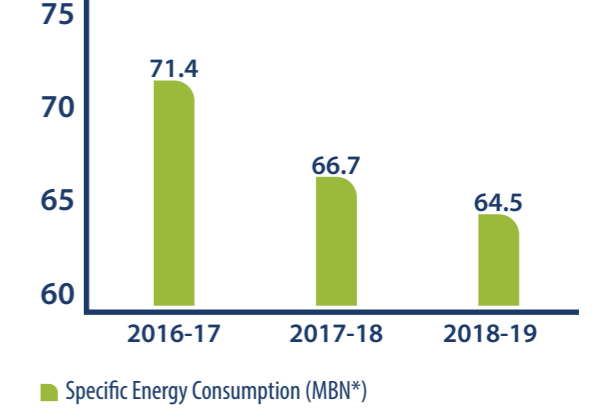
The energy consumption calculations are done based on the calorific values and conversion factors provided in the Defra UK emission guidelines, UK Government GHG Conversion Factors for Company Reporting, 2016.

BPCL discloses the energy consumption within the organization and the consumption comprises of combustion of fossil fuels, purchased electricity from the grid and electricity generated from the renewable sources. The energy consumed outside the organization is 12585 '000 GJ on account of crude and LNG imported and business travel by air.

Specific Energy Consumption (MBN*) Kochi Refinery



Specific Energy Consumption (MBN*) Mumbai Refinery



*The unit taken for the values is MBN, where: M= Thousand BTU (British Thermal Units), B=Barrel and N=NRGF (Net Refining Gain Factor)

Energy Intensity - BUs (GJ/Tonne of throughput)			
BU	2016-17	2017-18	2018-19
Retail	0.022	0.021	0.021
AFS	0.046	0.042	0.038
LPG	0.099	0.087	0.085
Lubes	0.181	0.123	0.150
Pipeline			0.031

* Energy intensity is calculated for energy consumed within the organization

Environment Initiatives

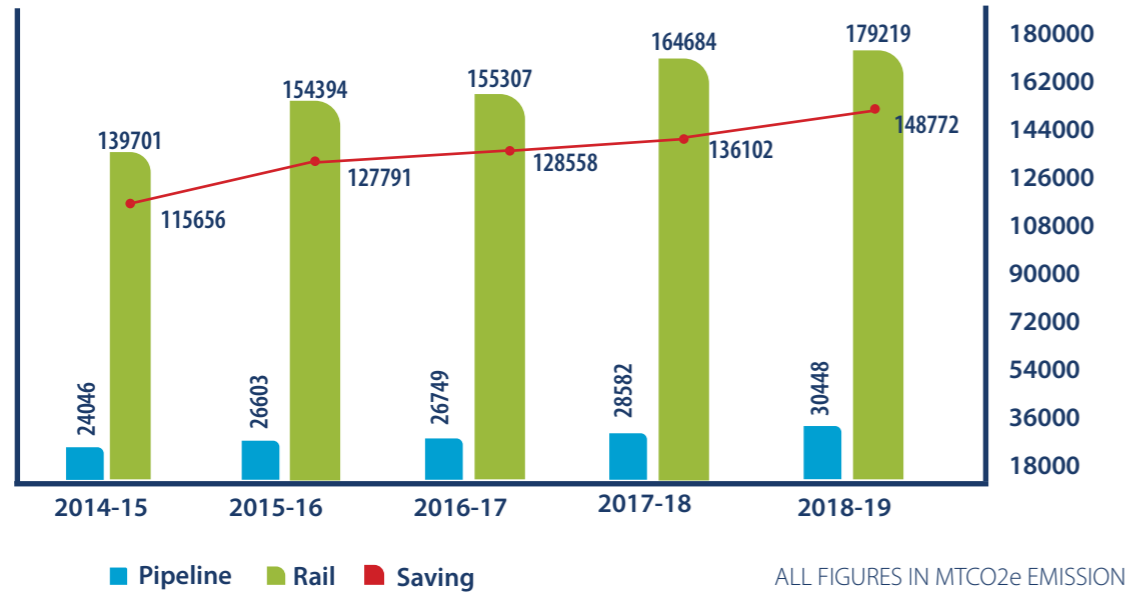
There are various initiatives taken to conserve energy and some loss control measures were adopted during the year 2018-19. These resulted in significant fuel savings.

Kerosene Oil (SKO), Aviation Turbine Fuel (ATF), Liquefied Petroleum Gas (LPG) being the other products transported.

Energy efficient lighting capacity has been increased from 7.54 MW to 12.66 MW in the year 2018-19. The product movement through pipelines observed an increase of 7% with petrol and diesel being the major products and Superior

The transport through BPCL pipeline network has resulted in reduction of carbon footprint by 1,48,772 MTCO_{2e}, through other Oil and Gas Marketing Companies pipeline network 40,600 MTCO_{2e} and through LPG pipeline 8,481.20 MTCO_{2e}.

Contribution Towards Clean Environment By Pipeline Entity



The reduction of emission by the gas connections released and refills done under the Pradhan Mantri Ujjwala Yojana (PMUY) was 1,768.95 000 MTCO₂. In FY 2018-19, blending of 5,00,510 KL Ethanol in 50,08,316 KL of EBMS and blended 16006 KL of biodiesel (B 100) in 323519 KL of diesel has been done.

The blending ratio of ethanol and biodiesel was 4.8% and 0.09% respectively. The blending of 500510 KL (50.05 cr. Litres) ethanol and of 16006 KL (1.6 cr. Litres) of biodiesel resulted in reduction of emissions by 600 '000 MTCO_{2e} and 30 '000 MTCO_{2e} respectively.

Environment Conservation and Protection: Mumbai Refinery

- For the first time in India, in-situ Enzyme-based bioremediation was successfully carried out for treating residual sludge (approx. 84.7 MT - oil reduction from 46% to less than 0.5%) within a period of six months in MOT Tank-13 which is situated at island 6 kms from refinery.
- The unique pollinator friendly butterfly garden along with vertical garden was developed in refinery premises as a part of BPCL's commitment to environmental sustainability and biodiversity conservation. Around 2500 tree saplings of different species have been planted in butterfly garden to attract different species of butterflies.
- BPCL has invested in a sewage treatment plant owned and operated by M/s RCF and BPCL is currently using around 1250 KL/Day of treated sewage water from RCF facility. With the commissioning of the second phase of the STP project towards end of Sept, 2019, around 6,000 KL/day of treated sewage water will be used by the refinery. This will bring down usage of raw water from the Mumbai Corporation.
- In 2018-19, two new rain water harvesting systems were commissioned comprising of 4320 m² of RWH area with a potential to harvest 6,160 KL per annum of rainwater (saving of 4.86 Lakhs/ annum). The rainwater harvesting facilities have been fully utilised and the total rainwater harvested is 42844 KL in 2018-19.
- As a part of Green office program, Energy & Environment section organized workshops on "Paper Saving", "Green Housekeeping" and "Energy Saving" at BPCL Refinery Learning Center (RLC).
- On the occasion of "World Environment Week-2018", Online Environment Quiz, Slogan & Essay competition, Guest lecture on "Sustainability Development", movies on Environment Awareness were organised by Energy and Environment section.
- As a part of CPCB compliance, dynamic limits have been created for mixed fuel fired furnace stacks and transmitted to CPCB.
- A study on the green cover was carried out which included number of trees, measuring the total area of green cover and estimation of the amount of Carbon sequestered.
- Steel water bottles were distributed to the employees to eliminate the menace of plastic.



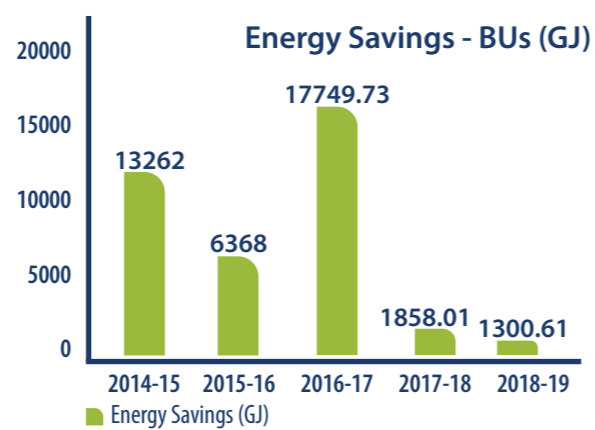
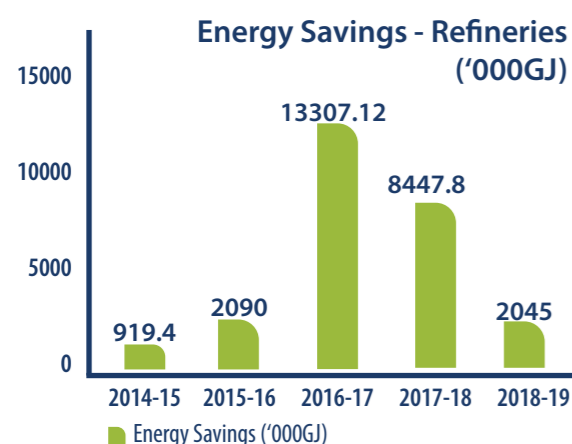
Environment Conservation and Protection: Kochi Refinery

- Awareness on environment protection among different stakeholders and students through has been imparted through awareness classes and innovative ENCON clubs constituted in seventy educational institutions spread all over Kerala
- To increase the green cover around Refinery 25000 trees were planted
- A study on the green cover was carried out which included counting trees, measuring the total area of green cover and estimation of the amount of Carbon sequestered
- 23.63 tons of paper was recycled which is equivalent to saving around 402 trees and 24 MTCO_{2e}.
- Roof top Rainwater Harvesting in an area of 11000 m² is being implemented and the water audit is under implementation.
- Two more butterfly parks were added, which exhibit the pollution free atmosphere of the Refinery
- Steel water bottles were distributed to the employees to eliminate the menace of plastic
- Sapling distribution and support to herbal garden in the three nearby Government schools was done as a part of World Environment Day celebration
- A study for the remediation of treated water was conducted before final discharge of water
- The dynamic limit implementation was completed as per the requirement of Central Pollution Control Board (CPCB) for Refinery stack analysers

Mumbai Refinery does continuous monitoring of energy consumption and hydrocarbon loss. The elaborate and systematic energy accounting and Management Information Systems, state of the art on-line monitoring dashboard form the hallmark of Refinery Operations.

Relentless efforts towards energy conservation on a sustained basis has resulted in significant saving of energy and natural resources.

Kochi Refinery has put in place above mentioned initiatives to energy conservation such as conversion of Main Air Blower in Fluidized cracking unit from medium pressure steam driven turbine to high pressure driven turbine, operational and instrumentation improvements in compressors, modification and improvement in pre-heat trains, advanced process control system installation in heaters and installation of solar plant and replacement of conventional lighting with LEDs.



Based on the revised calculation the value for FY 2017-18 have been revised for energy savings BUs. The type of energy involved in energy savings are diesel, steam and electricity.

Capital Expenditure on Sustainability Development Projects

Mumbai Refinery

	Description of Schemes implemented in FY 2018-19	Capital Investment Rs Crores	Fuel/ Steam MT/D	Power, MWh/D	Saving in Terms of Rs. Crores
1	CDU4 column pressure reduction from 1.70 to 1.60 Kg/cm ² through APC for fuel & steam saving	0.06	5/49		8.91
2	Provision of Electrical Heat Tracing (EHT) to Bitumen delivery headers viz. VG10 & VG40 for steam saving	1.4	15	-1.2	.092
3	De-staging of FCC BFW Pump (20-P-14) to match the operating Head and flow rate	0.03		0.8	0.13
4	DHDS FGTF sour gas temperature reduction for steam saving	0	7.0		0.52
5	Reconfiguration of Naphtha splitter in ISOM unit for fuel saving	0.35	4.3		4.51
6	DHDS and DHT charge heater excess oxygen optimization for fuel & power saving	0	1.3	0.1	1.00
7	DHT lean amine AFC 137EA802B (lean amine AFC) stopped for power saving	0		0.3	0.04
8	Stoppage of waste Nitrogen blower in ARU for power saving	0		0.2	0.03
9	Processing of return kerosene in DHDS and stoppage of return kerosene to DHDT to increase DHDT feed preheat for fuel saving	0	2.7		2.05
10	Diversion of old SWS ammonia rich gas to old SRU incinerator for fuel saving	0	0.4		0.30
11	Replacement of suction filter of CDU4 FD fan	0.18		0.2	0.02
12	Reduction of steam consumption in DHT complex by bypassing DHT lean amine cooler	0	26.3	0.5	1.48
13	Replacement of existing Raw water supply pump 139-P-901C in DM plant by new low life cycle cost (LLC) pump	0.13		0.8	0.08
14	Steam trap management in offsite & utilities area	1.78	113.4		5.37

15	Steam trap management in CCU/ MTBE	0.65	75.2		3.56
16	Flexible / reusable insulation covers for valves in Utilities area	0.3	0.28		0.19
17	Diversion of SWS I streams to SWS IV and shutting down of SWS I	0	80	2.7	4.06
18	APC Implementation in ATU & SWS (SWS-4, DHDS ATU & Old SWS) for steam saving	0.06	98.6		4.01
19	Stoppage of one CDU4 LGO CR pump at lower intakes (<23000 t/d) for power saving	0		6.5	0.57
20	VDU3 O/H 1st stage ejector operation optimization for steam saving	0	10		0.34
21	Flaring reduction in CCR	0.17	2.06	0.3	0.99
22	Provision of Air to Air Heat Exchanger in Boiler House for power saving	0.1		7.0	0.50
23	Shutting down of Old HGU deaerator pump 121-P-16 and DHDS wash water pump 120- P-07 taking direct suction from de-aerator	0		0.2	0.01
24	SWS-4 sour water pump 145 P 106 offloaded for power saving	0		0.2	0.01
25	Stopping of CCR Splitter overhead AFCs for power saving	0		0.4	0.02
26	Provision of Jacket type Insulation to the Auxiliary Steam Turbine at CPP and Boiler House	0.11	0.24		0.07
27	LOBS Condensate Recovery System (CRS)	1.18	13.4		0.18
28	Procurement, installation and commissioning of Solar Power plant	2.37		1.2	0.03
29	Provision of CORROCOAT in MOC water pumps for efficiency improvement	0.08		0.4	0.01
30	Conventional flameproof light fitting to LED	4.5		26.9	0.00*
31	Steam trap management RMP SRU (Train C) & BBU area	0.73	34.7		0.00*

* Projects completed till 31st March-2019

Capital Expenditure on Sustainability Development Projects

Kochi Refinery

	Description of Schemes implemented in FY 2018-19	Capital Investment Rs Crores	Energy Savings		Saving in Terms of Rs. Crores
			Fuel/ MT/Year	Power, MWh/Year	
1	CH 21 / 22 Pass Balancer commissioned. (Fuel)	Nil	133		0.44
2	CH 223 APH DMC commissioned. (Excess air reduced by min. 1%) (Fuel)	Nil	38		0.12
3	CH 21/22/223 heater coil external chemical cleaning. (Fuel)	0.08	86		0.29
4	Maximization of extraction in steam turbines of Delayed Coker Unit (Steam)	Part of IREP cost	3190		10.61
5	Steam trap management, Steam optimization in off-sites, steam management in NHT and DHDT. (Steam)	Nil	6715		22.35
6	Sour water Column was optimized by reducing top pressure to 0.8 kg/cm2g from 1 kg/cm2g. This change led to steam reduction while maintain same charge. (Steam)	Nil	307		1.02
7	EMC team prepared and implemented a SRU-3 steam optimization plan. 8 TPH of steam consumption was reduced from total design steam consumption.(Steam)	Nil	1280		4.26
8	MAB2 drive conversion from MP steam to HP steam. (Steam)	1.91	1941		6.46
9	MAB2 surge test and surge margin shifting. (Steam)	0.09	647		2.15
10	Implementing scheme for tie-up between FP108 and FP5 discharge resulting in stopping of FP5. (320Kwhr) (Power)	Nil	4		0.11
11	By-passing of DIH and Operation of ISOM in once through mode. (Steam)	Part of IREP cost	1654		5.5
12	Reduction of VHP Steam in MAB pursuant to MAB surge margin shifting. (Steam)	0.09	160		0.53
13	Reduction of VHP Steam in WGC pursuant to WGC surge margin shifting. (Steam)	0.06	240		0.8

14	Reduction of HP steam in Debutanizer Steam Reboiler by shifting reboiling duty to HCO reboiler. (Steam)	Part of IREP cost	2200		7.32
15	An Operating philosophy adopted for stopping HRSG feed water pumps in case of low steam demand (<420Tph from IREP) by utilising the BFW tie up UB- HRSG. Savings of 1.1MW of power whenever HRSG pump is not run. (Steam)	Nil	60		0.2
16	Running instrument air compressor number reduced to one (motor/ turbine of 950 Kwhr). (Power)	Nil	49		0.16
17	Reduction in stabilizer reflux ratio controller	Nil	56.9		0.19
18	Replaced about 2000 nos. of conventional lighting by LED lighting in Plant, Control Rooms, substations, Lab Warehouse and office rooms	0.608 Cr	-	943.92	0.42

Detailed initiatives have been given only for significant area of operations.

Emission Management

The global energy demand observed its fastest pace of growth as 2.3% in 2018. This is driven by increasing energy needs propelled by a strong global economy. India recorded an increase of around 4% in the primary energy demand contributing nearly 11% of the global growth. Oil and Gas sector strives to use adopt lower emission intensive technologies to be in line with the India's Nationally Determined Contributions (NDC).

India's NDC has a target of reducing GHG emissions intensity of GDP by 33 to 35% from 2005 levels by 2030. To mitigate the impact of its Operations,

BPCL seeks opportunities to reduce emissions by adopting to energy efficient Operations. Carbon dioxide, NOx, SOx, Methane and other gases are the major constituents of emissions from BPCL's Operations. BPCL has put in place systems and system up-gradations to measure the quantum of emissions and has also set periodic targets at all locations. Both MR and KR are progressing towards zero ozone depleting substance (ODS) emissions. The details of the direct and indirect GHG emissions over the years along with the GHG emission intensity for both Mumbai and Kochi Refineries are represented below:

Direct GHG Emissions - Scope 1 ('000 MTCO ₂ e)	Refinery	Other BUs
FY 2016-17	3,907.24	17
FY 2017-18	5113.00	16.4
FY 2018-19	5005.78	17.8

Indirect GHG Emissions - Scope 2 ('000 MTCO ₂ e)	Refinery	Other BUs
FY 2016-17	177.36	80.52
FY 2017-18	198.54	74.01
FY 2018-19	196.33	169.9

Total GHG Emissions - Scope 1+ Scope 2 ('000 MTCO ₂ e)	Refinery	Other BUs
FY 2016-17	4,084.60	97.52
FY 2017-18	5,311.55	90.41
FY 2018-19	5202.10	187.7

The value of Scope 1 for FY 2016-17 and FY 2017-18 have been revised. The pipeline emissions have also been added for Scope 1 and Scope 2 in other BUs data from FY 2018-19.

GHG Emission (Scope 1, Scope 2) Intensity (Refineries) (per throughput) (tCO ₂ e/ MT)	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19
	159.34	164.18	160.84	186.10	167.78

Emissions of Ozone Depleting Substances (ODS) (CFC11e)	FY 2016-17	FY 2017-18	FY 2018-19
Mumbai Refinery	61	54.9	57.95
Kochi Refinery	335.95	326.8	360

ODS emission covers the usage of R 22 at the Refineries. The values of ODS are 2097.79 MTCO₂e and 13030.2 MTCO₂e for MR and KR respectively.

Other Air Emissions at Refineries (In Tonnes)	FY 2015-2016	FY 2016-17	FY 2017-18	FY 2018-19
Oxides of Nitrogen (NOx)	2,426.61	2,495.28	4,525.55	4,405.52
Oxides of Sulphur (SOx)	13,057.96	12,713.67	10,690.71	10,997.07

Monitoring of Ambient Air Quality

Location (FY 2018-19) (In Microgram/Cubicmetre)	Limit	PM 2.5	Limit	PM 10
MR	60	42.7	100	79.33
KR	60	16.67	100	59.18

The value for Persistent organic pollutants (POP), Volatile organic compounds (VOC), Hazardous air pollutants (HAP) is as per required limits for refineries.

Scope 3 Emissions	FY 2016-17	FY 2017-18	FY 2018-19
(Business Travel) ('000 MTCO ₂ e)	5.879	6.34	5.58
Crude and LPG import ('000 MTCO ₂ e)	861.49	851.31	724.24

The values for Crude and LPG import Scope 3 emission were incorrectly stated in the SDR FY 2016-17 and FY 2017-18, which are now corrected and mentioned in the table above. This was primarily due to the change in calculation methodology. Refer Annexure 2A for the calculations.

Water Management

Water is vital for all forms of life and therefore the management of water resource is pivotal to BPCL. There are numerous initiatives taken to conserve the resource and limit the adverse effect of the operation on any of the water source at all locations of operation of BPCL throughout the nation. The operation where consumption of water occurs are for addition of heat to certain processes in the form of steam, for removal of heat from certain processes in the form of cooling water, for removal of salt and impurities from crude, also for protecting equipment from corrosion, for generating hydrogen and in equipment cleaning and maintenance.

In FY 2018-19, advisories have been developed and circulated for effective water conservation and making location water neutral which include installation of rainwater harvesting facilities. Initiatives to reuse/recycle water are also emphasised upon.

The total catchment area under Rainwater Harvesting during FY 2018-19 was 7,78,939 sq. meter which has been increased from 7,73,427 sq. meter during the year. The sea water and surface water intake were less than 5% of the annual average volume of the water body. No water bodies have been significantly affected by withdrawal of water by units of BPCL around the areas of Operations locally. The water withdrawal does not affect any biodiversity, or wetland listed in Ramsar Convention.

The sources of water intake by BPCL are ground water (bore/open well), surface water (rivers/lakes), municipal water, tanker water, sea water, rainwater and water from Airport Authority of India (AAI) and Rashtriya Chemicals & Fertilizers Ltd. (RCF). In FY 2018-19, the total water consumed by BPCL is 62,163.95 thousand KL. The details of water consumption for Refineries and another BU's are mentioned in the table below:

Water withdrawn (Volume in '000 KL)	FY 2018-19	
	Refineries	Other BUs
Surface Water	20392.03	72.79
Ground Water	0	961.35
Sea Water	34858.20	0
Produced Water - Rainwater	175.72	28.82
Third-party – Municipal Water	4940.33	517.28
Third-party – Tanker Water	3.47	203.56
Third-party – AAI	0	10.40
Total	60369.74	1794.21

BPCL considers the water intake quantity as the water consumption. There are no specific methodologies in place to monitor the consumption separately. The water withdrawal for the operation at BPCL exerts no water stress to the water bodies from where the withdrawal

takes place. The total dissolved solids are not measured from the water which is withdrawn.

There are various methodologies used at BPCL for calculating the water intake for e.g. through water meters, tank capacities/ calculations etc.

Total Wastewater (000'KL)	Refineries	Other BUs
Wastewater Generated	41666.52	145.20
Water Recycled / Reused	7889.04	134.16
Wastewater Discharged	36729.16	11.94
Percentage of Water Recycled / Reused	18.9%	92.40%

The percentage of water recycled at Refineries has increased to 18.9 % from 17 % last year.

BPCL carries out the detailed analysis of water before discharge however it doesn't capture the breakup of the water discharged.

BPCL does not carry out the assessment of the locations where water is discharged, hence it is not known if the location is a water stressed area. The discharge limits of water issued on the consent to operate are met and there was no non-compliance reported.

Environmental Expenditures (INR) Lakh	Refineries	Other BUs
Treatment and disposal of Waste	7927.55	96.08
Depreciation and maintenance cost of equipment used in pollution control	3739.73	42.86
External certification of management systems	4.51	63.06
External services for environmental management	442.71	79.13
Extra expenditures for installing cleaner technologies	58336.67	32.19
Other Environmental Costs	798.62	347.99

Waste and Effluent Management

The sector in which BPCL operates makes waste generation inevitable. BPCL understands the harmful impact of the generated waste to the environment, therefore it strives to minimise the generation of waste and implements robust mechanism to treat and dispose the generated waste. BPCL has put in place proper possible onsite treatment and proper disposal methods for waste management. BPCL aims to maintain a regular check on the discharge of effluents from all the Operations involved in the industry. The installed Effluent Treatment Plants (ETPs) are functioning satisfactorily and the effluent

quality is in conformance with the regulatory standards. To achieve the recycling goals, focus on proper waste selection is imparted by awareness campaigns and internal audits. BPCL promotes recycling in an economical, ecological and efficient way. BPCL uses the treated water for secondary purpose. Most of the wastewater is discharged after treatment within the boundary of the location. The treated wastewater discharged outside the boundary by BPCL has not negatively affected any water body or biodiversity. Wastewater discharged by BPCL is not used by any other organization.

Total water discharged by quality (Concentration in mg/L except pH)	Limiting concentrations by CTO (Concentration in mg/L except pH)	Mumbai Refinery	Kochi Refinery
Total Suspended Solids	20	13.42	9.57
Biological Oxygen Demand	15	11.51	13.77
Chemical Oxygen Demand	125	90.66	64.46
pH	6-8.5	7.77	7.22
Oil & Grease	5	2.57	3.72
Phenol	0.35	0.0007	0.155
Sulphides	0.5	0.07	0.4

BPCL maintains environmental standards as per national laws and regulations however 2 cases of non-compliance were reported in 2018-19. Tamil Nadu Pollution Control Board issued a notice for spillage of two tonne of furnace oil into Marine water during Fuel oil cargo discharge by MT Corals Stars at Kamarajar Port Ltd., ETPL Ennore. Vendor took steps to clear the sea water after the incident. For details refer to BPCL AR 2018-19. The quantity of hazardous and non-hazardous waste generated

from the Refineries was 1739.47 MT and 11553.34 MT respectively. The amount of hazardous waste treated by bio-remediation at the Refineries was 40.30 MT and the hazardous waste transported out of your premises during the reporting period was 1451.48 MT. There was no hazardous waste imported, exported and shipped from BPCL. The hazardous waste generated was collected by Central Pollution Control Board (CPCB) authorised hazardous waste disposal vendors.

Types of Waste and Methods of Disposal



Details of hazardous and non-hazardous wastes generated in BPCL are mentioned in Annexure 3 of this report. BPCL comply with all the statutory norms and regulations stated by MoEF&CC, CPCB and State Pollution Control Board (SPCB) for disposal of Hazardous waste.

The packaging material for LPG, which is cylinders (domestic and commercial) are reclaimed as 100% as per LPG Cylinder Distribution Policy, however no packaging material is reclaimed for the other products.

Workshop on Waste Management



Identify, Classify, Measure and Manage waste in BPCL was the motive behind the manual on Waste Management which was released by our C&MD during the All India HSSE awards function at Chennai in the month of April 2018.

This manual was prepared by KPMG considering the various types of waste generated at our locations and plants of Marketing Business Units and suggested methods of Management/ disposal of Waste. It also gives details of the applicable statutory requirements in handling the various types of Hazardous and Non-hazardous Waste. The first workshop on the Waste Management was kicked off at Western Regional Office in Kharghar, Mumbai on 30th of October.



The workshop stressed on innovative methods of waste management, making locations 5S compliant, and meeting Statutory requirements. After receiving an overwhelming response from the first workshop, similar workshops were conducted at Noida in Northern Region, Chennai at Southern Region and Calcutta at Eastern region. After the presentation on Waste Management, teams were formed in each region and role of reduction of Oily Sludge / Chemical waste / Use of Plastic Bottles and Kitchen Waste was assigned to them with Corporate Support. It was emphasized that aim is to reduce / reuse or recycle the waste to manage it better. All the programs were coordinated by Mr. Ashish Gupta, Chief Mgr. (HSSE), Corporate with guidance from ED HSSE & support of BUs.

Tree plantation at Kochi Refinery



Other Environment Initiatives

The locations of BPCL's Operations across the country take up site wise initiatives as well to contribute towards the minimization of the negative impact on the environment due to the Operations of BPCL. Some of these initiatives are mentioned below:

1. Recycling / reusing of scrap material

Recycled material is waste that has been turned into a new product. Reused, or salvaged, material is "waste" that is used again in its original form.



Old Chair Frames



Fabricated New Chairs



Old Aluminium Frames



Recycled into Ladders

2. Development of Butterfly Garden

This unique pollinator friendly butterfly garden is an on-going element BPCL's larger commitment to environmental sustainability and biodiversity conservation. BPCL MR developed this butterfly garden to serve as "Biodiversity Island" for native and rare plants, birds, insects, bees and butterflies. Around 2500 tree saplings of different species have been planted in butterfly garden.

Each plant of this garden has been carefully selected to play the role of either host or nectar species in order to attract more butterflies and provide a supportive habitat for butterflies to flourish.

Butterflies play a vital role in food chain and their presences is a sign of healthy ecosystem and chemical free environment.



Butterfly Park at KR (top) and MR (below)



Vertical Garden at Lucknow LPG Plant

3. Enzyme based Bio-remediation

For the first time in India, in-situ Enzyme-based bioremediation was successfully carried out for treating residual sludge (approx. 84.7 MT - oil reduction from 46% to less than 0.5%) within a period of six months in MOT Tank-13 which is situated at island 6 kms from refinery.

4. Tree plantation

Tree plantation - Mass Tree Plantation in plant premises to beat air pollution. BPCL Mumbai Refinery carries out tree plantation drive during every "World Environment Day" in and around Mumbai. Also, an awareness booklet on "Plastic Waste Management" was prepared and rolled out by Energy & Environment section.



Tree Plantation Drive at MR (top) and KR (below)

Consolidated Summary

BU	No. of Trees available at location as on 31.3.18	No. of Trees / Planted from Apr18 to Mar 19	Total No. of Trees survived till March 2019	Total No. of Trees till March 2019
Retail	57414	5719	4357	61771
LPG	50476	7676	6800	57276
Lubes	921	375	225	1146
Aviation	2352	1648	954	3306
Pipelines	23173	19194	15274	38447
HRS	2145	425	320	2465
Mumbai Refinery	10378	1532	1054	11432
Kochi Refinery	41600	743	228	41828
TOTAL	188459	37312	29212	217671

4. Replacement of pet water bottles

Pet water bottles have been replaced with glass bottles/ steel Bottles in the conference rooms and meetings rooms across BPCL. These are cleaned and refilled after every use.



5. Waste Plastic Road

Almost all kinds of plastics are non-biodegradable which makes it extremely difficult to dispose. The methods available for disposal of plastic require special treatment facilities and are very expensive. Hence recycling waste plastic and using it in unconventional ways is our only feasible option to truly dispose of waste plastic. The Corporate Research and Development Centre (CRDC), Noida has come up with an innovative way of utilizing waste plastic in the making of pavements.

Waste plastic is used to make compressed and treated sheets that are cut and attached to make cubical hollow modules. These modules make up the 'Base' layer of the flexible pavement. They have successfully implemented this technology in CRDC, Mumbai Refinery and Kochi Refinery. This technology is cheap and feasible since it does not require any specific grade of plastic. Almost any kind of plastic can be used to make the modules.



Waste plastic road works at ERO

CRDC Wins Best Innovation in R&D Award

CRDC developed an indigenous cost-effective dewaxing catalyst viz. BHARAT-HiCAT at 1/5th the cost of the commercial catalyst in 2016. The success of the commercial trials has helped BPCL to become the third company in the world to develop such niche catalyst technology under the 'Made in India' campaign. This development was recognized at the national level and bagged the prestigious 'Best Innovation in R&D' Award instituted by MoPN&G. The Award was conferred by Secretary, MoP&NG on 12th January, 2019 during the 23rd Refinery and Petrochemicals.



Publication of Handbook on Composting



A Handbook on composting was published during HSE meet at Chennai by our C&MD Shri D Rajkumar. The purpose of the manual was to help officers at locations of various business units to responsibly dispose of organic waste from the premises.





Inauguration of Oil Industry's First Biogas Plant at a Retail Outlet



On 28th July 2018, BPCL inaugurated the Oil Industry's first Bio-Gas Plant at BP-Bazargaon, OSTs in Nagpur Territory. The Biogas is generated from food and vegetable waste of the Dhaba, which is put in a digester that ferments the waste anaerobically. The Biogas generated is stored in a specially designed balloon and is used for cooking after being compressed. The plant has a capacity of treating 100 kg Bio-waste per day which generates gas equivalent to 4.5 kg of LPG per day. Even the residue of the Bio-waste after gas generation can be utilized as manure, thus completing the entire cycle of "From Earth, To Earth".

15

Linkage with Sustainable Development Goals

SDG Goal	BPCL's Initiative
 <p>1 NO POVERTY</p>	<ul style="list-style-type: none"> BPCL has set up Skill Development Institutes(SDI) across the country in order to skill people and make them financially independent BPCL SDI at Kochi successfully completed its five years and trained 312 individuals from lower economic background BPCL trained 792 leprosy affected youth in various trades at Nashik, Champa, Faizabad, Bankura, Vadathorasalur and Vizianagaram. BPCL has projects for training 75 visually impaired youth in Acupressure and Massage therapy in Latur
 <p>2 ZERO HUNGER</p>	<ul style="list-style-type: none"> BPCL is running various programs in different communities to skill people. These programs are helpful in empowering the youth financially and thereby fighting the issue of hunger BPCL provide employment to approx. 34,000 people
 <p>3 GOOD HEALTH AND WELL-BEING</p>	<ul style="list-style-type: none"> BPCL is running large scale healthcare programs such as carrying out free surgeries, reaching out to cancer affected patients and strengthening the existing health infrastructure across the country BPCL also started "Lifeline Express", hospital on train. The objective was to reduce the burden of avoidable disability in rural communities
 <p>4 QUALITY EDUCATION</p>	<ul style="list-style-type: none"> BPCL has undertaken education programs such as Computer Assisted Learning(CAL). Since its inception the project has benefitted more than 1 lakh children Saksham, a teachers training program has been undertaken by BPCL. This project encourages teachers to use new techniques of teaching In FY 2018-19, Saksam program has completed its sixth batch with successfully training 162 primary/ upper teachers and school leaders State Level Coordinator Maharashtra was awarded the All India First prize for 'Best Performance Award in National Level Competitions for SAKSHAM 2018' for setting a record of enrolling 15.35 lakh students



- BPCL does not discriminate on the basis of gender and provide equal opportunities to women
- BPCL has two independent female Directors on the Board. Women hold management and non management positions in the organization
- Various skills development programs are undertaken for skilling women and making them financially independent
- BPCL has also helped in the formation of various Women Self Help groups



- BPCL has contributed in creating an 'Open Defecation Free' country through the construction and renovation of more than 3500 toilets in schools and communities
- To make cities cleaner, BPCL has supported an end to end Solid Waste Management project involving collecting, segregating/processing and recycling of waste at 33 micro-composting centers
- BPCL has also supported preservation of Indian heritage by adoption of the Sri Adi Sankaracharya Janmasthan- Kalady to make it a 'Swacch Iconic Place'. The project includes creating public sanitation facilities, and provision of clean drinking water
- BPCL has transformed around 280 villages from water scarce to water positive dwellings through Project BOOND
- BPCL has received a prize for the 'Best Swacch Iconic Place in India' for supporting the 'Madurai Meenakshi Temple project



- BPCL undertook the installation of Solar Street lights in rural areas, which not only electrifies rural villages, but also improve safety and convenience for the villagers
- BPCL has also set up various wind mills in order to promote clean and renewable energy
- A Joint Venture Company was formed for charitable purposes among BPCL, HPCL & IOCL (to provide LPG connections to Below Poverty Level (BPL) households not covered under Pradhan Mantri Ujjwala Yojana.
- BPCL propose to set up 3 nos. Bio-Refineries for production of Second Generation(2G), which will be blended with MS



- BPCL has set up Skill Development Institutes
- BPCL work tirelessly towards skilling of specially abled individuals
- BPCL has various programs for identifying and developing talent within the company .BPCL undertakes employee training and feedback sessions
- BPCL support various start-up initiatives such as project Ankur
- BPCL has a spirit of taking the growth to the local & small producers, local procurement from MSMEs stood at 25.4% against the target of 25%

BPCL has an R & D department which focuses on developing:

- Reconfiguration of Naphtha Hydro treating Unit (NHT) and Naphtha splitter of Isomerization unit was implemented
- Vacuum Pressure Swing Adsorption Unit (VPSA) was installed to augment capacity of sulphur recovery units.
- Manufacturing and supply of new grade of Hexane (polymer grade) commenced during the year
- Manufacturing of a new product D80 (De-aromatized solvent) was started
- An innovate tool BPMARRK was used for widening Kochi Refinery's crude oil basket, 50 new crude oils variants were assessed and commissioned for procurement
- Aspen utility optimizer package has been implemented for optimization of utility consumption in the Refinery
- Chloride Guard bed was installed in the light reformat stream of Continuous Catalytic Reformer (CCR) to improve feed quality to Aromatic Recovery Unit
- A DSO wash water vessel was provided to remove traces of caustic in Di-sulfide oil (DSO) from LPG merox unit of Delayed Coker Unit & CDU3 thereby enabling direct processing in Diesel Hydro -Treating unit without routing it back to the crude oil tanks as slop
- FCC catalyst was reformulated for maximising Diesel. PFCCU catalyst was reformulated for maximising Motor Spirit/Diesel



- BPCL undertakes programs for skilling of women
- BPCL also conducts skilling programs for adolescents with intellectual disability
- BPCL trained 792 leprosy affected youth in various trades at Nashik, Champa, Faizabad, Bankura, Vadathorasalur and Vizianagaram



- BPCL is working towards providing clean gas for cooking and other purposes
- BPCL has also set up biogas plant for village gas supply
- BPCL has set up solar streetlights in rural areas
- BPCL has setup up Wind Mills
- The capacity of Renewable Energy has been increased to 31.7 MW in FY 2018-19 from 26.36 MW in FY 2017-18
- Emphasis is laid on the saving electricity and use of energy efficient lighting. The energy efficient lighting capacity has been increased from 7.5 MW in FY 2017-18 to 12.7 MW in FY 2018-19

- BPCL has increased the area of land under rain water harvesting
- BPCL has set up committees such as Village Water Committees, Women's Self Help group, Farmer's group and Children Water Clubs to educate and empower the community



- BPCL has taken steps to reduce our energy consumption. There has been a 67.9 % increase in Energy Efficient Lighting Capacity in FY 2018-19 as compared to the previous year
- BPCL has a large-scale rainwater harvesting project called project BOOND. This project is operational in the states of Maharashtra, Tamil Nadu, Karnataka and Rajasthan
- Installation of solar panels and windmills was undertaken at a large scale



- BPCL has undertaken process improvement plans to minimize energy consumption
- BPCL has also undertaken large scale tree plantation drives. Kochi Refinery planted 25,000 trees on World Environment Day
- Installation of solar panels and windmills was undertaken at a large scale
- The capacity of Renewable Energy has been increased to 31.7 MW
- Large scale tree plantation drives lead to BPCL having 217671 number of trees available as on 31.03.2019 across all locations.
- BPCL has supported an end to end Solid Waste Management project involving collecting, segregating/processing and recycling of waste at 33 micro-composting centers
- BPCL has also invested on the installation of energy efficient lighting
- BPCL conducted a study on climate change risk preparedness for the Oil and Gas sector through The Energy and Resources Institute (TERI) which provided a comprehensive analysis of threats from climate change to their locations and provided a way forward to tackle the challenges



- BPCL has undertaken development of less aquatotoxic Oil base Drilling mud formulation used in off-shore /on-shore drilling



- Ecological Park at Kochi Refinery is developed over an area of 5.5 acres. This is with a view to maintain a healthy ecosystem, develop clean environment, control pollution and prevent soil erosion. About 3770 different varieties of plants are planted in this area
- A butterfly garden was developed and inaugurated at Mumbai Refinery.



- BPCL organises Mandatory trainings on ethics
- Vigilance Awareness Weeks are organised in BPCL



- BPCL conducted a study on climate change risk preparedness for the Oil and Gas sector through The Energy and Resources Institute (TERI) which provided a comprehensive analysis of threats from climate change to their locations and provided a way forward to tackle the challenges.
- Ujjwala Plus Foundation (UPF) A Joint Venture Company was formed among BPCL, HPCL & IOCL to provide LPG connections to Below Poverty Level (BPL) households not covered under Pradhan Mantri Ujjwala Yojana.
- BPCL has partnered with various NGOs to benefit the underprivileged and marginalized section of the society
- BPCL also a part of the following industrial and trade associations Confederation of Indian Industry (CII), Federation of Indian Chambers of Commerce and Industry (FICCI), ASSOCHAM, United Nations Global Compact, World Energy Council-Indian Member Committee, National Safety Council and Petroleum Federation of India etc.



Annexure 1: Material Usage Breakup

Refineries		
Type of Material	UoM	Quantity
Amine, Neutralising	Metric Tonne	43.53
Anti-Foulant	Metric Tonne	91.92
Bitumen Drum	Metric Tonne	4246.06
Caustic Lye (Sodium Hydroxide)	Metric Tonne	1669.26
DCP Powder procured for firefighting	Metric Tonne	6.00
Di Ethanol Amine	Metric Tonne	1578.60
FCCU Catalyst	Metric Tonne	468.60
Foam procured for firefighting	Kilolitres	16.50
Fresh Catalyst, CCU	Metric Tonne	759.12
Hydrochloric Acid	Metric Tonne	462.18
Hydrogen Peroxide	Metric Tonne	1704.61
Imported Crude	Thousand Metric Tonne	24679.15
Indigenous Crude	Thousand Metric Tonne	4188.17
ISD (Intermediate Stock Difference)	Thousand Metric Tonne	-141.67
Lubricity Additive	Metric Tonne	1198.95
Methanol	Metric Tonne	9837.00
Oil Recovered from Sludge	Kilolitres	9038.97
Oil/Lubricant	Kilolitres	1853.11
Reformate	Metric Tonne	50811.77
Reprocessed Slop	Metric Tonne	3551.00
Reprocessed/Confiscated	Metric Tonne	912.48
R-LNG (Regassified Liquefied Natural Gas)	Thousand Metric Tonne	220.19
Rock Salt	Metric Tonne	374.61

Retail		
Type of Materials	UoM	Quantity
Additives - Speed	Kilolitres	180.7
Additives - Hi Speed	Metric Tonne	2.1
Additives - Speed 97	Metric Tonne	22.8
Blue Dye	Metric Tonne	25.9
Grease	Metric Tonne	2.6
Corrosion Inhibitor (Ethanol Additive)	Kilolitres	192.6
Ethanol	Thousand Kilolitres	50.05
Oil/Lubricant	Kilolitres	7.9

Type of Materials	UoM	Quantity
Any other (Liquid)	Kilolitres	9.4
Any other (Solid)	Metric Tonne	0.1
Foam procured for firefighting	Thousand Kilolitres	49.15
DCP Powder procured for firefighting	Metric Tonne	27.9

Lubricants

Type of Material	UoM	Quantity
Oil/Lubricant	Kilolitres	1.29
Base Oil	Thousand Metric Tonne	80.64
Additives (Barrels)	Metric Tonne	5178.84
Dye	Metric Tonne	2.47
SKO (For Cleaning)	Metric Tonne	0.74
Additive for Printers	Metric Tonne	0.6
Metal Containers (BRLS/CASKS)	Kilolitres	5318.74
HDPE / VALREREX CONTAINERS/Plastic PAILS	Metric Tonne	2704.72
CARTONS/CORRUGATED BOXES	Metric Tonne	2824.07
Plastic Containers	Metric Tonne	3571.04
Pouches	Metric Tonne	490.96
HFHSD	Metric Tonne	1767.38
LDO	Metric Tonne	165.19
Foam procured for firefighting	Metric Tonne	0
DCP Powder procured for firefighting	Metric Tonne	0.63

Aviation

Type of Material	UoM	Quantity
Oil/Lubricant	Kilolitres	3.49
Any other (Liquid)	Kilolitres	0.89
Any other (Solid)	Tonnes	0.08
Foam procured for firefighting	Kilolitres	1.1
DCP Powder procured for firefighting	Tonnes	4.21

LPG

Type of Material	UoM	Quantity
Grease	Metric Tonne	4.45
Oil/Lubricant	Kilolitres	24.12
Brown Soap	Metric Tonne	1023.21
O Ring	Number in Thousand	29858.97
Delrin Cap	Number in Thousand	49524.57
LOT Valve	Number	29030
PVC Seal	Number in Thousand	424479.16

SC Valve	Number in Thousand	56512.73
BMCG Additives	Kilolitres	24.16
Teflon	Number in Thousand	385.58
Safety Caps	Number in Thousand	22586.30
New Cylinders Inducted-BPC 19.0 KG	Number in Thousand	520.64
New Cylinders Inducted BPC 14.2 KG	Number in Thousand	11930.34
DPR	Number in Thousand	11210.23
New Cylinders Inducted-BPC 47.5 KG	Number	73305
Any Other (Liquid)	Kilolitres	15.08
Any Other (Solid)	Metric Tonne	0.02
Foam procured for firefighting	Kilolitres	30
DCP Powder procured for firefighting	Metric Tonne	43.99
Paint and Primer used at the time of statutory painting and repairing of LPG cylinders	Thousand Kilolitres	274.62

BPCL does not use any recycled input materials to manufacture the organization's primary products and services. All materials except Ethanol (Bio-ethanol) are non-renewable. Due to the nature of business, products sold by BPCL can't be reclaimed.

Annexure 2A: GHG Calculation Quantification Methodology

The GHG emission calculation methodology for BPCL operating locations used are aligned with the following standard definitions:

1. Stationary Combustion:

Emission factors provided in the Defra UK emission guidelines, UK Government GHG Conversion Factors for Company Reporting, 2016 were used to calculate GHG emissions from stationary combustion sources. Activity data (quantity of fuel consumed) is multiplied with the respective Net Calorific Value (NCVs) and emission factor to quantify the direct emission from stationary combustion sources. The emission factors and the NCVs are mentioned in the table at the end of Annexure 2A.

2. Purchased Electricity:

The quantification of energy indirect GHG emission (Scope 2) is based on activity data (Purchased Electricity in kWh) multiplied by emission factors specified in the 'CO2 Baseline Database for the Indian Power Sector User Guide', issued by Central Electricity Authority, Government of India for Unified Grid. The emission factor used is 0.82

3. Transportation:

Only transportation considered for calculation of emissions is in-plant vehicular movement of the vehicles. Emission factors provided in the Defra UK emission guidelines, UK Government GHG Conversion Factors for Company Reporting, 2016 were used to calculate GHG emissions from combustion sources. Activity data (quantity of fuel consumed) is multiplied with the respective default energy factor or actual measured Net Calorific Value (NCVs) and emission factor to quantify the emissions. For the purpose of this report FY 2018-19 is the Base year.

4. SOx and NOx Emissions

To arrive at SOx and NOx emissions, the average emission rate, running hours of diesel generators and boilers per month, and the oxide of Sulphur and Nitrogen are first computed.

- The exhaust stacks are monitored for the net emission calculation for the following:
 - Concentration of SOx and NOx emission
 - Flow rate of exhaust gases
 - Running hours of Diesel Generators (DG) and boilers

5. GHG Emissions (Scope 3):

The Air travel emissions are calculated on the basis of the total distance travelled by the employees for Business related activities (domestic and international). The calculation of emissions due to the Crude and LNG import is done by considering the quantity of each of them imported and distance travelled by the import material by VLCC/ULCC/VLGC carriers and smaller capacity carriers. For the purpose of this report FY 2018-19 is the Base year.

The emission factor used for Air Travel is 0.121. This value is taken from India GHG Program 2015 Version 1.0.

The emission factor used for Crude and LNG import by VLCC/ULCC/VLGC and Other smaller capacity Carriers is 0.00679 and 0.00690 respectively. These values are taken from Defra UK emission guidelines, UK Government GHG Conversion Factors for Company Reporting, 2016.

6. Ozone-depleting substances (ODS)

The emission factors used for calculating the ODS as CFC11 is 0.05 and is taken from Defra UK emission guidelines, UK Government GHG Conversion Factors for Company Reporting, 2016.

Table with Net Calorific Value (NCVs) and emission factor used:

All Energy Sources	Net Calorific Value (GJ/tonne)	Emission Factors (kgCO2e)
Diesel	42.79	2.68
Biomass	15.05	44.06 tonnes
LPG	45.92	1.51
FO	40.72	2.93
BHGO – Gas Oil	42.57	2.97
PSA Off Gas	46.6	0.94
Bio-Gas	20	1.22 tonnes
Refinery gas / Fuel gas	46.6	0.94
Coke (FCC coke)	30.24	3064.56 tonnes
Naptha	45.47	2.51
BHAG (Bombay High Associated Gas)	46.6	0.94
LNG	48.38	1.24

The conversion factor used for Electricity for converting kWh to GJ is 0.0036.

Annexure 2B

Water Calculation Quantification Methodology

Calculating the water intake at BPCL is done through various methodologies such as through water meters, tank capacity/calculations etc.

Annexure 3:

Hazardous and Non-Hazardous Waste Breakup

The modes of disposal for the below-mentioned hazardous wastes are mentioned on page no. 134

Hazardous waste	Refineries	
	UoM	Quantity
Alumina Balls	Metric Tonne	8.64
Batteries/Electronic Waste	Metric Tonne	272.38
Drums/Tins	Metric Tonne	0.00
ETP Chemical Sludge	Metric Tonne	53.40
FCC Catalyst Fines	Metric Tonne	55.00
Hazardous waste transported out of your premises during the reporting period	Metric Tonne	13522.50
Hazardous waste treated by bio-remediation	Metric Tonne	559.60
Lubes Additives	Metric Tonne	0.00
Oily Sludge	Metric Tonne	27.60
Reformer Tube Catalyst R 67 N HGU	Metric Tonne	0.00
Spent Catalyst (Includes Tk 576 BRIM Catalyst)	Metric Tonne	595.53
Spent Catalyst (Recycled And Reused)	Metric Tonne	766.35
Spent Charcoal	Metric Tonne	21.80
Spent Clay	Metric Tonne	41.11
Spent Coke	Metric Tonne	0.00
Spent Molecular Sieves	Metric Tonne	0.00
Spent Resin	Metric Tonne	53.77
Sulfur Guard N HGU	Metric Tonne	0.00
Waste Bituminous Oil	Kilolitres	0.00
Waste Transformer Oil	Metric Tonne	47.52

Non-Hazardous Waste	Refineries	
	UoM	Quantity
Drums/Tins	Metric Tonne	188.22
Ferrous Scrap	Thousand Metric Tonne	11.02
Non Ferrous Scrap	Metric Tonne	236.65
Tyres	Metric Tonne	5.81
Wooden Scrap	Metric Tonne	346.09

Retail

Hazardous Waste	UoM	Quantity
Batteries	Number	111
Damaged/Used Hose	Metric Tonne	43.49
Sludge	Metric Tonne	151.98
Paper Gasket	Metric Tonne	28.69
Used Hand Glove	Metric Tonne	0.35
Drums/Tins	Metric Tonne	0.79
Used Additive Barrels	Metric Tonne	11.44
Scrap Cable	Metric Tonne	5.74
Used Oil	Kilolitres	16.41
Additive Containers	Tonnes	1.69

Retail

Non-Hazardous Waste	UoM	Quantity
Ferrous Scrap	Metric Tonne	172.24
Wooden Scrap	Metric Tonne	3.63
Tyres	Number	18
Saw Dust	Metric Tonne	0.13
Ferrous Scrap	Metric Tonne	6.9
Kitchen Waste	Metric Tonne	53.22
Drums/Tins	Metric Tonne	2.27
Filters	Number	873
Seal Wire	Metric Tonne	4.18
Plastic Seals	Metric Tonne	4.88

Lubricants

Hazardous Waste	UoM	Quantity
Used Cotton Waste	Metric Tonne	14.01
Empty Containers	Metric Tonne	182.35
Used Additive Barrels	Metric Tonne	2.27
MS Scrap Barrels (Heavy /Light Weight)	Number	41700
Ows Sludge	Metric Tonne	2.16
HDPE Scrap Containers	Metric Tonne	12.51
Slop Generated	Metric Tonne	1447.65
HDPE Scrap Barrels	Metric Tonne	1.4
Market Returned Product	Metric Tonne	2.91

Lubricants

Non-Hazardous Waste	UoM	Quantity
Tyres	Number	36
Saw Dust	Metric Tonne	3.73
Kitchen Waste	Metric Tonne	8.7
Plastic Scrap	Metric Tonne	10.98

Aviation

Hazardous Waste	UoM	Quantity
Drums/Tins	Kilogram	4

Aviation

Non-Hazardous Waste	UoM	Quantity
Ferrous Scrap	Kilogram	660
Tyres	Number	128
Non-Ferrous Scrap	Kilogram	120
Drums/Tins	Kilogram	70
Filters	Number	1386
Solid Waste (Disposed Through Municipal Lorry)	Kilogram	640
Wooden Scrap	Kilogram	60

LPG

Hazardous Waste	UoM	Quantity
Batteries	Number	114
Damaged Delrin Caps	Metric Tonne	212.89
Paint Residue/Sludge	Metric Tonne	8.89
Scrap Paint Drums 20 Lit.	Number	30181
Scrap Rubber O Ring	Metric Tonne	495.56
Used Cotton Waste	Metric Tonne	4.07
White /Black / Scrap Plastic	Metric Tonne	5.87
Scrap Empty Soap Drums	Number	4514
Used Hand Gloves	Number	85301
Primer Sludge	Metric Tonne	19.64
Used Filters	Number	368
SC Valve Scrap	Number in Thousand	3326.60
Oil & Grease Barrels	Number	215
Defective DPR	Number in Thousand	1094.28
Drums/Tins	Metric Tonne	3.59
Hazardous waste transported out of your premises during the reporting period	Metric Tonne	1.23
Damaged or Defective Loading and Unloading Hoses	Number	114
Used Additive Barrel- BCG	Metric Tonne	3.99
Used / Scrapped Crushed LPG Cylinders	Metric Tonne	3865.65
Paper Gasket	Kilogram	0.18
Hazardous waste treated by bio-remediation	Kilogram	0

LPG		
Non-Hazardous Waste	UoM	Quantity
Ferrous Scrap	Metric Tonne	501.1
Used Oil	Metric Tonne	13.36
Tyres	Number	111
Wooden Scrap	Metric Tonne	24.1
Non-Ferrous Scrap	Metric Tonne	74.55
Drums/Tins	Metric Tonne	48.03

Aviation		
Aviation	Management	Non-Management
Safety Committee:	96	96

Pipeline		
Pipeline	Management	Non-Management
Safety Committee:	111	13

Annexure 4

Employee Representation

The Joint Management Worker Health and Safety Committee represents 100% of workers whose work or workplace is controlled by the Organisation.

Refineries		
Refineries	Management	Non-Management
Management Health Safety Security Environment Committee (MHSSEC) Committee	50	0
Joint Health Safety Security Environment Committee (JHSSEC) Committee	19	12
Joint Safety Committee Including Contract Labour Committee	19	12

Retail		
Retail	Management	Non-Management
Plant Safety Committee:	366	360

LPG		
LPG	Management	Non-Management
Safety Committee:	268	260
Quality Circle Committee:	194	238

Lubricants		
Lubricants	Management	Non-Management
Safety Committee:	43	41
Management Safety Committee:	26	0
Quality Circle Committee:	23	39

Annexure 5

Stakeholder Engagement and Materiality

List of Stakeholders taken into consideration		
Employees	Shareholders	Academia
Customers	Government and Regulators	Competitors
Dealers and Distributors	Suppliers	Research Centers
NGO's	Local Communities	Ex-Employees
Civil Society	Media	

Annexure 6

BPCL's Policies

I. Health, Safety and Environment Policy of BPCL

Commitment:

BPCL's Sustainability Policy validates our concern and commitment for protecting the health and safety of all employees, contractors, customers and the communities in which we operate and for conservation of environment.

- We comply with all Statutory Regulations and may even go beyond these for the benefit of our environment.
- We consider Health, Safety and Environmental aspects are an integral part of our business planning and operation processes.

Policy:

Based on these guiding principles, we shall:

Demonstrate our commitment by

- Providing and maintaining safe facilities and working conditions.
- Recognising that all employees have responsibility for their own safety and actions which could affect the safety of others.
- Adoption of appropriate technologies to minimise the impact of our activities on the Environment.

Establish clear objectives and targets to

- Improve continuously for prevention of accidents & occupational illnesses and minimising any impact of our activities on the environment.
- Promote learning through training and sharing of experiences and best practices; including with contractors, customers and the public, wherever required.
- Inculcate values and attitudes conducive to achieve excellence in Health, Safety and Environmental performance.

Provide means to achieve our mission by

- Assigning clear roles and responsibilities at all levels and periodically reviewing and recognising contribution to HSE objectives.
- Allocating adequate resources.
- Fostering a spirit of participation by all employees in Health, Safety and Environmental conservation efforts.
- Creating appropriate forums for deliberations on Health, Safety and Environmental issues.

Monitor performance by

- Periodically auditing work processes, systems & practices and promptly correcting deficiencies.
- Incorporating HSE performance as a parameter for assessing the overall performance of Employees, Business Units, Contractors and Business Associates.

II. Security Policy of BPCL

Commitment:

- We have the highest concern for the Security of human lives and Corporation's properties, goods and services.
- We also commit ourselves to be alert and responsible to prevent theft, misuse, loss, damage, pilferage and sabotage of any nature which will hamper our business interests / continuity.

Policy:

Commensurate with this commitment, we shall:

- Adhere to security rules, regulations and laws of the land.
- Provide effective and proactive measures for Physical and Internal Security as explained in the Security Manual – at all Refineries and Marketing establishments.
- Keep ourselves in readiness to meet all emergency situations by appropriate action plans.
- Actively participate in implementation of security measures to combat external threats.
- Reinforce the security set up by providing regular trainings and up gradation of facilities.
- Monitor effectiveness of security measures by surprise checks, mock drills and take corrective actions.

III. Corporate Sustainable Development Policy

Together, we strive for Sustainable Developments in line with National Policy and comply the related regulatory norms to conserve and sustain the natural, social and biodiversity asset ecosystem as an integral element of our Business.

Guiding Principles:

- Integrate sustainability parameters into Business Plans and processes so as to enhance environment aspects in course of our operations as appropriate.
- Aspire to go beyond compliance and other regulatory requirements to achieve Sustainability core of business goals/objectives.
- Enrolling all stake holders to take Sustainable Development as share responsibility.

Commitment:

- Achieve continual improvements in the areas of air, water and soil pollution.
- Adoption of cleaner technologies and modern operational practices including recycling, recovery reuse and their disposal procedures and standards at workplaces.
- Review and report sustainable developments every year and strive for continuous improvements and in the process enroll our targets Business Partners for sustainability and help them to develop and implement their own sustainability initiatives.
- Monitor impact of our Business activities on the neighborhood in terms of social and social economic aspects on sustainable basis.

Provide means to achieve our Objectives and Targets:

- Assigning clear roles and responsibilities at all levels and periodically review and recognize contribution to the sustainability objectives.
- Allocating adequate resources.
- Periodically review the performance and take prompt action.
- Fostering a spirit of participation amongst all internal and external stakeholders.
- Creating appropriate forums for deliberations.

Glossary

AFS	Aviation Fuelling Station
API	American Petroleum Institute
ASSOCHAM	Associate Chambers of Commerce and Industry
ATF	Aviation Turbine Fuel
BMCG	Bharat Metal Cutting Gas
BPCL	Bharat Petroleum Corporation Limited
BPLC	Bharat Petroleum Learning Centre
BPRL	Bharat Petro Resources Ltd
BREL	Bharat Renewable Energy Limited
BRR	Business Responsibility Report
CAL	Computer Assisted Learning
CDU	Crude Distillation Unit
CFC	Chlorofluorocarbon
CII	Confederation of Indian Industry
C&MD	Chairman and Managing Director
CSR	Corporate Social Responsibility
CREP	Corporate Responsibility for Environment Protection
COCO	Company Owned Company Operated
CPO	Central Procurement Offices
CUBE	Customer Understanding for Business Excellence
DPE	Department of Public Enterprises
DEP	Directorate of Public Enterprises
E&P	Engineering & Projects
ED	Executive Director
ERP	Enterprise Resource Planning
ESE	Employee Satisfaction Enhancement
ETP	Effluent Treatment Plant
EEL	Energy Efficient Lighting
FICCI	Federation of Indian Chambers of Commerce and Industry
FO	Fuel Oil
GHG	Green House Gas
GJ	GigaJoule
GRI	Global Reporting Initiative
HSD	High Speed Diesel
HSE	Health, Safety and Environment
HSSE	Health, Safety, Security and Environment

IOCL	Indian Oil Corporation Limited
IPIECA	International Petroleum Industry Environmental Conservation Association
IREP	Integrated Refinery Expansion Project
ISAE	International Standard on Assurance Engagements
I&C	Industrial & Commercial
JV	Joint Venture
KL	Kilo Litre
KR	Kochi Refinery
LED	Light Emitting Diode
LPG	Liquefied Petroleum Gas
MBTU	Million British Thermal Unit
MMTPA	Million Metric Tonnes per Annum
MMTKM	Million Metric Tonnes Kilometer
MoP&NG	Ministry of Petroleum and Natural Gas
MOU	Memorandum of Understanding
MR	Mumbai Refinery
MS	MS Motor Spirit
MSE	Micro and Small Enterprises
MRT	Manglia Receipt Terminal
NGO	Non-Governmental Organisation
NVG	National Voluntary Guidelines
ODS	Ozone Depleting Substance
PPM	Parts Per Million
PRISM	Performance Related Incentive Scheme for Management Staff
PMPR	Preparedness, Mitigation, Planning and Restoration
PMUY	Pradhan Mantri Ujjwala Yojana
PSU	Public Sector Undertaking
R&D	Research and Development
RBI	Risk based Investigations
RLNG	Regasified Liquefied Natural Gas
RWH	Rainwater Harvesting
SBU	Strategic Business Unit
STP	Sewage Treatment Plant
SEBI	Securities and Exchange Board of India
SME	Small and Medium Enterprises
SRU	Sulphur Recovery Unit
VTS	Vehicle Tracking System

Acknowledgement



We present to you the 13th Annual Sustainable Development Report of BPCL. This report is based on the triple bottom line approach of BPCL and has been developed in accordance with the GRI Standards. The Corporate HSSE team has put together its sincere efforts to develop the report. We are grateful towards our stakeholders, both internal and external for their valuable feedback/suggestions and constant support throughout the development of this report.

BPCL operates in an extensively resource consuming sector. The high energy and resource requirements make it cardinal for us to ensure that sustainability is embedded in the core of all our Operations. Our focus is on reducing the negative impact on the environment caused due to our Operations. We have been taking initiatives to increase the operational efficiency, enhance energy efficiency, improving process, adopting newer technologies, reduce the consumption of resources, manage waste (hazardous and non-hazardous). We also focus on creating a healthy and safe working environment. We create value for our stakeholders by following good governance practices, improving on our disclosures and engaging with our them.

It would be a pleasure to receive any suggestions and feedback from the readers on our report.

Corporate HSSE Team
Bharat Petroleum Corporation Limited

GRI CONTENT INDEX

GRI Standards	GRI Content Index		
	Disclosure	Page No.	Omissions
GRI 102: General Disclosures 2016	102-1 Name of the Organization	12	this disclosure cannot be omitted
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	102-3 Location of headquarters	15	this disclosure cannot be omitted
	102-4 Location of Operations	16,26,27	this disclosure cannot be omitted
	102-5 Ownership and legal form	16	this disclosure cannot be omitted
	102-6 Markets served	18,27	this disclosure cannot be omitted
	102-7 Scale of the organization	16,50,60,61, 62,92	this disclosure cannot be omitted
	102-8 Information on employees and other workers	12,92,93	this disclosure cannot be omitted
	102-9 Supply chain	18,26,107,108	this disclosure cannot be omitted
	102-10 Significant changes to the organization and its supply chain	13	this disclosure cannot be omitted
	102-11 Precautionary Principle or approach	41-45,110,116, 119	this disclosure cannot be omitted
	102-12 External initiatives	12,116,119	this disclosure cannot be omitted
	102-13 Membership of associations	36	this disclosure cannot be omitted
	102-14 Statement from senior decision maker	6	this disclosure cannot be omitted
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	102-16 Values, principles, standards, and norms of behaviour	29	this disclosure cannot be omitted
	102-17 Mechanisms for advice and concerns about ethics	37	this disclosure cannot be omitted

102-18 Governance structure	32,33	this disclosure cannot be omitted
102-19 Delegating authority	33	this disclosure cannot be omitted
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102-29 Identifying and managing economic, environmental, and social impacts	33,48,52	this disclosure cannot be omitted
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102-31 Review of economic, environmental, and social topics	33,34	this disclosure cannot be omitted

102-32 Highest governance body's role in sustainability reporting	33,34	this disclosure cannot be omitted
102-33 Communicating critical concerns	37	this disclosure cannot be omitted
102-34 Nature and total number of critical concerns	37	this disclosure cannot be omitted
102-35 Remuneration policies	35	this disclosure cannot be omitted
102-36 Process for determining remuneration	35	this disclosure cannot be omitted
102-37 Stakeholders' involvement in remuneration	35	this disclosure cannot be omitted
102-38 Annual total compensation ratio	95	this disclosure cannot be omitted
102-39 Percentage increase in annual total compensation ratio	95	this disclosure cannot be omitted
102-40 List of stakeholder groups	49	this disclosure cannot be omitted
102-41 Collective bargaining agreements	98,99	this disclosure cannot be omitted
102-42 Identifying and selecting stakeholders	49,51	this disclosure cannot be omitted
102-43 Approach to stakeholder engagement	49,51	this disclosure cannot be omitted
102-44 Key topics and concerns raised	53	this disclosure cannot be omitted
102-45 Entities included in the consolidated financial statements	12,59-62	this disclosure cannot be omitted
102-46 Defining report content and topic Boundaries	12,48,51	this disclosure cannot be omitted
102-47 List of material topics	453	this disclosure cannot be omitted
102-48 Restatements of information	126,131	this disclosure cannot be omitted
102-49 Changes in reporting	12,53	this disclosure cannot be omitted

102-50 Reporting period	12	this disclosure cannot be omitted
102-51 Date of most recent report	12	this disclosure cannot be omitted
102-52 Reporting cycle	12	this disclosure cannot be omitted
102-53 Contact point for questions regarding the report	13	this disclosure cannot be omitted
102-54 Claims of reporting in accordance with the GRI Standards	12	this disclosure cannot be omitted
102-55 GRI content index	158	this disclosure cannot be omitted
102-56 External assurance		this disclosure cannot be omitted

GRI Content Index			
GRI Standards	Disclosure	Page No.	Omissions
GRI 103: Management Approach 2016	103-1,2,3 Management Approach	54-58	
GRI 201: Economic Performance 201	201-1 Direct economic value generated and distributed	62	
	201-2 Financial implications and other risks and opportunities due to climate change	44	
	201-3 Defined benefit plan obligations and other retirement plans	98	
	201-4 Financial assistance received from government	63	
GRI 103: Management Approach 2016	103-1,2,3 Management Approach	54-58	
GRI 202: Market	202-1 Ratios of standard entry level wage by gender compared to local minimum wage	12,95	
	Presence 2016	12,92, AR Pg No 6	

GRI 103: Management Approach 2016	103-1,2,3 Management Approach	54-58	
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	70-80	
	203-2 Significant indirect economic impacts	70-80,140	
GRI 103: Management Approach 2016	103-1,2,3 Management Approach	54-58	
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	104	
GRI 103: Management Approach 2016	103-1,2,3 Management Approach	54-58	
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	38	
	205-2 Communication and training about anti-corruption policies and procedures	39	
	205-3 Confirmed incidents of corruption and actions taken	39	
GRI 103: Management Approach 2016	103-1,2,3 Management Approach	54-58	
GRI 206- Anti-competitive Behaviour	206-1 Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices	37	
GRI 103: Management Approach 2016	103-1,2,3 Management Approach	54-58	
GRI 301: Materials	301-1 Materials used by weight or volume	145	
	301-2 Recycled input materials used	134	
	301-3 Reclaimed products and their packaging materials	134	
GRI 103: Management Approach 2016	103-1,2,3 Management Approach	54-58	

GRI 302: Energy 2016	302-1 Energy consumption within the organization	117,120	
	302-2 Energy consumption outside of the organization	123	
	302-3 Energy intensity	123	
	302-4 Reduction of energy consumption	120,121	
	302-5 Reductions in energy requirements of products and services		Due to the nature of the product this indicator is not applicable
GRI 103: Management Approach 2016	103-1,2,3 Management Approach	54-58	
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	132	
	303-2 Management of water discharge-related impacts	132	
	303-3 Water withdrawal by source - 2018	132,133	
	303-4 Water Discharge	133	
	303-5 Water Consumption	133	
GRI 103: Management Approach 2016	103-1,2,3 Management Approach	54-58	
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	130,148	
	305-2 Energy indirect (Scope 2) GHG emissions	130,148	
	305-3 Other indirect (Scope 3) GHG emissions	131,148	
	305-4 GHG emissions intensity	131	
	305-5 Reduction of GHG emissions	3,117	
	305-6 Emissions of ozone-depleting substances (ODS)	131	
	305-7 Nitrogen oxides (NOX), sulphur oxides (SOX), and other significant air emissions	131	
GRI 103: Management Approach 2016	103-1,2,3 Management Approach	54-58	

GRI 306: Effluents and Wastes 2016	306-1 Water discharge by quality and destination	132	
	306-2 Waste by type and disposal method	134,149	
	306-3 Significant spills	134	
	306-4 Transport of hazardous waste	134	
	306-5 Water bodies affected by water discharges and/or runoff	134	
GRI 103: Management Approach 2016	103-1,2,3 Management Approach	54-58	
GRI 307: Environmental Compliance 2016	307-1 Non-compliance with environmental laws and regulations	134	
GRI 103: Management Approach 2016	103-1,2,3 Management Approach	54-58	
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	92,93	The rates for new employee hires and employee turnover by age and region is not reported
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	12,96	
	401-3 Parental leave	93	
GRI 103: Management Approach 2016	103-1,2,3 Management Approach	54-58	
GRI 402- Labor/Management 2016	402-1 Minimum notice periods regarding operational changes	99	
GRI 103: Management Approach 2016	103-1,2,3 Management Approach	54-58	
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	82,84,152	
	403-2 Hazard identification, risk assessment, and incident investigation	81-90	Gender-wise data is not collected
	403-3 Occupational health services	81-90	

GRI 403: Occupational Health and Safety 2018	403-4 Worker participation, consultation, and communication on occupational health and safety	81-90	
	403-5 Worker training on occupational health and safety	81-90	
	403-6 Promotion of worker health	82,83	
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	81-90	
	403-8 Workers covered by an occupational health and safety management system	81-90	
	403-9 Work-related injuries	85	
	403-10 Work-related ill health	84,85,86	
GRI 103: Management Approach 2016	103-1,2,3 Management Approach	54-58	54-58
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee		94
	404-2 Programs for upgrading employee skills and transition assistance programs		94
	404-3 Percentage of employees receiving regular performance and career development reviews		92
GRI 103: Management Approach 2016	103-1,2,3 Management Approach	54-58	
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	33,34,92,95	
	405-2 Ratio of basic salary and remuneration of women to men	95	

GRI 103: Management Approach 2016	103-1,2,3 Management Approach	54-58	
GRI 406: Non-discrimination 2016	406-1 Non-discrimination	33,34,99	
GRI 103: Management Approach 2016	103-1,2,3 Management Approach	54-58	
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	70-79	
	413-2 Operations with significant actual and potential negative impacts on local communities	71	
GRI 103: Management Approach 2016	103-1,2,3 Management Approach	54-58	
GRI 415- Public Policy 2016	415-1 Political contributions	61	
GRI 103: Management Approach 2016	103-1,2,3 Management Approach	54-58	
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	109	
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	109	
Sector Specific Indicators	OG2 Total amount invested in Renewable Energy	117	
	OG3 Total amount of Renewable Energy generated by source	117	
	OG13 Number of process safety events by business activity	103	
	OG14 Volume of biofuels produced and purchased meeting sustainability criteria	110	

IPIECA Indicators and GRI Standards

IPIECA Indicators			
Code	Name	GRI standards	Page No
Climate Change and Energy			
E1	Greenhouse gas emissions	305-1	130,148
		305-2	130,148
		305-3	131
		305-4	131
		305-5	3,117
E2	Energy use	302-1	117,120
		302-2	123
		302-3	123
		302-4	131
		302-5	Not Applicable
E3	Alternative energy sources	OG2	117
		OG3	117
		OG14	110
E4	Flared gas	306-2	AR pg no 135
Biodiversity and Ecosystem Services			
E5	Biodiversity and ecosystem services	304-1	Not a material topic
		304-2	Not a material topic
		304-3	Not a material topic
		304-4	Not a material topic
		306-5	Not a material topic
		304-1	Not a material topic
Water			
E6	Fresh water	303-1	132
		303-2	132
		303-3	132
E7	Discharges to water	306-1	132,133
		306-5	135

Local Environment Impact			
E8	Other air emissions	305-6	131
		305-7	131
E9	Spills to the environment	306-3	134
E10	Waste	301-2	134
		306-2	134,149
		306-4	134
E11	Decommissioning	102-4	16,26,27
Workforce Protection			
HS1	Workforce participation	403-1	82,84,152
		403-4	81-90
HS2	Workforce health	403-3	81-90
HS3	Occupational injury and illness	403-2	81-90
Product health, safety and environmental risks			
HS4	Product stewardship	416-1	109
		416-2	109
		417-1	Not a material topic
		417-2	Not a material topic
		102-2	18-27
		417-3	Not a material topic
Process Safety and Asset Integrity			
HS5	Process safety	403-2	81-90
Community and Society			
SE1	Local community impacts and engagement	413-1	70-80
		413-2	70-80
		103-2	54-58
		413-2	70-80
SE2	Indigenous Peoples	411-1	Not a material topic
		103-2	54-58
		413-1	70-80
SE3	Involuntary resettlement	413-2	70-80
		413-2	70-80
SE4	Social investment	201-1	62
		203-1	70-80
		203-2	70-80,140

Local Content			
SE5	Local content practices	204-1	104
SE6	Local hiring practices	202-2	12,92, AR pg no 6
		203-2	70-80,140
SE7	Local procurement and supplier development	204-1	104
Human Rights			
SE8	Human rights due diligence	412-3	Not a material topic
		412-2	Not a material topic
		406-1	33,34,99
		407-1	Not a material topic
		408-1	Not a material topic
		409-1	Not a material topic
SE9	Human rights and suppliers	412-1	Not a material topic
		407-1	Not a material topic
Business Ethics and Transparency			
SE9	Human rights and suppliers	408-1	Not a material topic
		414-1	Not a material topic
		414-2	Not a material topic
SE10	Security and human rights	410-1	Not a material topic
SE11	Preventing corruption	205-1	38
		205-2	38
		205-3	39
SE12	Preventing corruption involving business partners	205-1	38
		414-1	Not a material topic
		414-2	Not a material topic
SE13	Transparency of payments to host governments	201-1	62
		201-4	63
SE14	Public advocacy and lobbying	103-1	54-58
		103-2	54-58
		103-3	54-58
		415-1	Not a material topic

Labour Practices			
SE15	Workforce diversity and inclusion	401-1	92,93
		405-1	33,34,92,95
		405-2	95
SE16	Workforce engagement	202-1	12,95
		402-1	99
		403-4	81-90
SE17	Workforce training and development	404-1	94
		404-2	94
		404-3	92
SE18	Non-retaliation and grievance systems	103-2	54-58
		406-1	33,34,99
		414-2	Not a material topic

GRI Standards and SEBI BRR Framework Linkage

SEBI BRR Principle	GRI standards	Page No
Principle 1		
P1-1	GRI 102: General Disclosures; Disclosure 102-16	29
	GRI 103: Management Approach (used together with GRI 205: Anti-corruption); Disclosure 103-2	54-58
P1-2	GRI 102: General Disclosures; Disclosures 102-17 and 102-44	37,53
Principle 2		
P2-1	GRI 102: General Disclosures; Disclosure 102-2 (b)	18-27
P2-2	GRI 301: Materials; Disclosure 301-2	141
	GRI 302: Energy; Disclosures 302-4 and 302-5	120,121
	GRI 303: Water; Disclosure 303-3	132,133
P2-3	GRI 103: Management Approach (used together with GRI 204: Procurement Practices); Disclosure 103-2	54-58
	GRI 204: Procurement Practices; Disclosure 204-1	104
P2-4	GRI 103: Management Approach (used together with GRI 204: Procurement Practices); Disclosure 103-2	54-58,104
P2-4	GRI 103: Management Approach (used together with GRI 301: Materials and GRI 306: Effluents and Waste); Disclosure 103-2	54-8,145,132
	GRI 301: Materials; Disclosure 301-3 (a)	134
	GRI 306: Effluents and Waste; Disclosure 306-2	134,149
Principle 3		
P3-1	GRI 102: General Disclosures; Disclosure 102-7 (a-i)	16,50,60,61,62,92
P3-2	GRI 102: General Disclosures; Disclosure 102-8 (a and b)	12,92,93
P3-3	GRI 102: General Disclosures; Disclosure 102-8 (a)	12,92,93
P3-4	GRI 405: Diversity and Equal Opportunity; Disclosure 405-1 (b-iii)	33,34,92,95
P3-5	GRI 407: Freedom of Association and Collective Bargaining; Management approach disclosures	98
P3-6	Not covered in the GRI Standards.	
P3-7	GRI 103: Management Approach (used together with GRI 406: Non-discrimination, GRI 408: Child Labor, and GRI 409: Forced or Compulsory Labor); Disclosure 103-2 (c-vi)	33,34,99
	GRI 406: Non-discrimination; Disclosure 406-1 (a)	33,34,99

P3-8	GRI 404: Training and Education; Disclosures 404-2 (a) and 404-3	92,94
Principle 4		
P4-1	GRI 101: Foundation; Stakeholder Inclusiveness principle	47
	GRI 102: General Disclosures; Disclosures 102-40 and 102-42	41,49,51
P4-2	GRI 101: Foundation; Stakeholder Inclusiveness principle	41
	GRI 102: General Disclosures; Disclosures 102-40 and 102-42	41,49,51
P4-3	GRI 102: General Disclosures; Disclosure 102-43	49,51
	GRI 103: Management Approach (used together with GRI 411: Rights of Indigenous Peoples and GRI 413: Local Communities); Disclosure 103-2 (c-vii)	70-79
	GRI 413: Local Communities; Disclosure 413-1 (a-vi)	70-79
Principle 5		
P5-1	GRI 103: Management Approach (used together with GRI 406: Non-discrimination, GRI 407: Freedom of Association and Collective Bargaining, GRI 408: Child Labor, GRI 409: Forced or Compulsory Labor, GRI 410: Security Practices, GRI 411: Rights of Indigenous Peoples, and GRI 412: Human Rights Assessment); Disclosure 103-2 (c-i)	33,34,99
P5-2	GRI 103: Management Approach (used together with GRI 406: Non-discrimination, GRI 407: Freedom of Association and Collective Bargaining, GRI 408: Child Labor, GRI 409: Forced or Compulsory Labor, GRI 410: Security Practices, GRI 411: Rights of Indigenous Peoples, and GRI 412: Human Rights Assessment); Disclosure 103-2 (c-vi)	33,34,99
Principle 6		
P6-1	GRI 103: Management Approach (used together with GRI 301: Materials, GRI 302: Energy, GRI 303: Water, GRI 304: Biodiversity, GRI 305: Emissions, GRI 306: Effluents and Waste, and GRI 308: Supplier Environmental Assessment); Disclosure 103-2 (c-i)	117,120,130,134,145,148
P6-2	GRI 102: General Disclosures; Disclosures 102-14 and 102-15	6,41-45,116
	GRI 103: Management Approach, used together with GRI Standards in the 300 series (Environmental topics); Disclosure 103-2 (c-vii)	117,120,130,134,145,148
	GRI 201: Economic Performance; Disclosure 201-2	44
P6-3	GRI 102: General Disclosures; Disclosure 102-15	41-45,116
	GRI 103: Management Approach, used together with GRI Standards in the 300 series (Environmental topics); Disclosure 103-2 (c-vii)	117,120,130,134,145,148
	GRI 201: Economic Performance; Disclosure 201-2	117,120,130,134,145,148

P6-4	GRI 103: Management Approach (used together with GRI 307: Environmental Compliance); Disclosure 103-2 (c-ii and c-vii)	
P6-5	GRI 103: Management Approach (used together with GRI 301: Materials, GRI 302: Energy, GRI 303: Water, GRI 304: Biodiversity, GRI 305: Emissions, GRI 306: Effluents and Waste, and GRI 308: Supplier Environmental Assessment); Disclosure 103-2 (c-vii)	
P6-6	Not covered by the GRI Standards.	
P6-7	Not covered by the GRI Standards.	
Principle 7		
P7-1	GRI 102: General Disclosures; Disclosure 102-13	36
P7-2	GRI 415: Public Policy; Management approach disclosures	Not material for BPCL
Principle 8		
P8-1	GRI 103: Management Approach (used together with GRI 203: Indirect Economic Impacts and GRI 413: Local Communities); Disclosure 103-2 (c-vii)	70-80
P8-2	GRI 103: Management Approach (used together with GRI 203: Indirect Economic Impacts and GRI 413: Local Communities); Disclosure 103-2 (a)	70-80
P8-3	GRI 413: Local Communities; Disclosure 413-1 (a-i and a-ii)	70-80
P8-4	GRI 201: Economic Performance; Disclosure 201-1 (a-ii)	62
	GRI 203: Indirect Economic Impacts; Disclosure 203-1	70-80
P8-5	GRI 103: Management Approach (used together with GRI 203: Indirect Economic Impacts and GRI 413: Local Communities); Disclosure 103-3	70-80
Principle 9		
P9-1	GRI 103: Management Approach (used together with GRI 416: Customer Health and Safety, GRI 417: Marketing and Labeling, GRI 418: Customer Privacy, and GRI 419: Socioeconomic Compliance); Disclosure 103-2 (c-vi)	109
P9-2	GRI 103: Management Approach (used together with GRI 417: Marketing and Labeling); Disclosure 103-2 (c-ii)	54-58
	GRI 417: Marketing and Labeling; Disclosure 417-1	Not a material topic
P9-3	GRI 206: Anti-competitive Behavior; Disclosure 206-1	37
	GRI 417: Marketing and Labeling; Disclosures 417-2 and 417-3	Not a material topic
P9-4	GRI 102: General Disclosures; Disclosure 102-43	49,51



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Independent Limited Assurance Statement to Bharat Petroleum Corporation Limited on its Sustainability Report for Financial Year 2018-19

To the Management of Bharat Petroleum Corporation Limited, Bharat Bhawan, Currimbhoy Road, Ballard Estate, Mumbai 400001.

Introduction

Bharat Petroleum Corporation Limited ('BPCL' or 'The Company') has requested KPMG (Registered) in India ('KPMG', or We) to provide an independent assurance on its Sustainability Report for the FY 2018-19 ('the Report'). The Company's management is responsible for identifying its material topics, engaging with its stakeholders and developing the content of the Report. KPMG's responsibility is to provide limited assurance on the Report as described in the scope of assurance.

Reporting Criteria

BPCL applies sustainability reporting criteria derived from the following:

- Global Reporting Initiative (GRI) Standards 'in accordance – Comprehensive' option including the GRI G4 Oil & Gas sector disclosures.
- International Petroleum Industry Environmental Conservation Association and the American Petroleum Institute's Oil and Gas Industry Guidance on Voluntary Sustainability Reporting (2010) (API/PIECA/OGP).
- National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Businesses in India, issued by the Ministry of Corporate Affairs, Government of India.

Assurance Standards Used

We conducted our assurance in accordance with

- Limited Assurance requirements of International Federation of Accountants' (IFAC) International Standard on Assurance Engagement (ISAE) 3000 (revised), Assurance Engagements Other than Audits or Reviews of Historical Financial Information,
 - Under this standard, we have reviewed the information presented in the report against the characteristics of relevance, completeness, reliability, neutrality and understandability.
- Type 2, Moderate level assurance requirements of AA1000AS (AccountAbility 1000 Assurance Standard) (2008):
 - Under this standard, we have reviewed the nature and extent of adherence to the AA1000AS Principles and the quality of publicly disclosed information as part of the report limited to performance indicators/information required by GRI Standards.

Scope, Boundary and Limitations

The scope of assurance covers the sustainability disclosures of BPCL for the period 01 April 2018 to 31 March 2019 limited to the disclosures as mentioned in the table below.

The boundary of the report covers the economic, environmental and social performance of BPCL's operations in India. This comprises of its seven Business Units and Pipeline Entity. The directly controlled seven Strategic Business Units (SBUs) operating in India are Refineries (Mumbai and Kochi), Retail, Lubricants, Industrial and Commercial, LPG, Aviation and Gas as outlined in the 'About this Report' section of the Report.



We have carried out assurance visits to the following sites on sample basis:

- Refineries: Kochi, Mumbai.
- LPG: Uran, Bangalore and Lucknow bottling plants
- Lubricants: Budge Budge.
- Retail: Devangunthi SBU, Manglia SBU, Rewari SBU.
- Aviation: Delhi.
- Pipeline: Manglia.
- Corporate Office: Mumbai.

Our assurance process was subject to the following limitations:

- Verification of claims was limited to data and information presented in the Report for the period 01 April 2018 to 31 March 2019.
- Any statement/ remarks/ comments indicating intention, opinion, belief and/ or aspiration by BPCL were excluded from the scope of assurance.
- Determine which, if any, recommendations should be implemented.
- The Assurance Statement does not include verification of financial performance indicators/information that was sourced from BPCL's FY 2018-19 Annual Report.

The scope of assurance was limited to the following disclosures based on the materiality assessment conducted by BPCL as per the GRI Standards.

General Disclosures
<ul style="list-style-type: none"> • Organizational Profile: 102-8 • Strategy: 102-14 • Ethics and Integrity: 102-16 • Governance: 102-18, 102-23, 102-26 • Stakeholder Engagement: 102-40 to 102-43 • Reporting Practice: 102-45 to 102-47, 102-54
Management Approach
<ul style="list-style-type: none"> • 103-1 to 103-3
Specific Disclosures
<ul style="list-style-type: none"> • Economic <ul style="list-style-type: none"> ○ Economic Performance: 201-2 ○ Anti-corruption: 205-1, 205-2 ○ Anti-competitive Behaviour: 206-1 • Environmental <ul style="list-style-type: none"> ○ Materials: 301-1, 301-2 ○ Energy: 302-1, 302-3, 302-4 ○ Water: 303-3 to 303-5 ○ Emissions: 305-1, 305-2, 305-3, 305-4, 305-6, 305-7 ○ Effluents and Waste: 306-1 to 306-5 • Social <ul style="list-style-type: none"> ○ Employment: 401-1 to 401-3 ○ Labor/Management Relations: 402-1 ○ Occupational Health and Safety: 403-1, 403-2, 403-9 ○ Training and Education: 404-1 to 404-3 ○ Local communities: 413-1 to 413-2 ○ Socio Economic Compliance: 419-1



Oil and Gas Sector Disclosures
<ul style="list-style-type: none"> • Renewable energy <ul style="list-style-type: none"> ○ Total amount invested in Renewable Energy: OG2 ○ Total amount of Renewable Energy generated by source: OG3

Assurance procedures

Our assurance processes involve performing procedures to obtain evidence about the reliability of specified disclosures. The nature, timing and extent of procedures selected depend on our judgment, including the assessment of risks of material misstatement of disclosures whether due to fraud or error. In making those risk assessments, we have considered internal controls relevant to the preparation of the Report in order to design assurance procedures that are appropriate in the circumstances. The procedures performed in a limited assurance engagement are less in extent than for a reasonable assurance engagement.

Our assurance procedures also included:

- Assessment of BPCL's reporting procedures for sustainability reporting regarding their consistency with the application of GRI Standards.
- Evaluating the appropriateness of the quantification methods used to arrive at the data presented in the Report.
- Verification of systems and procedures used for quantification, collation, and analysis of sustainability disclosures included in the Report.
- Understanding the appropriateness of various assumptions, estimations and used by BPCL for data analysis.
- Discussions with the personnel responsible for the evaluation of competence required to ensure reliability of data and information presented in the Report.
- Assessment of the stakeholder engagement process through personal interviews and review of relevant documentation.
- Assessment of data reliability and accuracy.
- Verification of key performance data through site visits on an annual basis for
 - Testing reliability and accuracy of data on a sample basis.
 - Review of the processes deployed for collection, compilation, and reporting of sustainability disclosures at corporate and site level.

Appropriate documentary evidence was obtained to support our conclusions on the disclosures verified. Where such documentary evidence could not be collected due to confidentiality of the information, our team verified the same at BPCL's premises.

Conclusions

We have reviewed the Sustainability Report of BPCL. Based on our review and procedures performed as per the scope of work, nothing has come to our attention that causes us not to believe that the sustainability data and information presented in the Report is appropriately stated.

We have provided our observation to the company in a separate management letter. These, do not, however, affect our conclusions regarding the Report

As per AA1000AS 2008 Principles:

Principle of Inclusivity: BPCL has a stakeholder engagement process in place. The report fairly communicates the frequency and the mode of engagement with stakeholders - both internal and external, highlighting the outcomes of interactions and the Company's responses towards the same. The company may include disclosures on the actions taken within the organization along with the progress made for addressing the concerns and expectations of its stakeholders.



Principle of Materiality: BPCL periodically reviews its materiality process, prioritizing its sustainability focus areas, taking into account changing sustainability context and stakeholders' expectations. The Company may now plan to extend the materiality determination process to include its supply chain/ immediate suppliers.

Principle of Responsiveness: BPCL has processes and systems in place to achieve the responses it commits to its stakeholders. The Report may now disclose sustainability roadmap for BPCL highlighting progress on the sustainability goals and targets the Company has taken up internally to its stakeholders.

Reliability:

BPCL tracks the sustainability performance data across all its operations in India on a regular basis.

Independence

The assurance was conducted by a multidisciplinary team including professionals with suitable skills and experience in auditing environmental, social and economic information in line with the requirements of the ISAE 3000 (revised) standard. Our work was performed in conformance to the requirements of the IFAC Code of Ethics for Professional Accountants, which requires, among other requirements, that the members of the assurance team (practitioners) be independent of the assurance client, in relation to the scope of this assurance engagement, including not being involved in writing the Report. The Code also includes detailed requirements for practitioners regarding integrity, objectivity, professional competence and due care, confidentiality and professional behavior. KPMG has systems and processes in place to monitor compliance with the Code and to prevent conflicts regarding independence. The firm applies International Standard on Quality Control (ISQC) 1 and the practitioner complies with the applicable independence and other ethical requirements of the International Ethics Standards Board for Accountants (IESBA) code.

Responsibilities

BPCL is responsible for developing the Report contents. BPCL is also responsible for identification of material sustainability topics, establishing and maintaining appropriate performance management and internal control systems and derivation of performance data reported. This statement is made solely to the Management of BPCL in accordance with the terms of our engagement and as per scope of assurance. Our work has been undertaken so that we might state to BPCL those matters for which we have been engaged to state in this statement and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than BPCL for our work, for this report, or for the conclusions expressed in this independent assurance statement. The assurance engagement is based on the assumption that the data and information provided to us is complete and true. We expressly disclaim any liability or co-responsibility for any decision a person or entity would make based on this assurance statement.



Prathmesh Raichura
Executive Director
KPMG in India
06 November 2019





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