

MANAGEMENT DISCUSSION AND ANALYSIS REPORT

1. ECONOMIC SCENARIO & INDUSTRY ANALYSIS

FY 2020-21 was a turbulent year for global economy in general and oil and gas industry in particular. The Covid-19 pandemic became a globally shared phenomenon during the year with wide-ranging consequences and continued to have adverse impact on social, political and economic activities. The pandemic disrupted lives across all countries and communities and negatively affected global economic growth in 2020-21.

The Indian economy was also adversely impacted by this unprecedented health crisis in 2020-21. India's Gross Domestic Product (GDP) contracted by 7.3% in 2020-21, as per provisional National Income estimates compared to GDP growth of 4% prior to the Covid-19 pandemic in 2019-20. India's economic down slide during 2020-21 was sharper than other key economies due to strict and early lockdowns to control the spread of Covid-19. However, growth has continued to recover and India saw a V-shaped recovery as most consumption and industrial indicators were back in positive growth territory in the 2nd half.

Due to the impact of the pandemic, FY 2020-21 witnessed unprecedented volatility in crude oil and feedstock prices. Crude prices plummeted during the first quarter of 2020-21 with Brent crude oil touching a low of US\$18.5/bbl in April 2020 but recovered thereafter back to pre-pandemic levels to reach the level of \$65.4 per barrel in March 2021 as economies begin reopening amidst vaccine roll out and touched an average of US\$73 Uper barrel in June. Natural gas prices in 2020 remained low due to dampened economic activities impacting both production and consumption. US Henry Hub gas price averaged at US\$2.05/ MMBTU (compared to average of US\$2.57/MMBTU in CY 2019), the lowest annual average price in decades.

The oil and gas industry also witnessed significant demand contraction in the first half of the year due to pandemic-related lockdowns followed by a sharp recovery in economic activity and demand revival with fiscal stimulus in the second half. Global demand of petroleum and liquid fuels averaged 92.3 million barrels per day (bpd) for all of 2020, down by 8.6 million bpd from 2019. Fiscal stimulus packages provided by various countries, Vaccination drives against Covid-19 and relaxations in Pandemic related restrictions have seen recovery of economic activities in many countries. This will have positive impact on energy demand. According to EIA Short-term Energy outlook, consumption petroleum and liquid fuels is estimated to grow by 5.3 million bpd in 2021 and additional 3.7 million bpd in 2022 to 101.4 million bpd, which would surpass 2019 levels.

In India, while gasoline and diesel consumption declined 6.8% and 12% respectively, LPG registered positive growth at 4.8% during 2020-21 due to stay at-home restrictions. With airlines remaining shut for most of the year and yet to resume full-scale

operations, jet fuel (ATF) consumption was down 53.7%.

India is the world's third-largest consumer of oil after China and the United States. With continued growth in oil demand against falling domestic production, India has become more reliant on oil imports, which stood at 84.4% in 2020-21. At the same time, India's import bill for crude oil has decreased by 27% from USD 101.4 billion in 2019-20 to USD 62.7 billion in 2020-21.

The Government of India is deeply committed towards driving the country to become energy independent and reduce India's energy imports by 10% by 2022. To address this, India has been broadening its strategic partnerships through international bilateral investments and foreign direct investments in India in both the renewable and non-renewable energy sector to diversify the country's import sources. On the domestic front, the Government has created the Indian Strategic Petroleum Reserves (ISPRL) to build its strategic crude oil reserves. Till now, five rounds of bidding for exploration acreage under the Open Acreage Licensing Policy (OALP) and three rounds of bidding under the Discovered Small Fields (DSF) policy have been launched to attract investments in exploration and production of crude oil and natural gas. India is rapidly moving towards becoming one of the largest green energy producers in the world in pursuit of cleaner and greener energy to reduce the carbon footprint. While stepping up its climate change commitments, India has entered into partnership with the US to deploy 450 gigawatts of renewable power to meet the ambitious 2030 target for climate action and clean energy.

A lot of emphasis is being put to make Natural Gas as the ideal transition fuel in the energy mix for the foreseeable future. In this direction, the Government has set a target of raising the share of natural gas in primary energy basket to 15 per cent by 2030 with strong demand from Fertilizer, Power, Refining, City Gas Distribution and other industrial sectors.

Going ahead, the Covid-19 pandemic may have an extended impact, but this would bring opportunities as well as challenges for the oil and gas industry. Government has already initiated various measures to boost the economy including direct benefit transfer, increased allocations to key sectors like infrastructure, agriculture, MSMEs, reduction in Repo rates etc. which will help recalibrating India's growth strategy. While oil and gas players will benefit from such macro-economic initiatives in the post Covid-19 scenario, at the micro level, the challenges could be tough and may require companies to make bold choices to minimize the impact of the pandemic through Cost optimization, contract renegotiations and redefining long-term strategy. The strategies which Oil & Gas companies formulate in the coming days and the choices they make, will decide the path forward to the new energy future.

2. OPPORTUNITIES AND THREATS/RISKS AND CONCERNS

It is an undeniable fact that Covid-19 pandemic has brought in huge uncertainties and adversities on various sectors. The macro-economic factors that caused a slowdown in FY 2019-20 continued in FY 2020-21, with the first quarter of 2020-21 completely dominated by the pandemic and the consequent lockdowns. Volatility in oil and gas prices and lower interest rates impacted the Company's balance sheet by adversely affecting revenue, dividends and other incomes from various domestic and overseas projects. Despite volatility in economic environment, the Company strives to improve, evolve and grow consistently, contributing to energy security of the country.

The Company's stronghold on Assam Arakan Basin in NorthEast India provides a strong opportunity for its growth. The Company's strategy is to strengthen its position in the North-East and Rajasthan and also venture into Category II & III basins. As a result, the Company has been able to increase its acreage position substantially. The Company, through Govt. of India's Open Acreage Licensing Policy (OALP) and Discovered Small Fields (DSF) under Hydrocarbon Exploration Licensing Policy (HELP), acquired 25 Exploration Blocks and 2 DSF Blocks which will further strengthen E&P activities of the Company. The Company has become the first operator to commence the exploration activities in OALP blocks for both 2D & 3D Seismic in Rajasthan and has completed Minimum Work Program of seismic acquisition in North Bank OALP block. The Company has completed committed seismic acquisition in 10 (Ten) OALP blocks and seismic acquisition is under progress in 8 (Eight) OALP blocks. The Company has also been awarded 4 Geographical areas under City Gas Distribution (CGD) bidding rounds in consortium with other companies. The Company is building on its strength in mature asset operatorship to achieve global performance on its core technical areas. Enhanced Oil Recovery (EOR) is another essential approach to ensure sustainable and growing production, especially when there is declining trend of current production profile within the understanding of fields under exploration.

The Company has been an integral part of India's journey and aspirations towards energy self-reliance. Over the past five decades, the Company has developed strong mature asset ownership and established an enviable reputation for good technical stewardship of its resources. It has also built a strong financial position and used this to establish international presence in key hydrocarbon prolific areas as well as presence across the hydrocarbon value chain.

3. SEGMENT-WISE / PRODUCT WISE PERFORMANCE

i. Crude Oil

During the year 2020-21, crude oil production was 2.964 MMT (inclusive of Company's share of 0.012 MMT from Kharsang JV and 0.015 MMT from Dirok JV) as against the production in the previous year (3.133 MMT). The crude oil sale was 2.872 MMT as compared to 3.055 MMT in the previous year.



Crude oil Storage tank at OIL's Field Headquarters

The reasons for shortfall in crude oil production in the current year are summarized as below:

- Less than planned production from old wells, mainly due to decline in production and rise in water cut of some wells.
- Less than planned contribution from workover wells.
- Less than planned contribution from drilling wells.
- Loss in crude oil production due to environmental factors like bandhs, blockades and local problems in OIL's operational areas. Also the effect of blowout at Baghjan Well No. 5 which resulted in protests/agitation by locals in Baghjan and other nearby OIL's operational areas, thereby affecting production operations. The total environmental loss (both direct and consequential) for the year was 72910 MT.
- Other factors that affected total crude oil production to certain extent is low upliftment of Natural Gas by the consumers, which have led to frequent shut-in of associated gas wells thereby affecting liquid production from those wells.

Further, most of the oilfields are highly matured (more than 25 years) and are in declining stage. Therefore maintaining the current level of production in present producing fields is a major challenge.

Increase in the crude oil production from the Main Producing Area (MPA) of Assam & Arunachal Pradesh is planned by way of drilling in Kumchai area, resuming production and drilling operation in Rohmorja and by adopting Extended Reach Drilling technology in Dibru-Saikhuwa National Park. Further, the Company has identified five thrust areas (Balimara, Lakwagaon, Baghjan, Kumchai in North East and Baghewala in Rajasthan) for fast tracking development activities. Further Company has awarded PEC of Digboi field to M/s HOEC on Revenue Sharing Model. Also Company has gone for extensive infrastructure development in its operational areas. Secondary Tank Farm at Madhuban was mechanically completed this year along with Gas Compressor Station at Makum.

Besides increased exploration and drilling activities, increase in crude production is also planned by implementing state of art technologies like Electrical Submersible Pump (ESP), Hydro fracturing, Gravel Pack jobs, Radial Drilling, Chemical water

Shut-off, Acidization, Electric Downhole heating etc. Few of these technologies are already being introduced and some are being continued in more nos. of wells and significant gain has been derived. Technologies like StimGun perforation, Side Tracking of old wells, Downhole heating cables etc. also help in enhancing production from the matured fields.

Enhanced Oil Recovery (EOR) is a medium to long term focus area, where a number of initiatives are being undertaken, to increase production. EOR Policy of Government of India will provide boost to the EOR projects. Actions have been initiated for implementation of following projects, which are in different phases:

- Polymer Flooding in Naharkatiya Field
- Carbonated Water Injection
- Action initiated for capturing, liquefaction, storage, transportation and pumping of CO₂.
- In the year 2018-19, Company successfully commissioned Cyclic Steam Stimulation (CSS) technology for enhancement of heavy oil production from Baghewala field for the first time in India which was implemented in another two wells in 2019-20. The CSS technology has significantly improved heavy oil production in Baghewala field. Two wells with Electric Downhole Heater (EDH) and artificial lift was completed successfully in Baghewala Field. Presently, the Company is producing a small volume of heavy crude oil (0.0089 MMT during 2020-21), which is being accounted into the total crude oil production of the Company.

ii. Natural Gas

During the year 2020-21, natural gas production was 2642 MMSCM (inclusive of 162 MMSCM as Company's share from Dirok JV) as against production of 2801 MMSCM in the previous year. The sale of natural gas was 2270 MMSCM against 2403 MMSCM in the previous year. The reasons for short fall in production in 2020-21 are summarized as below:

- Less production than the expected potential.
- Local problems/ bandh etc. frequently hampered day-to-day operations.

- Less than desired upliftment by external consumers

Considering Company's commitment for gas supply to its existing as well as new customers, action plans have been initiated for progressively building gas potential from Assam & AP region. A new Gas Compressor Station was completed in the last Quarter of Financial Year. Following infrastructural projects, including drilling of Non-Associated Gas [NAG] wells, work-over, building of pipeline infrastructure etc. are underway in pursuance of the above goal:

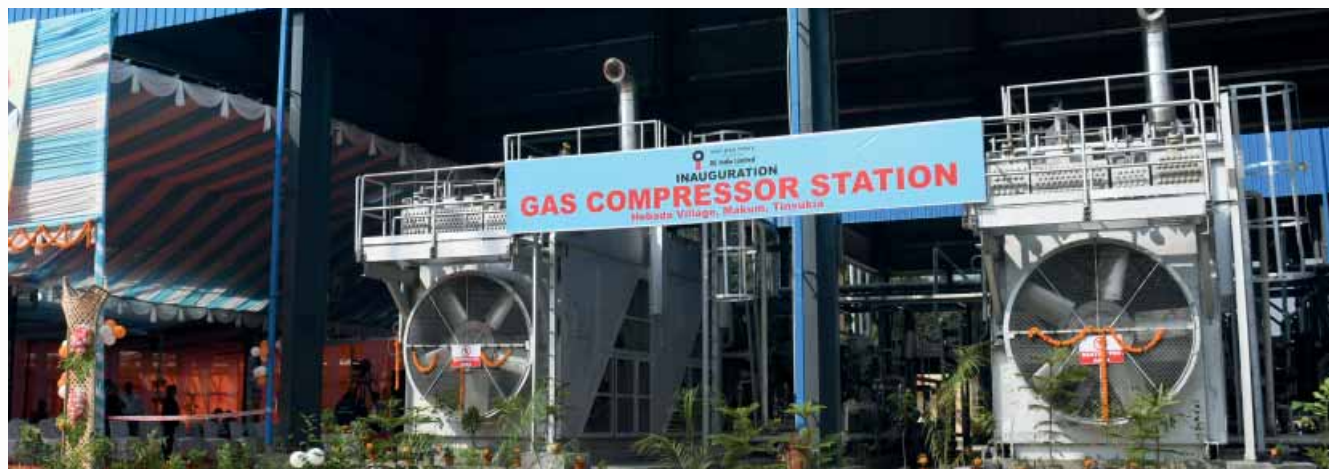
- Construction of a 40 Km Gas Pipeline from Baghjan to Central Gas Gathering Station
- Narpuh Sand Development Project - Drilling of few wells along with construction of Gas Transmission Pipeline from Barekuri field to Makum and to Central Gas Gathering Station
- A Group Gathering Station at east Khagorijan, along with pipeline infrastructure
- Field Gas Gathering Station (FGGS) at Baghjan

Upon completion, these are expected to give substantial gain in natural gas production potential of the Company.

In Rajasthan, produced gas is uplifted by GAIL for power generation at Rajasthan Rajya Vidyut Utpadan Nigam Ltd (RRVUNL). At present, the gas upliftment is to the tune of 0.5 to 0.6 MMSCMD, although the current gas potential is about 1.0 MMSCMD. The Company has obtained approval from MoP&NG for allocation of the additional gas in the month of November, 2019 and has initiated action for enhancing the capacity of the existing plant and doing necessary modification in the plant for supply of additional gas.

iii. Liquefied Petroleum Gas (LPG)

The availability of the LPG Recovery Plant was 99.23% and the plant efficiency in terms of butane recovery was 99.85% compared to the design figure of 98%. The plant processed an average of 1.85 MMSCMD (66.82 MMSCFD) gas with an average butane of 1.01% (v/v) in the feed gas in the FY 2020-21 as against 1.76 MMSCMD (63.32 MMSCFD) gas with an average butane of 1.09% (v/v) in feed gas processed in the previous year. The LPG



Gas Compressor Station in Makum, Tinsukia inaugurated by Hon'ble Prime Minister in February 2021

Recovery Plant was in operation for 359 days and 33,910 metric tons of LPG was produced during the year. Along with LPG, 19,795 tons of natural gas- condensate was also recovered as by-product. 19,771.88 MT of condensate was added to the crude oil production of the Company. LPG Filling Plant was in operation for 243 days. Total 34,076.9260 metric tons of LPG (packed in cylinders and road tankers) was delivered to the marketing agency, Indian Oil Corporation Ltd (IOCL).

Post commissioning of plant of Brahmaputra Cracker and Polymers Ltd (BCPL), the feed gas supply to LPG recovery plant has significantly reduced, which has resulted in reduction in turn down capacity of the plant. Currently, LPG Recovery Plant is running at a lesser capacity than usual. In addition to that, partial diversion of rich gas to BCPL (in order to make C2+ content >7% in the feed gas to BCPL) has resulted in supply of lean gas with less butane content (C4%) to LPG recovery plant, which has adversely impacted the production capacity.

Given this scenario, LPG plant has been running at about 80-85% of its total capacity due to quality and quantity issues of feed gas.

iv. Pipeline

The Company owns and operates 1,157 km long fully automated crude oil trunk pipeline between Naharkatia-Barauni. Along with other additional network, the Company operates total network of 1,243 km of crude oil pipeline. The Naharkatia-Barauni crude oil pipeline runs through the states of Assam, West Bengal and Bihar traversing hostile terrain, dense forests and cuts across 78 rivers including the mighty Brahmaputra. This pipeline has two segments. The 6.0 MMTPA capacity, 557 KM [401 km, 406 mm dia (16") from Duliajan to Guwahati + 156 km, 356 mm dia. (14") from Guwahati to Bongaigaon] long forward pumping segment transports crude oil produced from oilfields in Upper Assam to the public sector refineries at Numaligarh, Guwahati and Bongaigaon. The second segment 600 km long, 356 mm dia (14") between Bongaigaon and Barauni has been re-engineered to enable oil flow in either direction and is now transporting imported crude from Barauni to Bongaigaon, presently operating at capacity of 2.3 MMTPA with Drag Reducing Agent (DRA). In addition to above, 0.65 MMTPA of crude oil is transported from Duliajan to Digboi Refinery through 35 km pipeline. The Company also operates a 654.3 km

long pipeline for evacuation of total 1.72 MMTPA of products from Numaligarh Refinery to Siliguri Terminal in West Bengal.

The pumping stations of Naharkatiya-Barauni cross country pipelines have been operating continuously for over five decades. In 2012, it was decided to upgrade the pump stations and all receipt terminals by replacing 50 years old Mainline Pumping units along with Engine drives and auxiliary equipment's with new state of the art system to bring efficiency, enhanced safety and reliability of operations. The Phase-I of the project, covering 8 pumping stations and all receipt terminals was completed in November, 2017. The Phase-II of the Project for augmentation of pumping capacity of Barauni-Bongaigaon sector has been undertaken in the year 2016 in order to meet the additional requirement of imported crude oil to Bongaigaon Refinery (BGR) as well as Guwahati Refinery (GR) in view of declining trend of NER crude. Under Phase II project, three more pump stations shall be upgraded along with installation of additional facilities at other pumping station in Barauni - Bongaigaon sector.

In order to achieve the objective of continued safe and reliable operation and enhancing life of the trunk pipeline by about 30 years, the rehabilitation project of 575 Km of pipeline under Phase-I has been undertaken which includes complete refurbishment of pipeline coating, re-designing of cathodic protection system, mitigation of shorted cased crossings, recoating of buried Block valves, repair/replacement of shorted Insulating Joints, repair of defective Pipeline Sections. The project is undergoing at different sections of the pipeline at present.

4. FINANCIAL PERFORMANCE

During the year, the Company has earned total revenue of Rs. 10,561.45 crore as against Rs. 13,648.71 crore in the year 2019-20, registering a decrease of 22.62% over previous year. The Profit Before Tax (PBT) in the FY 2020-21 was Rs. 723.07 crore against PBT of Rs. 2,120.10 crore in the previous year. The Profit after Tax (PAT) was Rs. 1,741.59 crore in the year 2020-21 against Rs. 2,584.06 crore in the FY 2019-20.

During 2020-21, actual plan expenditure was Rs. 4,654.66 crore, which is 120% of the plan outlay of Rs. 3877.00 crore. The key financial ratios for the year 2020-21 & 2019-20 are as under:

Sl. No.	Particulars	FY 2020-21	FY 2019-20
1	Debtors Turnover	51.27	33.47
2	Inventory Turnover	4.96	2.53
3	Interest Coverage Ratio	2.45x	5.25x
4	Current Ratio	1.01	1.73
5	Debt Equity Ratio	0.64:1	0.38:1
6	Operating Profit Margin (%)	-8.95%	4.95%
7	Net Profit Margin (%) or sector specific equivalent ratios, as applicable	16.49%	18.93%

5. INTERNAL CONTROL SYSTEM

Internal Audit in the Company is a corporate and advisory function having independent status within the Company. The purpose of Internal Audit is to determine whether internal controls, risk management and governance process, as designed and implemented by management are adequate and effective. In this respect, the Audit & Ethics Committee and Board of Directors also supervise and monitor the systems at regular intervals to safeguard the interest of stakeholders.

It is a proactive methodology to control and mitigate Risk which is as per the "Audit Universe" covering all businesses and operational activities of the Company based on a risk based approach. The Company has digitized the Audit process and implemented online Audit System to ensure better control and friendly reporting of issues for early compliance by maintaining transparency in a paperless environment.

6. HEALTH, SAFETY AND ENVIRONMENT

The Company continually strives for tackling emerging HSE risks, identifying new solutions to problems and strengthening its benchmarked HSE parameters. Despite adversities like Covid-19 pandemic and the blowout in Well #5 at Baghjan, Assam, the Company emphasised on its core principals such as Inspection, Investigation and Enforcement of strategies supported with targeted goals to tackle identified HSE issues resulting in achievement of overall LTIF rate as 0.357.

In order to prevent blowouts in future, the Company carried out detailed deliberations, interactions, evaluations and brainstorming with in-house technical teams, domain experts from reputed National and International organisations and identified key focus areas which required further improvement. Accordingly, the Company undertook structural changes, reviewed and revised SOPs; strengthened existing Crisis Management Team with more technical staff and equipment, extended training programs such as Well control training, disaster drills to more engineers of Drilling/Production group etc. The Company will always stay true to its vision and be committed to Health, Safety, Environment of its people, the operating environment and all the stakeholders at large.

7. HUMAN RESOURCE

The objective of Human Resource Management (HRM) is to nurture an environment sustaining the positive culture and core values which continuously inspire employees to achieve excellence in all endeavors and maximize stakeholders' value. In the present scenario of competition and striving for excellence, human resource plays a pivotal role in an organization's success. The Company nurtures talent right from recruitment at entry level and develops talent through

training and mentoring, on the job learning, job rotations, exposure to challenging assignments, etc. The Company has introduced competency based HRM and 365 executives have been assessed through Assessment Development Centers in 2020-21 and individual development plans have been prepared to facilitate highly effective developmental interventions. The Company conducts customized level-based developmental programs in collaboration with IIMs and other leading management institutes for executives. During the year, 4538 employees were trained through courses organized online/in-house, 23 employees were trained through in-country programs and none were trained through overseas programs. The training needs of our employees during the year were met primarily by online modes due to the pandemic.

8. INDUSTRIAL RELATIONS

Harmonious and cordial relations were maintained with the employees. The Employees Union extended full co-operation and actively participated with the management in sorting out employees' problems and grievances. There was no man day's loss due to industrial relations problem during the year.

9. CORPORATE SOCIAL RESPONSIBILITY & SUSTAINABLE DEVELOPMENT

The Company engages directly with the local communities in its area of operation, identifies their needs and implements projects based on that. The company implements CSR projects under key thrust areas of Healthcare, Swachh Bharat Abhiyan (Drinking Water & Sanitation), Education, Skill Development, Women Empowerment, Sustainable Livelihood, Promotion of Rural Sports, Promotion of Art, Culture & Heritage and Environment sustainability, Relief & Rehabilitation etc. The company also responded to the national emergency, like the one posed by the deadly COVID19 pandemic which impacted lakhs of people across the country, by supporting the Government's efforts in fighting the same. Details of various activities undertaken by the company are given in the annexures to this report and also in the Business Responsibility Report forming part of this Annual Report. The Company also publishes a sustainability Report on CSR & Sustainability initiative which is available on Company's website. During the year under review, the CSR expenditure was Rs. 105.25 Crore against Rs. 49.12 Crore, which is 4.28% of the net profit of preceding three years of the company as per the Section 135 of the Companies Act 2013. Pursuant to the Section 135 of the Companies Act 2013, a responsibility statement of the CSR & SD Committee that the implementation & monitoring of the CSR Activities is in compliance to the CSR objectives and policy of the company is attached as a part of the Annual Report on CSR activities.

10. ENVIRONMENTAL PROTECTION AND CONSERVATION, RENEWABLE ENERGY DEVELOPMENTS AND FOREIGN EXCHANGE CONSERVATION

The activities pertaining to the Environmental Protection and Conservation, Technological Conservation, Renewable Energy Developments and Foreign Exchange Conservation are included in the Annexure to the Directors' Report.

11. ACREAGE

A. Domestic

i. Nomination Acreages

At present, the Company has 03 (three) nomination Petroleum Exploration Licenses (PEL) covering an area of about 331.75 sq.km and 25 (Twenty five) Petroleum Mining Leases (PML) covering an area of about 4804 sq km. These nomination blocks are in the states of Assam, Arunachal Pradesh and Rajasthan. During 2020-21, your Company has acquired 124.6 sqkm 3D seismic data and drilled 10 exploratory & 24 development wells in its nomination acreages.

ii. NELP Blocks

Your Company currently operates 04 (Four) NELP blocks covering an area of 3909 sq km in the states of Assam (2), Mizoram (1) and Andhra Pradesh (1) as on 31.03.2021. During 2020-21, your Company has drilled 2 exploratory wells in Mizoram NELP Block. Your Company has also started preparatory work to start drilling campaign in NELP Block AA-ONN-2010/2 and AA-ONN-2010/3 located in Assam.

iii. OALP & DSF Blocks

The Company has been awarded a total of 25 (twenty five) blocks under Open Acreage Licensing Policy (OALP) Round covering a total area of 48,796 sq. km. These acreages are in the States of Assam, Arunachal Pradesh, Tripura, Nagaland, Odisha, Rajasthan and offshore areas in Andaman and Kerala-Konkan. The Company has also been awarded 2(two) blocks, one each in Tripura (47.23 sq. Km) and KG Offshore (93.90 sq. Km), under Discovered Small Field Round-II.

During 2020-21, your Company has acquired 13103.3 LKM of 2D and 1979.5 sq.km 3D seismic data in OALP blocks.

iv. Areas under Pre-NELP JVs with OIL as Non-Operator

The Company is also a partner in 02 (Two) Pre-NELP JV blocks namely Kharsang PSC & Block AAP-ON-94/1 (Dirok) covering an area of 121 sq km in Assam & Arunachal Pradesh as non-operator. During 2020-21, Company's share of production from these two JVs assets were 26,576 MT of oil and 161.984 MMSCM of gas.

v. Areas under NELP with OIL as Non-Operator

The Company also holds 02 (Two) NELP blocks viz. WB-ONN-2005/4 & GK-OSN-2010/1 covering a total area of 5301 sq km in the state of West Bengal (Onshore) and Gujarat-Kutch offshore (Shallow Water) respectively as non-operator as on 31.03.2021. In the block WB-ONN-2005/4, 1(one) oil/gas discovery has been made during 2018-19 which has been put on production from last year. Further exploration in the block along with activities for appraisal and early development of the discovery is in progress. In the block GK-OSN-2010/1, two gas discoveries have been made. A comprehensive evaluation of commercial viability of the project through multi-disciplinary team is in progress.

B. Overseas

E & P Blocks, with PI/Operatorship

The status of the major developments in the Overseas blocks are as under: -

Overseas E & P Blocks with PI/Operatorship by OIL

The Company's overseas E & P portfolio as on 31st March 2021 is spread over 08 countries covering Russia, USA, Venezuela, Mozambique, Nigeria, Bangladesh, Libya and Gabon. The portfolio includes 5 (five) producing assets spread across Russia, USA & Venezuela, 2 (two) discovered and development assets in Mozambique and Nigeria and 4 (four) exploratory assets in Libya, Gabon, and Bangladesh. Block-32 in Israel has been relinquished w.e.f. 23.01.2021. The status of the major developments in the blocks is as under: -

a. Producing Assets

Vankorneft, Russia (Rosneft: 50.1%, OIL/IOCL/ BPRL: 23.9%, OVL: 26%)

The Company, along with IOCL and BPRL, has acquired 23.9% stake in JSC Vankorneft, Russia w.e.f 5th October 2016. The asset is held through an SPV Vankor India Pte. Ltd. incorporated jointly by wholly owned subsidiaries of the Company, IOCL and BPRL in Singapore.

As on 31.03.2021, the 2P reserve position corresponding to Company's Participating Interest in this asset has been estimated at 14.50 MMT of oil and 5.63 MMTOE of gas.

During 2020-21, Company's share of production in asset stood at 1.30 MMTOE. Cumulatively, as on 31.03.2021, an amount equivalent to USD 340.14 million has been received at the SPV level as dividend corresponding to Company's stake in the project.

Taas-Yuryakh: Russia

(Rosneft: 50.1%, OIL / IOCL/ BPRL: 29.9%, BP: 20%)

The Company along with IOCL and BPRL acquired 29.9% stake in LLC Taas-Yuryakh Neftegazodobycha (TYNGD), Russia w.e.f 5th October 2016. The asset is held through an SPV Taas India Pte. Ltd. incorporated jointly by wholly owned subsidiaries of the Company, IOCL and BPRL in Singapore.

TYNGD is a developing asset and has reached peak production level of 5 MMTPA.

As on 31.03.2021, the 2P reserve position corresponding to Company's participating interest in this asset has been estimated at 10.98 MMT of oil. During 2020-21, Company's share of production in asset stood at 0.74 MMTOE.

As on 31.03.2021, an amount equivalent to USD 179.30 million has been received at the SPV level as dividend corresponding to Company's stake in the project.

The Company's share of investment in the above two projects - Vankorneft and TYNGD is Rs. 7191.68 Crore (USD 1033.71 million) till 31st March 2021.

Russia: License 61

[OIL-50% and PetroNeft Resources Limited-50% (Operator)]

The Company acquired 50% share in License 61, Russia (Area: 4991sq km) on 3rd July 2014 from PetroNeft Resources Plc (PR). Till date, Lineynoye, West Lineynoye, Arbuzovskoye and Tungolskoye fields have been developed.

As on 31.03.2021, Company's share of 2P hydrocarbon reserve position in the asset is 6.23 MMT. During 2020-21, the Company's share of production in the asset stood at 0.037 MMT.

The Company's share of investment in this project is Rs. 646.92 crore (USD 94.07 million) as on 31.03.2021. The carrying value of investment stood at Rs. 53.63 Crore as on 31st March, 2021 post impairment.

USA: Liquid rich Shale Asset

[Verdad Resources Acquisitions LLC-60%; OIL-20%, IOCL-10%, Haimo Oil & Gas LLC- 10%]

The Company acquired twenty percent (20%) stake in Carrizo Oil & Gas Inc's ("Carrizo") shale assets in the Denver - Julesburg (D-J) Basin in Colorado, USA on 1st October 2012. The Company formed a wholly owned subsidiary in Texas, USA in the name of Oil India (USA), Inc. (OILUSA) which holds the stake and manages the asset. Subsequently, Carrizo sold its entire stake in the Niobrara Asset to Verdad Resources LLC w.e.f. 19th January 2018. As a result, Verdad became the new operator in the asset. Apart from participating in Carrizo/Verdad Operated wells, OILUSA has also participated in wells drilled by other operators in the region, namely, Noble Energy Inc., Whiting Oil and Gas Corporation, Mallard Exploration LLC, Bison Oil and Gas LLC and Axis Exploration LLC.

As on 31.03.2021, the 2P reserve position corresponding to OIL's participating interest in this asset has been estimated at 0.13 MMT of oil and 0.007 MMTOE of gas.

During 2020-21, Company's share of production in asset stood at 0.025 MMTOE. Company's share of investment in this project is Rs. 712.45 crore (USD 111.10 million) as on 31st March 2021. The carrying value of investment stood at Rs. 90.82 Crore as on 31st March 2021 post impairment.

Venezuela: Project Carabobo

[Corporation Venezuelan del Petroleo (CVP)-71%, INDOIL Netherlands BV 7% (IOCL-3.5%, OIL-3.5%), OVL-11%, Repsol YPF - 11%]

The consortium of Repsol (11%), OVL (11%) and INDOIL (7%) (together termed as Minority Shareholders (MSHs)) hold 29% share, and CVP (PdVSA's Subsidiary) hold remaining 71% share, in a Mixed Company called M/s Petrocarabobo SA (PCB). PCB is the operator of project Carabobo. The INDOIL share of 7% comprises of OIL (3.5%) and IOCL (3.5%). OIL and IOCL had formed a 50:50 JV company at Netherlands named INDOIL Netherlands B.V. (INDOIL) to invest in the project. The mixed company contract was signed on 12th May 2010 for a period of 25 years.

As on date, 76 wells have been drilled in the block. The Project owns and operates 30 KBD crude treatment plant. Currently, the project activities are delayed due to economic & political crisis in Venezuela.

As on 31.03.2021, the 2P reserve position corresponding to Company's Participating Interest in Project Carabobo has been estimated at 0.23 MMT. During 2020-21, Company's share of production in asset stood at 0.005 MMT. Company's share of investment in this project was Rs. 299.29 Crore (USD 59.08 million) as on 31st March 2021.

The carrying value of investment stood at Rs 238.11 Crore as on 31st March 2021 post impairment.

b. Development Assets

Mozambique: Rovuma Area1

TOTAL (Operator - 26.5%), Mitsui - 20%, ENH - 15% (Carried), BPRL - 10%, BREML - 10%, OVL - 10%, PTTEP - 8.5%

The Company along with OVL acquired 10% participating interest in Area 1 Mozambique through acquisition of 100% shares in Videocon Mozambique Rovuma 1 Limited [since renamed as Beas Rovuma Energy Mozambique Limited (BREML)- OVL 60%, OIL- 40%] on 7th January, 2014. OVL also acquired 10% participating interest in the project from Anadarko on 28th February 2014. The project has recoverable resources ranging between 51-87 TCF in Area-1.

The onshore LNG development will initially be consisting of two (2) LNG trains with total nameplate capacity of 13.12 million

tonnes per annum (MTPA). The Joint venture partners of Area 1 Mozambique Project have announced Final Investment Decision (FID) for the two train Golfinho/Atum Mozambique LNG Project on 18th June 2019. The Joint venture has successfully secured 11.14 MTPA of long-term LNG sales with key LNG buyers in Asia and Europe including India. The project is being developed through limited recourse project financing which has achieved financial closure on 24th March 2021. The onshore and offshore construction contracts have been finalized, awarded and construction started.

In the recent months, the situation in Cabo Delgado province, Mozambique, has deteriorated significantly. Armed insurgent group mounted an attack on 24th March 2021, near to the project site, causing severe harm to civilians. Due to deterioration of the security situation in Cabo Delgado province, the Operator has declared Force Majeure on 22nd April 2021. The project is currently under Force Majeure with discussions continuing between the Operator and Government of Mozambique.

As on 31.03.2021, the 2P reserve position corresponding to Company's Participating Interest in Rovuma, Area 1 has been estimated at 16.21 MMTOE of Gas and 0.46 MMT of condensate.

The Company's share of investment in this project stood at Rs. 8407.04 crore (USD 1301.79 million) as on 31st March 2021. The carrying value of investment stood at Rs. 8056.14 Crore as on 31st March, 2021 post impairment.

Nigeria: Block OML 142

[OIL-17.5%, IOCL-17.5%, and Suntera Resources-35% in JV Suntera Nigeria 205 (70% interest in block), Summit Oil International Limited - 30% (Operator)]

The project is in the northern most part of Niger delta onshore. Hydrocarbon discovery (gas and condensate) in the block dates back to 1991-92 (Otien #1 well). The Company entered the block, previously named Oil Prospecting License OPL-205, in August 2006. The acquisition was made through a JV named Suntera Nigeria 205 Ltd. (SN-205), in which SRL holds 50% and OIL & IOCL holds 25% each. Summit Oil is the operator of the block with 30% participating interest, with remaining 70% being held by SN-205.

The block was converted into OML-142 (mining lease) w.e.f. 12.06.2009 for a period of 20 years. 3D seismic data acquisition of 125 sq km area was completed in 2014, and its processing and interpretation was completed in 2016. Based on the interpreted results, consortium carried out re-entry operations in discovery well Otien #1. Extended Well Test (EWT) production from a single zone (zone #8) and re-workover operation of Otien #1 well has been completed. Upon completion of re-workover, Well Deliverability Test (WDT) was undertaken from 3 zones of Otien #1 well ~ from 12th August 2020 to 5th April 2021.

The Company's share of investment in this project is Rs.156.36 crore (USD 21.11 million) as on 31st March 2021. The carrying value of investment stood at Rs. 135.47 Crore as on 31st March 2021 post impairment.

c. Exploratory Assets

Bangladesh: Blocks SS-04 and SS-09 [OIL-45%; OVL-45%; Bapex:10%(Carried)]

The Company was awarded the shallow offshore Blocks SS-04 and SS-09 in Bangladesh Bid Round-2012. The total area of the two blocks is 14,295 sq. km with Block SS-04 spread over 7,269 sq km and Block SS-09 spread over 7,026 sq. km. The Production Sharing Contracts for both blocks were signed on 17th February, 2014 in Dhaka, Bangladesh for an initial exploration period of five (05) years.

The mandatory seismic studies have been completed in the block. Preparation for drilling of two wells (one onshore & one offshore) in Blocks SS-04 and one well (offshore) in SS-09 is under progress. Tender for drilling of two offshore wells has been floated. Meanwhile, the Consortium's request for time extension of two (02) years (upto Feb 2023) to complete MWP and transfer of partial MWP from Block SS-09 to SS-04 has been granted by Govt. of Bangladesh.

The Company's share of investment in both the Blocks is Rs. 109.35 crore (USD 16.36 million) as on 31st March 2021.

Block 32, Israel

(OIL: 25%; IOCL:25%; BPRL: 25%, ONGC Videsh Ltd:25%-Operator)

The Company as part of a consortium of Indian Public Sector companies, viz., ONGC Videsh Ltd. (OVL), Bharat Petro Resources Ltd. (BPRL) and Indian Oil Corporation Limited (IOCL) was awarded an offshore exploratory Block - License 412/32. The license has been granted w.e.f 27th March 2018 and was valid till 26th March 2021. The Block with a total area of 357 sq km is located in Levant Basin, Mediterranean Sea, Israel towards south of Tamar Block.

During the term of this License, the consortium was to performed, evaluation of available data, assessment of perspective, reprocessing of 3D seismic data (no less than 250 sq.km.), associated G&G studies and prospect evaluation.

As per the Minimum Work Programme (MWP) commitment and timelines, the consortium has completed all the tasks. The Block has been relinquished w.e.f January 23, 2021, in the absence of any economically exploitable perspective. The Company's share of investment in this project stood at Rs. 1.76 crore (USD 0.25 million) as on 31st March 2021.

Libya: Area 95/96 ~4 Blocks [SIPEX(Operator)- 50%, IOCL-25%, OIL-25%]

The consortium had completed drilling of five wells against MWP commitment of drilling 08 (Eight) wells. All the five drilled wells struck hydrocarbons. Drilling of sixth well was in progress when the unrest in Libya began and all operations in Area-95/96 were suspended since May, 2014. The consortium signed an Interim Arrangement Agreement to continue the block till May 2018. The duration of Exploration & Production Sharing Agreement has further been extended following the continuation of Force Majeure condition through the execution of an Interim Arrangement Agreement between the parties concerned, i.e. NOC, Libya, SIPEX (operator) and OIL-IOCL consortium.

Gabon: Block Shakthi-II [OIL (Operator)-50%, IOCL-50%]

An oil discovery was made in the third well (Lassa-1) during the Phase-I of the block. Two appraisal wells (Lassa-2 & 3) were drilled as per the MWP of Phase-1 of New PSC (G4-245). The consortium has acquired 1213.04 LKM of new 2D seismic API in Phase-I to assess the prospectivity in the remaining part of the Block. Based on the integrated interpretation and prospect

evaluations, the Consortium has entered into Phase -II exploration period in the block which was extended upto 15.04.2022 due to statutory delays and Covid-19 pandemic. Meanwhile, significant progress has been made in drilling preparatory activities during the year.

12. DISCOVERY OF OIL AND GAS

Your Company has made 1(one) gas discovery during the year in its nominated acreage in Assam, the details are as follows:

Dinjan-1

During 2020-21, the Company has made gas discovery in well Dinjan-1 under Tinsukia PML in Assam. Eight prospective zones have been identified in this well, out of which one zone has been tested to be gas bearing. This discovery has opened up a vast area around Dinjan for further exploration of Paleocene-Eocene Play.

13. STATUS OF RESERVES

The Hydrocarbon In-Place and Reserves position of the Company in its domestic assets including JVs (as per Company's PI) as on 31.03.2021 are as follows:

IN-PLACE VOLUME	Value Estimate	Best Estimate	High Estimate
STOIIIP, (MMT)	773.8272	811.4205	838.8123
GIIP, (BCM)	375.3525	400.0722	419.5349
O+OEG (MMTOE)	1102.7577	1160.7588	1203.7822

Reserves	1P	2P	3P
Oil + Condensate Reserves (MMT)	29.6611	73.6264	96.4460
Balance Recoverable Gas (BCM) *	86.3353	134.4013	172.1591
O+OEG (MMTOE)	105.5532	190.8397	245.7515

*Based on projected volume of gas under various sales contracts, 1P, 2P and 3P Gas Reserves are 20.7660, 57.1120 and 72.7090 BCM respectively.

The oil & gas reserves position as on 31.03.2021 of 06 (six) overseas producing and discovered assets (Company's Proportionate Share) viz. Niobrara Shale Oil (USA), License-61 (Russia), Vankorneft (Russia), TaasYuryakh (Russia), Carabobo (Venezuela) & Area-1 (Mozambique) is as furnished below:

Particulars	1P	2P	3P
Oil+Condensate (MMT)	13.4076	32.5406	53.1424
Gas Reserves (MMTOE)	13.2647	21.8506	25.9646
O+OEG (MMTOE)	26.6723	54.3912	79.1070

Accretion: The accretion to oil and gas volume during 2020-21 in Company's domestic sector including JVs (as per Company's PI) is given below:

IN-PLACE VOLUME	Low Estimate	Best Estimate	High Estimate
STOIP (MMT)	2.2053	1.4863	-3.0280
GIIP (BCM)	6.0999	7.2488	5.6569
O+OEG (MMTOE)	7.8553	8.0500	2.7989

Reserves / Recoverable Volume	1P/Low Estimate	2P/Best Estimate	3P/High Estimate
Oil + Condensate (MMT)	2.7639	1.8668	0.1182
Gas (BCM)	5.1621	4.7718	2.4873
O+OEG (MMTOE)	7.4126	6.0280	2.9314

14. NEW INITIATIVES

City Gas Distribution (CGD) Business

"Purba Bharati Gas Private Limited (PBGPL)", the Joint Venture Company (JVC) among Oil India Ltd, Assam Gas Company Ltd and GAIL Gas Ltd (26%:48%:26%), has started domestic pipe natural gas supply in Cachar, Hailakandi and Karimganj Districts GA with 270 nos. domestic connections.

"HPOIL Gas Private Limited (HOGPL)", the JVC between OIL and HPCL (50%:50%) employed Rs. 103 Crore capex in Ambala-Kurukshetra Districts and Kolhapur District GA (Cumulative Rs. 223 Crore). The JVC is now operating 14 CNG stations in the GAs. During FY 2020-21, HOGPL earned Rs. 9.64 Crore revenue by selling 1685087 Kg of CNG.

Biofuel Initiative

The Company has undertaken a biofuel potential assessment study of North East Region (NER) of India as a part of green energy initiative. The Company now initiated the process for setting up an 1G ethanol plant in NER.

Enhancement of equity stake in Numaligarh Refinery Limited (NRL).

As part of its diversification strategy, the Company was already holding 26% paid up equity in NRL. The Company further acquired additional 54.16 % stake in NRL on 26th March 2021, thereby enhancing its stake to 80.16%. The Company is now the promoter and has management control of NRL. Government of Assam (GoA) held 12.35% stake in NRL prior to this acquisition and after exercising its Right of First Offer ("ROFO"), acquired additional 3.12% stake in NRL. Government of Assam may acquire additional 10.53% stake in NRL from OIL in the FY 2021-22. Engineers India Limited had acquired 4.37% stake in the said acquisition. The stake enhancement in NRL will enable the Company to become an integrated energy company focussed in the North-east region in India.

15. FUTURE OUTLOOK

- Your Company is a leading E&P Operator in the Northeast. Assam Shelf is a prolific onshore basin with a considerable Yet-To-Find (YTF) potential. The strategy of OIL has been to maintain its position as the leading Operator in northeast. Towards this endeavor, the Company has been consolidating its acreage position through OALP and the exploration activities would be intensified both in Mining Lease areas and Exploration License areas.
- The Company has also identified a few key areas for fast-track development and plans are already in hand which is expected to enhance its level of production in near future.
- To enhance recovery from its mature fields of Upper Assam Basin, water injection and other IOR/EOR technologies are being continuously adopted.
- With the success of Cyclic Steam Stimulation technology in Baghewala Heavy Oil field in Rajasthan, development plans are in the process of implementation to enhance production in an efficient manner.
- Apart from northeast and Rajasthan, where the Company has a major presence, your Company plans to carry out detailed exploration programmes in Mahanadi Onland, Andaman Offshore and Kerala-Konkan Offshore in quest of establishing hydrocarbon reserves.
- In addition to acquisition of conventional assets, the Company would also look towards acquisition of non-conventional assets, such as oil sands, shale gas, shale oil, gas hydrate etc.
- While E & P business shall continue to be Company's core focus, selective diversification into midstream, downstream and renewable energy segments is planned in order to balance the existing portfolios. The proposed diversification will be towards pipelines, wind/solar energy, CGD, LNG, refineries etc.